Appendix U – Responses to Comments

Summary of Public Comments and Service Responses on the Draft Comprehensive Conservation Plan and Environmental Impact Statement for Lower Klamath, Clear Lake, Tule Lake, Upper Klamath, and Bear Valley National Wildlife Refuges

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Introduction

In May 2016, the U.S. Fish and Wildlife Service (Service) completed the draft comprehensive conservation plan and environmental impact statement (draft CCP/EIS) for the Lower Klamath, Clear Lake, Tule Lake, Upper Klamath, and Bear Valley National Wildlife Refuges (NWRs or Refuges). The draft CCP/EIS was initially released for a 45-day public comment period and then extended for an additional 45 days. A public meeting was also held in Klamath Falls, Oregon, on May 23, 2016. This document summarizes the public issues and concerns within the scope of this draft CCP/EIS that were raised by commenters, as well as Service responses. This report is divided into the following sections:

- Summary of Public Comments Received.
- Service Responses to Comments by Subject.

Summary of Public Comments Received

After the comment period ended, the Service compiled all received comments. All comments are included in Appendix V. In total, the Service received 796 non-duplicate responses, including 317 form letters and 479 unique letters.

The Service received a variety of letters from local, state, and federal governmental agencies, including the following:

- Environmental Protection Agency (EPA)
- Bureau of Reclamation (Reclamation)
- Oregon Department of Fish and Wildlife
- County of Siskiyou
- Siskiyou County Fish and Game Commission
- Tulelake Irrigation District (TID)

The Service also received comments signed by representatives from the following organizations and businesses:

- California Waterfowl Association
- Central Oregon LandWatch
- Center for Biological Diversity
- Center for Food Safety
- CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon
- Delta Waterfowl Foundation
- Ducks Unlimited, Inc.
- Klamath Basin Audubon Society
- Klamath Riverkeeper
- National Audubon Society
- Oregon Farm Bureau
- Pacific Coast Federation of Fishermen’s Associations and Institute for Fisheries Resources
- Safari Club International
- Western Watersheds Project
- Wild Times Guide Service
- WildLands Defense

In the discussions below, the Service addresses and responds to all substantive comments received during the public comment period. Substantive comments are those that meet at least one of the following criteria:

- Challenge the accuracy of information presented.
- Challenge the adequacy, methodology, or assumptions of the environmental or social analysis and supporting rationale.
- Present new information relevant to the analysis.
- Present reasonable alternatives, including mitigation, other than those presented in the document.

In order to facilitate response, the Service grouped similar comments together and organized them by subject heading. Directly beneath each subject heading, you will also see a list of unique letter identification (ID) numbers. Table 1 at the end of this report relates each letter ID number to the name of the individual, agency, or organization that submitted the comment. References cited in the responses below can be found in Appendix B.

In several instances, the report refers to specific text in the draft CCP/EIS and indicates how the final CCP/EIS was changed in response to comments. The full version of the draft CCP/EIS and final CCP/EIS is available online at: https://www.fws.gov/refuge/Tule_Lake/what_we_do/planning.html.

Service Responses to Comments by Subject

1. CCP Planning and Process

A. Staffing – Service Employees

Letter ID # 171-2, 641-15, 86-1

Public Concern Statement: Two commenters recommend that the Service hire new staff to better manage NWR resources, while another commenter expresses support for the addition of 1 to 2 more law enforcement agents.

Comment# 171-2: The Fish and Wildlife Service ought to be overhauled and restaffed with people who understand that wildlife is a treasure to be protected, not a nuisance to manage and eliminate (their appalling methods wiping out cormorant colonies to better "manage" salmon is an excellent example of their misguided philosophy).

Response: Comment noted.

Comment# 641-15: The Department supports the proposed increase in law enforcement of 1-2 agents for the complex. This will certainly provide better coverage and an increased law enforcement presence for all complex refuges.

Response: Comment noted.

Comment# 86-1: We just returned from 4 days in the Malheur Refuge after a 10-year absence. It's tragic to see what's happened to the bird population, the mismanagement of the entire area. We received what we believe was an honest assessment of what has happened during the past 10+ years, Fish and Wildlife hiring folks who have NO idea how to work with farmers and how no idea how to manage the Carp. It will take 20 years or more to bring it back to what it was when managed by the man who'd been in charge for 20 or more years.

Response: Comment noted.

B. Refuge Purpose

Letter ID# 743-16, 743-17, 743-62, 743-64

Public Concern Statement: One entity states that Refuge vision statements, goals, and purpose should reflect previous legal documents and recognize the agricultural purpose of Refuges. The same commenter also requests that the CCP/EIS discuss the history of the Refuges (including development of the Klamath project and TID) thoroughly and accurately.

Comment# 743-16: Attachment A of TID's comment package presents the legal background of the lease lands and the proper interpretation of the Kuchel Act, and explains that agriculture and the agricultural leasing within TLNWR is a purpose of TLNWR, as that term is understood in refuge planning under the 1997 Improvement Act. As such, farming/agriculture on the lease lands should be

identified in each section listing the purpose or purposes of TLNWR. Related, the listings of purposes omit language from relevant legal documents that shows the history of agricultural lands within the boundaries of TLNWR and relationship to the overlying Klamath Reclamation Project. For example, the list states "'. . . as a refuge and breeding ground for birds' (EO 4975)" and "'as a refuge and feeding ground for wild birds and animals' (EO 5945)." These quotations omit language from the cited executive orders that recognizes that the lands were withdrawn for reclamation purposes and explicitly states that the reservation for bird or wildlife purposes is subject to the use of the lands for irrigation and other incidental purposes. 2 Similarly, the listings of purposes quote selectively from the Kuchel Act and omit the language regarding the congressional intent to stabilize the ownership of land in TLNWR and the congressional mandate for continued leasing of the lease lands. Also, the purposes are stated to include the final sentence of section 4 of the Kuchel Act, without acknowledging that the final sentence applies to land other than the lease lands. In sum, the agricultural purpose of the refuges, and the lease lands specifically, must be recognized.

Response: All purposes of Tule Lake NWR, including those related to agriculture, are listed in Section 1.6.3 of the CCP/EIS. They are also listed in the compatibility determinations for Tule Lake NWR (Appendix G) as well as Chapter II of "The Kuchel Act and Management of Lower Klamath and Tule Lake National Wildlife Refuges" (Appendix M). In addition, Section 1.6.3 of the CCP/EIS summarizes the history of the Tule Lake NWR lands as well as the relationship to the Klamath Project. We disagree with the assertion that the Tule Lake NWR purpose statements (Section 1.6.3 of the CCP/EIS) are incomplete. The National Wildlife Refuge System Administration Act, as amended, defines refuge purposes as "…the purposes specified in or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit" (16 United States Code [USC] 668ee(10)). The Merriam Webster Dictionary defines purpose as "the reason why something is done or used; the aim or intention of something." The fact that the refuges are subject to a prior reclamation withdrawal is not a reason why Tule Lake NWR was authorized/expanded. Similarly, the reason Congress authorized/expanded Tule Lake NWR in the Kuchel Act was not "... to stabilize the ownership of the land in the Klamath Federal reclamation project..." On the contrary, the stabilization of ownership through permanent withdrawal from homesteading was a means to an end to achieve the Kuchel Act-derived purposes as described in the Section 1.6.3. Regarding the purposes derived from section 4 of the Kuchel Act, we have revised Section 1.6.3 of the CCP/EIS to clarify what portions of Tule Lake NWR these purposes apply to.

Comment# 743-17: The vision statement and goals similarly do not adequately recognize the agricultural purpose of TLNWR and the lease lands and the requirement to maintain that purpose. The vision and goals must include the continuation of historic agricultural practices, the maximization of lease revenues, and adherence to the terms of the 1956 Contract between the United States and TID as it relates to TLNWR lands.

Response: The Service disagrees with this comment. The vision statement for Tule Lake NWR appropriately recognizes the maintenance of agricultural habitats that support a wide variety of birds and wildlife. This is consistent with the refuge purposes listed in Section 1.6.3 and goals listed in 2.5.3 of the CCP/EIS. We believe this approach is consistent with the direction of the Kuchel Act. Please see Appendix M of the CCP/EIS.

Comment# 743-62: Page 1-16: TID believes that the refuge purposes as related to LKNWR lands in the Klamath Drainage District are similar to those in TID. Also, TID's comments regarding refuge purposes (section I above) are similarly applicable to LKNWR's lease lands.

Response: See response to comment 743-16.

Comment# 743-64: Page 1-22 and throughout: Discussions of the development of the Klamath Project, TLNWR, and TID should be as thorough and accurate as possible. TID is providing copies of material from the Klamath Basin adjudication proceeding, including excerpts of findings of the Water Resources Department relative to the Klamath Project and lease lands, and written testimony from that proceeding that also relates to these subjects (or relevant excerpts of testimony). Overall, TID encourages consideration of and consistency with these items.

Response: Comment noted.

C. Collaboration
Letter ID # 853-9, 854-2

Public Concern Statement: Several respondents ask that the Service seek out collaboration opportunities with other local, state, and federal entities.

Comment# 853-9: Attached for incorporation into the Plan and for future planning purposes is (1) the County of Siskiyou Grazing Policy as adopted by the Board of Supervisors on October 20, 2015, and (2) The Code of the West, The Realities of Rural Living. The County takes a proactive support position to increased grazing within Siskiyou County and will participate throughout the coordination process on the Plan. It is also our direction to use the Siskiyou County Grazing Advisory Committee during coordination and public comment on NEPA processes.

Response: Comment noted.

Comment# 854-2: The three agencies that control Lower Klamath Lake are KDD, Fish and Wildlife Service and Reclamation. KDD strongly advocates finding avenues for open communication and mutually beneficial planning between the Klamath Project area manager, the Refuge manager and KDD leaders.

Response: Comment noted.

D. Analysis Type/Sufficiency
Letter ID # 56-103, 56-29, 56-88, 56-95, 663-14, 734-35, 743-14

Public Concern Statement: Some comments request that the Service prepare an EA or EIS or that the DEIS be withdrawn for additional analysis, and then reissued for public review in a separate comment period.

Comment# 56-103: FWS has not shown that this grazing supports the purposes of the National Wildlife Refuge System, or that it will maintain and/or improve wetlands and grass communities for the benefit of migratory bird species and other wildlife. It will materially interfere with or detract from the Refuge or Refuge System purposes and mission. If FWS wants claim long-term positive effects, then this shows the need for a much higher level of analysis that a self-serving CD.

Response: See responses to comments 56-35, 56-62, and 56-96.

Comment# 56-29: An EIS must be prepared to address serious public concerns about the inappropriateness of grazing with so many rare species, and serious water, weed, and other problems.

Response: The Service did prepare an EIS to accompany the CCP. See also response to comment 56-96.

Comment# 56-88: FWS also claims: … administration of the grazing program to ensure that specific objectives are met. A future change in a specific species status may change how the grazing program is administered. The prescriptive grazing acres treated and timing may fluctuate annually, within the parameters of this Compatibility Determinations and Special Use Permits. Some annual flexibility will be necessary to determine which habitat needs to be treated and by which method. This demonstrates that an EIS must be prepared to analyze impacts, address large-scale uncertainty and contradictory ecological science, provide sufficient baseline studies and a hard look analysis, etc. This is loose and uncertain – and would enable the manager to impose grazing use right on top of many species for an even longer period in spring and during their sensitive reproductive cycles.

Response: This comment was originally submitted on an interim compatibility determination for the Upper Klamath Refuge. The commenter is referred to the Draft compatibility determination for grazing on the Upper Klamath Refuge in Appendix G of the CCP/EIS. Potential effects of grazing at Upper Klamath NWR are disclosed in both the draft compatibility determination (Appendix G) and in the draft CCP/EIS. The Service has chosen to use a bracketing approach for some of its actions and impacts, including for grazing, habitat acreages, and water delivery scenarios. This is an approach often used in the National Environmental Policy Act (NEPA), and particularly with longer term plans such as the CCP, a plan that will serve the Refuges for 15 years. In this future time horizon, environmental conditions and refuge responses and management needs are likely to fluctuate; using a range of possibilities helps the decision maker and the public understand the possible upper- and lower-level impacts that may occur and is often a more realistic prediction than a specific number or outcome.

Comment# 56-95: Certainly an EIS must be prepared to properly assess the adverse direct, indirect and cumulative impacts of the Refuge acquiring lands for likely well over 3.45 million dollars only to make them a cow pasture in an area plagued by extreme water scarcity, loss of riparian. wetland vegetation, weed infestations, etc. – and facing an even more uncertain future due to the predicted changes of climate change – which is certain to heighten grazing conflicts and make the water picture worse.

Response: It is unclear whether the commenter is referring to this CCP/EIS or something else. We disagree with the commenter's characterization of the refuge as a cow pasture; we are not sure where the figure of 3.45 million comes from. The EIS was prepared for the CCP. See also response to comment 56-96.

Comment# 663-14: The CD does not explain what level of NEPA analysis has been undertaken for this federal action. Please study the effects of this action in an Environmental Assessment to determine if the potential effects on the environment may be significant.

Response: This comment was submitted on an Interim Compatibility Determination prepared for Upper Klamath NWR in 2015. It is not pertinent to the compatibility determinations that accompany the draft CCP/EIS. No revisions were made to the CCP/EIS to address this comment.

Comment# 734-35: In closing, this Draft Comprehensive Management Plan falls far short of the requirements of NEPA when it comes to range of alternatives, cumulative watershed impacts analysis, water quality discussion and measures, and disclosure regarding species management issues. Not addressing these issues is especially troubling considering how many related processes and scientific studies are happening within the Klamath Basin currently. The Klamath and Lost River TMDLs have been approved and the refuges need to be implementing management measures that will help achieve load limits. Furthermore, with the Amended Klamath Hydropower Settlement Agreement (KHSA) now moving forward, within just a few years endangered or struggling salmon, which is a cold water fish that is a historic beneficial use in the Klamath River, will be within several of the refuges and within areas where the refuge's water is discharged. Currently even warm water fish are struggling to survive within many project areas. These major gaps in this DEIS analysis need to be corrected and alternatives that look at historical conditions, cumulative impacts, TMDL achievement, and which further ESA-listed species recovery efforts need to be addressed. Additionally, likely climate change impacts and increasing water supply restrictions affecting the refuges also need to be addressed. The current DEIS is so inadequate that we recommend that the DEIS be withdrawn in its current form, then completed with these types of augmented and additional analysis, and then reissued for additional comments in another separate comment period.

Response: We disagree that the CCP/EIS is inadequate. In terms of specific comments, there are issues of timing, data, programmatic versus specific needs, and whether the Service can act alone or whether inter-agency communication and negotiation are required that determine whether an issue is “ripe for decision making” in the CCP. For example, the total maximum daily load (TMDL) discussion must be regional and involve all affected water users within the Klamath Basin. This discussion is not something the Service can initiate and so the timing and decision making is out of our control. Including projections about what might occur or how responsibility for achieving TMDL targets might be assigned would be speculative. We believe the same is true for the potential expansion of cold water fish into the Refuges; this may occur or it may not, but it would be speculative to try to predict this and propose management for it at this time. The time is not yet “ripe” for making these decisions. The Service will determine at a future time when the interagency discussions on TMDL or water delivery are in progress or have been completed, or when data show endangered fish are moving into the Refuge what kind of NEPA is needed and complete it at an appropriate time.

In terms of climate change and water supply restrictions, although this too is unknown, past drought years, and scientific predictions of continuing drying and warming in the basin and water delivery reductions (see responses to comments 522-4 and 634-3), there are some data that imply the need to deal with the issue in a more immediate time frame. Therefore, the Service used two water delivery scenarios to bracket the expected upper and lower water availability in drought, median and high-water years. This approach is described in Sections 4.1 and 4.2.1 of the Alternatives chapter under the subsection Water Delivery Scenarios.

Comment# 743-14: A number of other elements of the Draft Plan/DEIS and draft compatibility determination are also unjustified and unrealistic, or do not recognize the realities of infrastructure, water rights, and other fundamental considerations. Further, TID submits that the Draft Plan/DEIS are ambiguous and inconsistent in a number of respects, and do not provide a logic to support their conclusions. All these issues are also covered in more detail in the attachments to this letter. In general, TID believes the Service must fundamentally modify the Draft Plan/DEIS and publish a new draft for comment.

Response: We disagree with the comment. The draft CCP/EIS does not meet the criteria for modifying and recirculating a draft EIS—the requirements of Section 102(2)C of NEPA. These include addressing

impacts in "a detailed statement" (e.g., an EIS), which analyzes the impacts of the proposed action and alternatives and includes a discussion of impacts that cannot be avoided, the relationship between short-term uses of the environment and long-term productivity, and any irreversible or irretrievable commitments of resources. The CCP/EIS does each of these adequately, and the Service does not intend to fundamentally modify it or publish a new draft for comment.

E. NEPA
Letter ID # 743-93

Public Concern Statement: It is requested that the CCP/EIS clarify that NEPA or the requirements for impact analysis under NEPA are not triggered by the No Action Alternative.

Comment# 743-93: Pages 6-98 through 6-143, section 6.4, Tule Lake National Wildlife Refuge: The introductory paragraph states that section 6.4 describes the potential impacts of the No Action Alternative and two action alternatives. It should be made clear that NEPA or the requirements for impact analysis under NEPA are not triggered by the no action alternative. See the enclosed decision in The Wilderness Society v. Norton, No. CIV-S-02-2375 GEB GGH (U.S.D.C., Northern District California).

Response: We could not determine where the commenter got the impression that the CCP/EIS infers that current management "triggers" NEPA. NEPA is required before federal agencies can make decisions on actions that might have environmental impacts. Continuing current management (e.g., No Action Alternative) is not considered a decision under NEPA, but proposing to change it also means the impacts of changing must be compared to the impacts of continuing current management. In other words, the analysis of the No Action Alternative is required in an EIS once a change is considered.

2. Public Involvement

A. Public Notification
Letter ID # 114-1

Public Concern **Statement:** One commenter requests that the Service publish information about the proposed CCP/EIS in social media (Facebook, Twitter, etc.).

Comment# 114-1: I find these information releases both timely and uplifting and I would find it even more rewarding, if you also provided a link for sharing this on Facebook, Twitter ... etc. Other's I know, would find it equally so ... so please consider such a move.

Response: Comment noted.

B. Comment Period
Letter ID # 56-35, 56-36, 56-96

Public Concern Statement: Several commenters express concern over the length of the comment period and perceived bias by Service staff.

Comment# 56-35: We learned of this proposal through a news article. The Refuge Manager is quoted as saying this grazing will "do good", without a word about the negative impacts. This proposal already appears highly biased in favor of a rancher and privately owned cattle. The comment period is a mere two weeks! According to a news release, the public can comment on an interim compatibility determination,

which aims to authorize a two-year experimental grazing study on the Barnes-Agency refuge tract north of Agency Lake. WLD is very concerned that FWS managers are claiming benefits in public statements - without showing any concern whatsoever for the many adverse impacts of cattle grazing. See Belsky and Gelbard 2000, for example, and Fleischner 1994, as review articles for myriad adverse grazing effects.

The news article states:

Austin believes, if approved, prescribed grazing can benefit the 15,000-acre refuge, which is made up of open water, freshwater marsh, and grassland. “We think it will do good,” he said. WLD requests that the Manager correct this sweeping and unsupported assumption in a future Media Release. A very large body of scientific literature leads WLD to believe that “it will do BAD”. Full and fair consideration of scientific data and literature, including that which may not support what an agency most wants to do, is part of a valid decisionmaking process. It is required by NEPA.

Response: In compliance with NEPA, beneficial and adverse impacts, including direct, indirect, and cumulative effects (both beneficial and adverse effects), of CCP actions are analyzed in the CCP/EIS, Chapter 6, Environmental Consequences.

Comment# 56-36: We are also very concerned about the very short comment period for this matter of controversy and concern to the public. We believe it will have serious adverse impacts to migratory birds and other native biota, soils and water, public uses, etc. - including through ‘collateral damage” from all the adverse effects of grazing exotic half ton weed-causing, disease-spreading and causing potentially drug-laden cattle on the refuge.

Response: The Service provided the public with a 90-day public comment period for the draft CCP/EIS. Regarding the analysis of effects to migratory birds and other resources, see response to comment 56-96.

Comment# 56-96: The Refuge must provide transparent, full and detailed analysis of the circumstances surrounding this very short public comment period and no commitment to conduct any site-specific NEPA at a level necessary to protect lands, waters, aquatic species, wildlife, etc.

Response: We believe this comment was originally submitted on an Interim Compatibility Determination for Grazing on the Upper Klamath NWR. This comment is not relevant to the draft CCP/EIS, which includes draft Compatibility Determinations. The CCP/EIS had a 90-day public review period ending on August 4, 2016. The requirement to conduct site-specific analysis refers to projects and plans that are not programmatic in nature. A programmatic EA or EIS like the CCP/EIS (see Section 1.4.5 of the CCP/EIS) refers to “any broad or high-level NEPA review” such as of proposed plans (see Council on Environmental Quality Effective Use of Programmatic NEPA Reviews, December 18, 2014, and 40 Code of Federal Regulations [CFR] 1502.20). In the case of this CCP/EIS, it also allows the Service to focus on issues that are “ripe for decision” at each level of environmental review (40 CFR 1502.20). In the case of the CCP, this means that some of the decisions in the CCP can be examined at a site-specific level and are ready for implementation when the EIS is finalized (e.g., they are ripe for decision), but some are not yet ready to implement and need to be described generally until funding or additional information is available or other processes outside of NEPA have been complete. In the case where the CCP/EIS does not provide “sufficiently in-depth analysis for future actions” with environmental effects, the impacts of these actions will be analyzed in a future site-specific NEPA document. These are referred to as “tiered” analyses and are linked to the original CCP/ EIS. The relevant broader analysis, cumulative impacts, and larger scope information are summarized and incorporated by reference as relevant in these site-specific documents (40 CFR 1502.20, 1502.28).

C. Public Meetings
Letter ID # 450-1

Public Concern Statement: One respondent asks the Service to hold public meetings in Portland, Eugene, Medford, and Bend, Oregon, as well as in Eureka and Sacramento, California.

Comment# 450-1: The current process to create a Comprehensive Conservation Plan for five of the Klamath Basin's National Wildlife Refuges requires input and involvement from people throughout our region, not just from one city. I am writing to ask you to please immediately schedule meetings to solicit public input on this new plan in Portland, Eugene, Medford, and Bend, Oregon, as well as in Eureka and Sacramento, California. I live outside Eugene and feel that you would receive much better commentary and feedback if sessions were available at sites more convenient to Oregon's centers of population. I am aware of the incredible wildlife resources in the Klamath basin that require continued public and givernmental support to thrive well into the future. I would like to provide input to the process but cannot travel 3+ hours by car to do it.

The Klamath Basin's National Wildlife Refuges help support three quarters of the migratory birds dependent upon the Pacific Flyway, and are the nursery for tens of thousands of waterfowl each year. What happens on the Klamath refuges has a major impact on bird populations throughout the West, as well as the people and communities throughout our region which cherish and rely upon abundant ducks, geese, eagles, and other birds.

Given these facts, federal managers must seek out participation and input from refuge enthusiasts throughout the region when drawing up a new, long-term Comprehensive Conservation Plan for these invaluable public lands. Unfortunately, the U.S. Fish and Wildlife Service is nearing completion of the public comment period for a new plan for four of the Klamath Basin's five National Wildlife Refuges, but has only held a single public meeting, in Klamath Falls, Oregon. This is not acceptable, and I am urging you to take action now to correct this error.

Response: Comment noted.

D. General
Letter ID # 793-3

Public Concern Statement: One commenter asks the Service to allow the public an opportunity to review the final CCP/EIS before issuing a ROD.

Comment# 793-3: We urge the Service to also allow the public an opportunity to review the final CCP/EIS before issuing a ROD.

Response: Comment noted.

3. Alternatives

A. Alternatives – General
Letter ID # 50-3

Public Concern Statement: One commenter suggests that the Service should use the current configuration of the established wetland units for the Lower Klamath NWR when choosing a management alternative, since historically the Refuge's water rights were calculated and adjudicated based on these units.

Comment# 50-3: In choosing a management alternative for the Lower Klamath NWR, I would suggest sticking to the current configuration of the established wetland units, as that is how the refuge's water rights were calculated and adjudicated, as well as the fact that these units were ultimately subdivided over time, in order to better manage both water flow and avian botulism outbreaks. Also, in periods of water scarcity, which has been the norm for the past 15 years, limited water deliveries can best be utilized within smaller scale wetland units.

Response: Comment noted.

B. <u>Action Alternatives – Support</u>
Letter ID # 471-1, 471-2, 471-4, 471-5, 471-6, 471-7, 522-1, 522-12, 622-42, 641-1, 681-1, 681-11, 726-5, 726-6, 780-11, 780-4

Public Concern Statement: Numerous commenters express support for Alternative B or Alternative C for varied reasons, ranging from increased wetland food production to expansion of organic farming and expanded public use. Other comments express more qualified support for Alternative B, depending on whether the issue of water supply can be addressed.

Comment# 471-1: My wife and I support Alternative B because it mostly includes Alternative A but adds more levels of management and public use.

Response: Comment noted.

Comment# 471-2: Lower Klamath Refuge plan:

-Alternative B requires refuge issued Special Use Permits to better refuge manage and direct various phases of the farming program. Great.

-Alternative B provides for increased Walking Wetlands actions. Another great.

-Alternative B evaluates the hunting guide arrangements and also hunting fees. Good; necessary.

Response: Comment noted.

Comment# 471-4: Tule Lake Refuge plan:-Alternative B Upland Habitat provides for a temporary closure for nesting raptors. Good

-Alternative B [same as L. Klamath Refuge plan] requires refuge issued Special Use Permits for better refuge management of various farming program phases. Great

-Alternative B evaluates the hunting guide arrangements and also hunting fees. Good; necessary.

-Alternative B provides for evaluation of C Camp [WW II Monument section] as to land exchanges with Park Service. Good idea; it looks like a Park Unit presently.

Response: Comment noted.

Comment# 471-5: Upper Klamath Refuge plan:-Alternative B [Wetland Habitat Management] will foster

more colaberation with adjacent landowners to benefit wildlife. Great idea.

-Alternative B [Barnes-Agency tracts] listed provision is a winner. I assume Alternative B in this section also includes “Same as A” also, although it is not so stated.

-Alternative B [Wildlife Observation] supports interpretation from the Wood River Wetlands. Great idea since the Wood River Wetlands experiences high public use numbers. Maybe a walking bridge over the 7 Mile Canal into the refuge?

-Alternative B [Env. Education] includes seasonal interpreted canoe field trips. [Don’t forget kayaks which are more popular now.] Great idea. Recent trip to Nature Conservancy’s Williamson River preserve attracted 14 kayaks and 1 canoe.

Response: Alternative B does indeed include “Same as A”, as listed in Table 4.16, the summary of alternatives for Upper Klamath Refuge.

Comment# 471-6: Bear River Refuge plan:

-Alternative B [Forest Habitat] provides for evaluation of future silvacultural thinning. Good idea

-Alternative B [Riparian] provides for active management along Bear Valley Creek. Gets the refuge away from single species management - bald eagles - benefiting more critters and plants.

Response: Comment noted.

Comment# 471-7: Clear Lake Refuge plan:

-Alternative B’s provisions are better than the other choices. Active protection and management of the sage brush habitat needs increased funding, higher priority, for many birds and mammals - not just sage grouse.

Response: Comment noted.

Comment# 522-1: Delta Waterfowl supports Alternative B as proposed by the Service. However, our support for this recommendation is predicated on the favorable resolution of many issues (primarily ample and durable water supplies) which will ultimately determine the success of Refuges in accomplishing their purposes.

Response: Comment noted.

Comment# 522-12: Delta Waterfowl is conditionally supportive of Alternative B. We sincerely appreciate the good work of Refuge staff to develop the CCP and are genuinely appreciative of their efforts to continue to maintain waterfowl habitat in a most difficult set of circumstances. Yet, we firmly believe that the crafting of a CCP, even with the best identified strategies, will not result in the Refuges meeting their originally intended purposes for migratory birds if the current Biological Opinion continues to be interpreted and implemented in its current state and there is no resolution of water deliveries with BOR. These foundational issues absolutely must be addressed or the management strategies and outcomes as proposed under Alternative B will not be able to be fully realized.

Response: Comment noted.

Comment# 622-42: D. Wildlife Observations and Photography KBAS supports Alternative B for all the refuges. Birding has become a growing activity that brings in outside money into the local economy.

Response: Comment noted.

Comment# 641-1: Upon our review of the draft CCP/EIS alternatives, overall the Department recommends Alternative B as the preferred alternative.

Response: Comment noted.

Comment# 681-1: California Waterfowl recommends adoption of Alternative B as the preferred alternative. Alternative B would provide an updated management plan to replace the 1994 plan that has guided management of the refuge complex for the past 22 years.

Response: Comment noted.

Comment# 681-11: While California Waterfowl favors Alternative B, there are a number of outstanding issues that must be addressed before a final CCP is issued. The most important issue, on which the success or failure of the entire CCP will depend, is the issue of water supply for the Lower Klamath NWR. While the water supply problems for the entire Klamath Basin are infamous and daunting, there are a number of available options for providing an adequate and reliable supply that depend on the cooperation of the Service and the Bureau, which are both under the direction of the Secretary of the Interior. The amount of water required to meet the demands of the Lower Klamath refuge is not that large within the context of the entire Klamath Reclamation Project.

Response: Comment noted.

Comment# 726-5: For Lower Klamath NWR, we support either Management Alternative B or C. While we understand that Alternative D may require less water, we believe that many of the biological assumptions on which this alternative is based require further evaluation.

Response: Comment noted.

Comment# 726-6: For TuleLake NWR, we strongly advocate for choosing Management Alternative C. Although this alternative would significantly increase waterfowl foods by increasing the amount of unharvested grain, it would also greatly increase wetland food production in Sump lA and Sump lB. DU and USFWS partnered together during 2000 to improve water management capabilities in Sump lB. That work increased wetland food production and greatly improved the quality of 3,500 acres of wetland habitat for several years. We believe that projects similar to this previous effort that are allowed under Management Alternative C, are especially important in years when water supplies are insufficient to flood many or most wetland habitats on Lower Klamath NWR.

Response: Comment noted.

Comment# 780-11: We also support the proposed modifications to the farming program under Alternative C. These modifications, including the expansion of organic agriculture, would benefit vegetation and water quality in the long term by reducing pesticide use and associated impacts.

Response: Comment noted.

Comment# 780-4: As with the Lower Klamath Refuge, water quality in the TuleLake Refuge does not meet state water quality standards. Alternative C would increase the acreage of walking wetlands to an average of 3,000 acres annually. This change would be consistent with the TuleLake TMDL and EPA recommendations at the scoping phase. EPA also supports the proposed expansion of lease land and cooperatively farmed units that are managed organically, and the proposed expansion of incentives to manage fields organically. These measures would reduce the use of pesticides and associated potentially adverse effects to water quality and wildlife habitat.

Response: Comment noted.

C. Action Alternatives – Opposition

Letter ID # 471-3, 780-1, 846-41, 846-42, 846-45, 846-57, 846-58, 846-67, 846-69

Public Concern Statement: Several comments express concern over Alternative D due to creation of the big pond and subsequent potential impacts to wetland acreage and water quality. Likewise, other comments state that Alternatives B or C fail to improve water quality, address the full needs of all waterbird communities, or substantially increase habitat value, and don't consider alternatives to livestock grazing.

Additional comments regarding many of these concerns are provided elsewhere in this report.

Comment# 471-3: Lower Klamath Refuge plan-especially do not approve of Alternative D the "Big Pond" concept of flooding a large acreage up to 7 ft. deep and then letting it dry down more or less naturally. 7 ft. deep will make it a great source for carp to overwinter and spread into other units - another Malheur Lake habitat degradation. Also, as it slowly dries out a large acreage of noxious weeds - such as Canada thistle - will grow abundantly. They will be very hard to control since much of the soil will be too soft for spray trucks or mowers. Blowing alkali dust, during dry years, also will be a problem of some significance.

Response: Comment noted.

Comment# 780-1: Based on our review of the Draft EIS, we have rated the Lower Klamath Refuge Alternative D as Environmental Concerns- Insufficient Information (EC-2), and the remaining action alternatives as Lack of Objections (LO) (see the enclosed "Summary ofEPA Rating Definitions"). Our rating for Lower Klamath Alternative D is based primarily on concerns about the potential impacts to wetland acreage and water quality. Alternative[) would dramatically alter the hydrologic regime of the Lower Klamath Refuge by removing water control structures, constructing a new levee, and creating a "Big Pond" area encompassing approximately 9,000 acres. While we support managing the Lower Klamath Refuge to more closely mimic the natural flooding and drying cycles in the historic Lower KlaJUath Lake, we are concerned that the uncertainty around water delivery could lead to the loss of permanent wetlands.

According to the Draft EIS (pages 5-52, 6-13), the refuge is essentially dry under current conditions and does not have enough water to be managed in a manner that would fully achieve its stated purpose. The Draft EIS indicates that there are few water allocation scenarios that would provide adequate water for Alternative D. Additionally, impacts of constructing the Big Pond may adversely impact water quality, although analysis ofthese impacts was largely deferred to a subsequent NEPA analysis. Please see the enclosed Detailed Comments for further discussion of EPA's concerns regarding Alternative D, as well as our recommendations regarding all of the action alternatives.

Response: Comment noted.

Comment# 846-41: Alt B. Other measures proposed (i.e. increase standing grain by 500 acres, expand incentives for Walking Wetlands, berm management program) are not enough to provide substantial resources to support the full assemblage of waterbird, other birds, and other wildlife needs without adequate water and thus do not meet the Service's substantive statutory obligations under the Refuge Act and the Kuchel Act.

Response: See response to comment846-2.

Comment# 846-42: Alternative C is basically the same as Alternative B except more standing grain on the cooperative farming or leaselands and expansion of grazing from uplands to wetlands are proposed. The Service proposes that these measures will benefit wildlife by controlling invasive plants and wildfires (grazing) and providing more food for waterfowl (lease land/coop agriculture). Again, narrowly viewing wildlife needs in terms of food for dabbling duck and goose species does not capture the full needs of all waterbird communities (including full needs for waterfowl).195 Alternative C is not a viable option.

Response: See responses to comments 701-30 and 701-31.

Comment# 846-45: A similar "big pond" option is described as a model option in the bioenergetics report (Model #4).196 The modeled big pond assumed a larger initial size pond (13,000 vs. 9,000 acres) and like Alternative D, remaining acreage was reallocated to seasonal wetlands. This modeling scenario had a negative or neutral impact on most waterfowl guilds except for dabbling ducks. This was attributed to reduction of permanent wetlands. Thus, the "big pond" option of Alternative D should not be accepted as the preferred alternative.

Response: Comment noted.

Comment# 846-57: Tule Lake NWR Alternative B would increase standing grain for waterfowl to between 1,100-1,500 acres. This is based on the bioenergetics model, which, as described previously has several assumptions that make real-world translation of benefits to waterfowl questionable. In addition, many other species of non-game waterbirds would not benefit. Alternative B also would provide an annual average of 1,380 acres of Walking Wetlands which would provide some benefit particularly to waterfowl and the interspersion of Walking Wetlands to be within 1 mile of wetland habitat is encouraging. However, considering that over 15,000 acres of the refuge is leased for agriculture; this is a small percentage and can only be viewed as providing a minimal habitat gain supporting a subset of waterbird species. Alternative B would continue to use the 1998 IMP Plan. As discussed above with respect to Lower Klamath Refuge, this plan needs to be updated as it is out-of-date. The new IPM plan should limit pesticide use and should insure proper monitoring so that impacts can be assessed and corrected in a timely manner. Other changes in Alternative B from the no action alternative are minor and likely would not significantly increase habitat value for wildlife.

Response: See responses to comments 693-7, 730-13 and 730-29.

Comment# 846-58: Tule Lake NWR Alternative C is the same as Alternative B except with the main difference of a plan to manipulate water levels in both 1A and 1B sumps. Such actions are estimated to provide germination conditions for emergent marsh plants from 860-1,700 acres. While there seems to be some merit in this type of scenario, the total wetland gained is still a small percentage when compared to the total agricultural lease land area and it is unclear if this would result in significant benefit to the breadth of waterbird species that depend on wetland habitats. Also, how will the deceased size of sumps influence the occurrence of disease outbreaks? It is possible that smaller bodies of water would force waterfowl to cluster in higher densities at certain times of the year increasing the chance of catastrophic avian disease outbreaks, there is a growing trend of this already at Tule Lake Refuge215 and reduced water could exacerbate the situation

Response: Generally, there would be a drawdown in the summer, and the sumps would be reflooded in the winter, which minimizes the potential for disease outbreak because the timing is outside of the peak waterfowl populations on the refuge. In a year where water levels would be manipulated on the sumps, the Service would strive to provide a comparable area elsewhere on the refuge. This action would trade off some of the permanent wetland habitat on Tule Lake for additional wetland habitat on Lower Klamath Refuge. The amount of natural food added would be significant in the drawdown area.

Comment# 846-67: he long-term water quality monitoring that is being conducted at Upper Klamath Lake is necessary.229 However, actions must be implemented to improve water quality to minimize risk to wildlife populations (fish as well as birds). In its current state, the “action alternative” (Alternative B) does not offer a clear pathway to do this. Alternative B is little different than the “no action” Alternative A option.

Response: See response to comment 846-70.

Comment# 846-69: Upper Klamath Lake Alternative B is similar to Alternative A. Updating the refuge Inventory and Monitoring Plan should be done periodically regardless of the CCP and operating decontamination stations should be the norm. As in Alternative A, grazing in wetlands would continue on the refuge including during the nesting season (spring, summer, fall). Grazing, particularly in wetlands and during the nesting season is not appropriate. The alternative offers no consideration to use some combination of minimal grazing or disking alone (to open up areas) prior to then using predominantly prescribed burning and/or disking to help revitalize wetland habitats. As with the other refuges, the 1998 Integrated Pest Management (IPM) Plan needs to be updates as it is out- of-date. We are supportive of the plan to restore wetland habitat in the Barnes and Agency Lake units as described in Appendix F (Objective 1.1). However, we remain concerned that if water management is not negotiated where refuge lands are prioritized, this could complicate these restoration efforts.

Response: Text has been added to the CCP/EIS to clarify that the standard practice of grazing in seasonal “wetlands” is allowed when the units are dry. At Upper Klamath Refuge, the area grazed is at a lower elevation than the lake, and fencing along the dikes prevents cattle from directly accessing the lake and canals. Disking is not typically used on rocky terrain at the refuge because it may result in the metal equipment striking rocks, sparking, and igniting wildfires. Prescribed burning is not typically used at Upper Klamath Refuge due to the peat soils; see response to comment 56-74. More information is provided in response to comment 56-30.

D. No Action Alternative
Letter ID # 653-16, 743-79, 743-80, 846-22, 846-38, 846-56, 846-68

Public Concern Statement: Respondents are mixed with regard to the No Action Alternative. Comments express both support for "passive management" and statements that the No Action Alternative is not viable because it does not meet Refuge purpose and need. Several commenters also state that the CCP/EIS does not define and discuss the No Action Alternative correctly with regard to current agriculture or water delivery conditions.

Comment# 653-16: Western Watersheds Project strongly supports passive management of Clear Lake NWR as the best way to develop and maintain a mosaic of self-sustaining, healthy ecosystems that provide for the conservation of all listed species, rare plants and animals, and support healthy deer and pronghorn populations.

Because the draft CCP, EIS, and compatibility determination do not assure that the proposed grazing management actions would sustain, restore, and enhance, healthy populations of plants, fish, and wildlife on the Refuge and may in fact harm these resources, the compatibility determination cannot conclude that grazing is compatible with the goals of Clear Lake National Wildlife Refuge.

In this difficult funding situation, passive management will best ensure that the Service's mandate to conserve all the endangered, threatened, and at risk species that are found on these Refuges is met, and ensure that the biological integrity, diversity, and environmental health of the three refuges are maintained for the benefit of present and future generations of Americans in the most cost-effective manner.

Response: We disagree that passive management of Clear Lake NWR is the best way to develop and maintain a mosaic of healthy and self-sustaining ecosystems. We also disagree that habitat management using prescriptive grazing, herbicide treatments, and juniper removal would harm resources on the refuge. As discussed in Section 1.6.2, invasive species (invasive annual grasses and the western juniper) are a management challenge on this refuge. The presence of western juniper has been identified as one of the greatest risks to the continued existence of sage grouse in this area (see Section 5.3.2 of the CCP/EIS). While the refuge removed most of the invading juniper trees in 2006, ongoing work is needed to keep western junipers from expanding on to the refuge from adjacent land. Passive management of the refuge would result in the reinfestation of the refuge with western juniper, which would reduce habitat for the sage grouse and increase the potential for wildfire. Wildfires can set back sagebrush restoration for decades. We also view prescriptive grazing as an important tool for habitat management. As described in the compatibility determination (Appendix G), grazing is used for 4 months of the year (mid-August to mid-November) on the 5,500-acre upland area of the refuge known as the "U". Grazing in this area is used to create short grass areas for spring foraging by geese; reduce the extent of exotic annual grasses; help rehabilitate previously burned sagebrush habitats by providing native shrubs, bunchgrasses, and forbs with a competitive edge; and reduce the quantity of fine fuels and the potential for future wildfires. Without active management, we would not have foraging areas for geese in the spring, and exotic annual grasses would continue to outcompete native grasses increasing the potential for wildfire. Mowing is not an option in this area because of the uneven terrain and the risk of wildfire. In addition to the prescription grazing on the "U", a research study using grazing on 3,000 acres for 6 weeks in the spring for habitat restoration, the Service also allows approximately 300 head of cattle grazed under a Forest Service permit access to water on 800 acres of the refuge. As explained in the compatibility determination, Modoc County California is open range, which means it is the responsibility of the landowner to keep livestock off of their property. The Service chooses not to fence the western boundary of the refuge because sage grouse can collide with fences, and fences impede the movement of deer and pronghorn. Grazing on this 800-acre portion of the refuge does not happen earlier than July 15 and then for only 23 days with 300

head of cattle. Based on the analysis in the compatibility determination and the CCP/EIS, we strongly disagree that passive management would allow the Service to ensure the biological integrity, diversity, and environmental health of this refuge.

Comment# 743-79: Page 4-57, "Agricultural Habitat Management," Farming, first full paragraph: The first sentence states that under all alternatives, "To the extent consistent with proper waterfowl management, the Service would continue the Lease Land Program." This statement relies on an improper legal standard, as explained elsewhere [See their comments 743-5 and 743-7]. In addition, at the very minimum, it is not a correct characterization of the "no action" alternative. Under the no action alternative, lease continues consistent with historical practice. See The Wilderness Society v. Norton, No. CIV-S-02-2375 GEB GGH (U.S.D.C., Northern District California).

Response: See response to comment 743-7.

Comment# 743-80: Page 4-59, section 4.4.2, "Alternative A - No Action": In the first paragraph under the heading "Adaptive Management Approach," the Draft CCP/EIS states: "Under Alternative A, the Service would set annual habitat objectives . . ." and the "[o]bjectives for wetland and agricultural habitats would be based on providing sufficient food to support mean 1990s abundance for all waterfowl guilds." TID is not aware of this practice being part of the no-action condition or how it is reflected in the historic no-action leasing program.

Response: Chapter 4, Section 4.4.2, of the CCP/EIS has been revised to reflect this comment.

Comment# 846-22: The Draft CCP acknowledges that the highly controversial KBRA and associated legislation failed for years to pass the U.S. Congress and finally expired in the year 2015.150 The CCP provides no evidence, such as a new draft agreement, that the KBRA or some similar agreement will become law during the life of this CCP. Despite this, the Service inexplicably includes the KBRA as a part of the "No Action" alternative. To the extent that KBRA would alter water deliveries in the Klamath Refuge Complex, the Draft CCP/EIS wrongly suggests that taking "No Action" – or continuing the status quo – will result in those changes. Because the KBRA has died, the Draft CCP/EIS must not suggest that water deliveries will change if the Service does not take action on the CCP or does not affirmatively change course through that planning document. An expired and void agreement cannot form the basis for the "no action" alternative.

Response: The CCP/EIS includes the rationale for including a Klamath Basin Restoration Agreement (KBRA) scenario to bracket reasonable water delivery scenarios for all Lower Klamath Refuge alternatives in Chapter 4, Alternatives (see Sections 4.1 and 4.2). In these sections, the CCP/EIS acknowledges that while Congress did not approve the KBRA in 2015, progress has been made by the parties to the agreement since the expiration of the agreement on January 1, 2016. For example, a revised Klamath Hydroelectric Settlement Agreement, a companion agreement to the KBRA, was revised and signed, without the need for Congressional approval, by the Governors of California and Oregon and the Secretary of the Interior. The Secretary of the Interior has also expressed a strong desire to resume negotiations in 2016 to resolve water rights disputes, water quality issues, refuge water needs, and many more that were a part of the KBRA. Therefore, the Service believes it to be a condition that is possible or even likely in the reasonably foreseeable future and should be included in the EIS to help in understanding the range of impacts. The CCP/EIS does not suggest water deliveries will change if the Service does not take action; rather, it provides a bracketed approach to evaluating how habitat on the refuge could be developed and managed under a range of water delivery scenarios.

Comment# 846-38: Alternative A for Lower Klamath NWR is the "no action" alternative. Clearly, based on the comments and analysis already provided, the status quo option is not a viable option and should not be the preferred alternative. The CCP itself acknowledges, "Klamath Project deliveries to the refuge have decreased substantially in recent years. As a result the Service is unable to fully meet habitat objectives…."192 In order for the Service to meet its obligations under the Refuge Act and the Kuchel Act to manage the Refuge for the main purposes of waterfowl management and wildlife conservation, water deliveries must increase to an adequate level to sustain the wetland habitat necessary to support for full suite of wildlife species that depend on the refuge for habitat. In other words, Alternative A does not meet the Service's substantive statutory obligations and must be rejected. Additionally, as discussed above, the KBRA, or similar agreement, should not be considered as part of the "no action" alternative because it is not part of the current management regime.

Response: On the Lower Klamath NWR, Alternative C has been identified as the Preferred Alternative. Also see responses to comments 846-32 and 846-36.

Comment# 846-56: Alternative A for Tule Lake NWR is the "no action" alternative. Under current management of the Tule Lake Refuge, the Refuge provides limited benefits to waterfowl and wildlife. The flooded sumps do not provide the prime waterfowl habitat that they once did and the agricultural lands provide limited forage benefit to a select set of waterfowl guilds. The "walking wetlands" program, which is intended by the Service to provide necessary diverse habitat, has been significantly reduced in recent drought years and is not meeting refuge purposes.214 Alternative A does not meet the purposes of the Tule Lake Refuge or comply with the Kuchel Act.

Response: Comment noted.

Comment# 846-68: Upper Klamath Lake Alternative A (no action) is not a viable alternative. It is not adequate to improve on the water quality issues described above as well as other potential impacts referenced in the section below.

Response: Comment noted.

E. Specific Management Actions

Letter ID # 681-6, 726-2, 780-2, 846-34, 905-11, 905-13, 905-14, 905-15, 905-17, 905-2, 905-9

Public Concern Statement: Several commenters express support for specific management actions described within alternatives, including the use of walking wetlands and continued hunting opportunities. In particular, one commenter requests that Alternative B include information on the benefits of sustainable hunting and include a focus on recruiting new hunters. Another respondent also states that many Refuge actions, such as portable decontamination stations and GIS mapping, should be standard practice regardless of the selected alternative.

Response: Comment noted.

F. Alternatives Eliminated from Consideration

Letter ID # 743-22, 846-46, 846-47, 846-60, 846-61, 846-62, 846-63

Public Concern Statement: Two respondents disagree with the Service's justification to eliminate the following alternatives from further consideration.

- Elimination or voluntary buy-out of lease land program
- Curtail agriculture in years when only partial water deliveries are made
- Move water from TID on Sept. 1 to fill the Refuge
- Flood the southwest sump with winter water to mimic a portion of historic hydrology
- Integrated Land Management Plan (ILMP)

Additional comments regarding some of these alternatives are provided elsewhere in this report.

Comment# 743-22: There are no alternatives for the compatibility determination and consistency determination that continue the current lease land program, indicating that the Service has excluded this alternative even though it is the legally viable option under the Kuchel Act and the TID contract. TID submits that this is improper.

Response: The compatibility determinations evaluate whether a particular use is compatible with Refuge purposes and the Refuge System mission. The Service identified the stipulations necessary for each existing or proposed use of the refuges that are required to ensure compatibility.

Comment# 846-46: The Draft CCP rejected an alternative to consider a voluntary buyout for agricultural leases.197 We disagree with Service that buyout of agribusiness leases should be removed from consideration in the CCP. The Service seems to have misunderstood the proposed action as a complete elimination of the leaseland program. The Service should reconsider this action in terms of phasing out / reduction in lease land agriculture so the Service can meet its mandate to effectively prioritize wildlife conservation on refuge land. There is contradictory language in this section under the first bullet saying "food is believed to be limiting resource" but then in the second bullet goes on to say "water supply…[needed for]…sufficient food resources for waterfowl." As discussed in detail above, the Service has the authority and the obligation to consider a reduction in the leaseland program if refuge purposes of wildlife conservation and waterfowl management are not being met throughout the Refuge.

Response: The reasons for not considering a buyout of agribusiness leases are explained in sections in the Alternatives chapter of the CCP/EIS (see Sections 4.2.7 and 4.4.6) titled Management Actions Considered but Eliminated from Detailed Alternatives Analysis. See also response to comment 634-3 regarding how water can be used on the Tule Lake Refuge under the Amended and Corrected Findings of Fact and Final Order of Determination (ACFFOD).

Comment# 846-47: Move water from TID on Sept. 1st to fill the Refuge. The Service rejected this action based on asserted electrical costs of operating D Pumping Plant. As discussed in Section VI(A)(iv) above, these assertions are not grounded in fact and there are other alternatives available to the Service to consider for getting water that previously moved through D Plant to Lower Klamath Refuge. The Service should consider those alternative actions in the CCP.

Response: See response to comment 643-3.

Comment# 846-60: Tule Lake NWR As with Lower Klamath Refuge, we disagree with the Service that buyout of agribusiness leases should be removed from consideration in the CCP. The Service should reconsider this in terms of phasing out/reduction in lease land agriculture so the Service can meet its mandate to effectively prioritize wildlife conservation on refuge land. Regarding the 1956 Tule Lake Irrigation District (TID) contract, in fact, the contract explicitly addresses within-project priority, specifically stating that TID "shall be equal in priority to others executing similar contracts under the

Reclamation Act of 1902."216 This conflicts with the description in the Draft CCP that states that "irrigated lands on Tule Lake Refuge have an A, or first right, to Project water."

Response: See response to comment 634-3.

Comment# 846-61: Curtail Agriculture in Years When Only Partial Water Deliveries are Made. The Service rejected this proposed action from consideration in the alternatives based on the justification in the 2002 FONSI for the agricultural program that, "any water savings from a reduced irrigation program on the Refuge would simply make more water available to higher priority Project water users rather than to refuge wetlands."218 However, as discussed above, this conclusion is based on a misunderstanding of Oregon water law and the Service's options for management and allocation of its 1905 priority water right. This proposed action was improperly eliminated from full consideration and should be included in the alternatives analysis for the Final CCP/EIS.

Response: See responses to comments 522-4 and 643-3.

Comment# 846-62: Flood the Southwest Sump with Winter Water to Mimic a Portion of Historic Hydrology. The Service rejected this action alternative based on the Kuchel Act's directive that the Service "continue the present pattern of leasing" and the Southwest Sump is part of those lands reserved for leasing.220 As explained in Section III above, the Service incorrectly interprets the Kuchel Act as mandating the Service to continue the present acreage of leaseland agriculture. Moreover, the Service itself appears to adopt contradictory interpretations of the Kuchel Act throughout the Draft CCP/EIS. In Alternative C for Tule Lake Refuge, the Service proposes to drawdown Sumps 1(a) and 1(b) in Tule Lake, notwithstanding the Kuchel Act's directive that, …waters under the control of the Secretary of Interior shall be regulated, subject to valid existing rights, to maintain sump levels in the Tule Lake Wildlife Refuge at levels established by regulations issued by the Secretary…221 In Appendix M, the Service appears to interpret Section 6 of the Kuchel Act as mandating that sump levels be stabilized.222 We agree with the interpretation of the Kuchel Act that the Service appears to adopt in Alternative C – that there is no mandate to stagnate management of Tule Lake Refuge where refuge purposes of wildlife conservation and proper waterfowl management are not being achieved. However, where this interpretation would allow a drawdown of Sumps 1(a) and 1(b), as proposed in Alternative C, it would also allow a reduction in the "present pattern of leasing" notwithstanding the directive in Section 4 of the Kuchel Act, 16 U.S.C. § 695n. Therefore, this proposed action was improperly eliminated from consideration and should be included in the alternatives analysis for the Final CCP.

Response: We disagree and assert that we have correctly interpreted Section 4 of the Kuchel Act regarding leasing of reserved lands, as detailed in Chapter 5 of Appendix M. Regarding sump drawdowns, the Kuchel Act requires that "...waters under the control of the Secretary of the Interior shall be regulated, subject to valid existing rights, to maintain sump levels in the Tule Lake National Wildlife Refuge at levels established by regulations issued by the Secretary pursuant to the contract between the United States and the Tulelake Irrigation District, dated September 10, 1956, or any amendment thereof. Such regulations shall accommodate to the maximum extent practicable waterfowl management needs." (16 U.S.C. § 695p) [emphasis added]. We believe temporary sump drawdowns needed to support waterfowl management needs are consistent with this requirement.

Comment# 846-63: Integrated Land Management Plan. The Service rejected this alternative action on the basis that the Kuchel Act mandates the "present pattern of leasing" be continued and that Sumps 1(a) and 1(b) are not be reduced to less than 13,000 feet.223 As explained above, this is based on the Service's incorrect interpretation of the Kuchel Act and is inconsistent with the proposed management Alternative

C that includes manipulating water levels in the sumps. The Service also rejected this action on the basis that "this management strategy could require construction of a number of levees throughout the Refuge which is likely cost prohibitive."224 This is contradicted by the Service's proposal in Alternative B to "construct dikes around lease land lots in Sump 2 where walking wetlands management is feasible."225 The Service's failure to explain why construction of levees or dikes would be cost prohibitive in one context but not the other is arbitrary.

Response: The Service notes the commenter's disagreement with our interpretation of the Kuchel Act. As stated in Section 4.4.6, the Service eliminated the ILMP alternative from detailed analysis primarily through our interpretation of the Kuchel Act. The levees needed to implement an ILMP would be much larger than those needed for walking wetlands because they would need to be placed inside Sumps 1A and 1B. The Service directs the commenter to the second paragraph in Section 4.4.6, which notes that the rotational nature of the walking wetlands program is similar to the ILMP, although on a much smaller scale.

G. Range of Alternatives - General

Letter ID # 743-25, 734-1

Public Concern Statement: One commenter expresses concern that the CCP/EIS's current range of alternatives is insufficient to meet Refuge needs, as well as lacks water quality and cumulative impacts analysis and fails to disclose sufficient information for adequate public review. It is also stated that the Service should not "predetermine and foreclose" alternatives in the CCP/EIS through the use of stipulations and interpretations in the appendices.

Comment# 734-1: We applaud the efforts of the U.S Wildlife Service to create a comprehensive plan, but are concerned with the lack of distinct alternatives that would meet the purpose and needs of the Wildlife Refuges, the lack of a sufficient water quality and cumulative impacts analysis, and the failure to disclose the important information and related processes, and the scientific information, that the public needs to make educated comments. We cannot support any of the proposed alternatives due to these shortcomings; however we do support the additional permanent wetland proposed in Alternative D.

Response: Comment noted.

Comment# 743-25: the Service should not predetermine and foreclose alternatives at this time with stipulations and interpretations in the appendices.

Response: See response to comment 701-29.

H. Range of Alternatives - Water

Letter ID # 56-32, 56-33, 793-5, 846-16, 846-25, 846-27, 846-30, 846-44, 846-96, 846-97, 846-99

Public Concern Statement: It is suggested by some respondents that the Service should expand the range of alternatives to consider alternative water rights or provide "meaningful changes in water allocation to the Refuge Complex" to improve Refuge lands. One comment also asks the Service to consider proposals similar to the Lower Klamath's Big Pond alternative elsewhere on the Lower Klamath and Tule Lake NWR.

Comment# 56-32: Another range of alternatives must include examining the potential for different water management regimes in order to enhance the particular species of vegetation that the refuge finds desirable for nesting/whatever its goals really are – which is not at all clear. How, where and when is water being regulated on the refuge?

Response: Please see Sections 3.3.1 and 3.3.2 in the CCP/EIS, which describe the Service's water rights and how water is applied on the refuges.

Comment# 56-33: Another range of alternatives would be for the Refuge to undertake the promised conservation, enhancement and restoration of these lands as a Pilot project– which is the purpose the public was told they were being acquire for. How, and with what species and water regimes, can these lands be optimally restored to meet the Refuge mandate, and the promises made during acquisition?

Response: The Service believes that the range of alternatives described in the CCP/EIS focuses on the enhancement and restoration of refuge lands.

Comment# 793-5: Even as the draft CCP/EIS took the Service more than a decade to prepare, the management alternatives proposed for each refuge do not address the fundamental problems facing the Klamath Refuge Complex, and that is a lack of water. Because of a lack of water (and poor water quality which will be discussed later) the Lower Klamath and Tule Lake NWRs have failed to provide adequate benefit to fish, wildlife and plants dependent on on the Refuges. Because the four proposed alternatives as they were presented in the draft CCP/EIS do not consider meaningful changes in water allocation to the Refuge Complex, the range of alternatives is too narrow and are not reasonable as required in the NEPA/EIS process.

Response: The Service disagrees with the conclusion in the comment. Sections 3.3.1 and 3.3.2 describe the importance of water in achieving Refuge purposes and discuss the challenges the Service faces in obtaining a reliable supply. Given these challenges the CCP/EIS discloses and analyzes the range of habitat that can be provided on the Lower Klamath Refuge under two delivery scenarios and three different water year types (see Figures 4.3, 4.4, 4.5, 4.6, and 4.7). However, "addressing" the lack of water implies resolution, and for reasons stated in responses to comments (e.g., 634-3) and in the CCP/EIS itself, this is not an action the Service can take independently (please refer to Water Management and in particular the subsection Water Delivery Scenarios, and the newly added section 4.1.1, Alternatives Development, in the final CCP/EIS for information on Department of the Interior and court-imposed restrictions). Multiple agency, court, and congressional actions would all be required to provide the certainty that the commenter requests.

In addition, the range of reasonable alternatives includes the requirements of the Kuchel Act to balance agriculture and waterfowl management, and as noted in response to other comments (846-4 and 846-65), the approach used by the Refuge of applying agricultural methods to feed and create habitat for waterfowl has worked well in achieving this balance.

Defining the range of reasonable alternatives must necessarily include constraints and requirements of the Kuchel Act and of water availability. Therefore, the Service analyzed only water delivery scenarios that appeared reasonable (current allocations and the KBRA scenario, which was an interagency agreement submitted to but not considered by Congress in 2015) and approaches that fulfilled the requirements of the Kuchel Act. Given the success of most waterfowl populations using the Refuge, it makes sense to continue to follow the approach of using agricultural methods to help in achieving proper waterfowl

management objectives.

Comment# 846-16: The Draft CCP/EIS released by the Service in May 2016 was over 3 years overdue.138 Yet, despite the delay and more than a decade that the Service had to prepare the plan, the management alternatives proposed for each refuge do not address the fundamental problem facing the Klamath Refuge Complex – lack of water. Because the Service and the Bureau of Reclamation have failed to deliver adequate water to the Refuge Complex, wildlife management at Lower Klamath and Tule Lake Refuges has grossly failed (and is set to continue to fail under the proposed alternatives in the CCP) in providing adequate benefit to the full suite of bird species and other wildlife that depend on these refuges as breeding grounds and vital migratory stopover refueling areas on the Pacific Flyway. Accordingly, because the alternatives as they currently stand do not consider meaningful changes in water allocation to the Refuge Complex, the Draft CCP/EIS does not offer a full range of reasonable alternatives as is required in a NEPA/EIS process.

Response: See response to comment 793-5.

Comment# 846-25: Because the CCP's profoundly flawed analysis of the Refuges' water rights options forms the foundation for choices and options presented in the CCP's alternatives, the Service must also reconsider and redraft the CCP's range of alternatives, once an accurate analysis of refuge water rights and refuge water supply options has been produced.

Response: The commenter has supplied no information that indicates the way in which the water rights options analysis is flawed. In fact, the water management, water delivery analysis in Chapter 4 accurately depicts how water has been adjudicated by the courts and the low priority that Refuge management needs has been given. These sections accurately represent the current situation and present an upper end scenario (KBRA or similar) that, given court action, congressional action, and current positions held by those parties with high-priority water rights, is a reasonable best-case future scenario.

Comment# 846-27: The Draft CCP/EIS blames the priority system for water deliveries within the Klamath Project for lack of water deliveries to Lower Klamath and Tule Lake Refuge under their federal reserved water rights. The CCP includes discussion of delivery priorities for Klamath Project water supplies set out in the July 25, 1995 Regional Solicitor's Opinion Re: Certain Legal Rights and Obligations Related to the U.S. Bureau of Reclamation, Klamath Project for Use in Preparation of the Klamath Project Operation Plan (KPOP).166 That opinion states: Reclamation has an obligation to ensure that the refuges receive adequate water to fulfill the federal reserved water rights (i.e. the amount of water necessary to fulfill the primary purposes of the refuges) when in priority and when water is available. In addition, Reclamation can continue to provide available project water for beneficial reuse by the refuges to the extent of past and current usage and consistent with project purposes. This opinion makes clear that the U.S. Bureau of Reclamation (USBR) has an affirmative responsibility to ensure the refuges receive the water provided under their federal reserved wildlife habitat water rights, in accordance with state water law. The CCP should be revised to articulate how this obligation will be fulfilled and to incorporate that plan into one or more alternatives.

Response: The federal reserved water rights of the refuge are for non-project water (page 7 of 30, Amended and Corrected Findings of Fact and Final Order of Determination [ACFFOD] 03721). The 2013 Biological Opinion (BiOp) predated the FOD and does not consider water rights, but nevertheless does specify how and when non-project water is delivered to the refuges. The CCP does not intend to blame the water rights priority system for the lack of water deliveries; it is mainly the 2013 BiOp that has

resulted in limited availability of non-project water for the refuge.

Comment# 846-30: The Bureau of Reclamation's justification for interfering with water supplies to Lower Klamath Refuge lands for wildlife habitat is not supported in fact or law. The Service thus should not rely on the USBR's recalcitrance in assessing the available alternatives or management actions on the Refuge.

Response: We developed alternatives to achieve the purposes for which each Refuge was established in accordance with applicable laws, regulations, and policy. See Chapter 4 of the CCP/EIS.

Comment# 846-44: In addition, it is not clear from the CCP why Lower Klamath's Big Pond alternative was not considered alongside parallel proposals elsewhere on Lower Klamath NWP or on Tule Lake NWR. At first glance, the Area K leaselands on Lower Klamath NWR and either of the two leaseland areas on Tule Lake NWR would seem to be able to transition to a "Big Pond" management scenario at lower financial cost with equivalent or higher potential for natural water storage. Area is already extensively diked. The current leaseland areas of Tule Lake, which are also extensively diked, have undergone considerable soil subsidence due to agricultural practices, resulting in a total potential storage capacity of around 100,000 acre-feet of water.

Response: The location of the Big Pond was based on the topography of the Refuge. This area is the low point on the Lower Klamath Refuge. The primary purpose behind developing the Big Pond scenario was not for water storage but to mimic historic conditions.

Comment# 846-96: None of the existing alternatives address the fundamental problem facing the Klamath Refuge Complex – lack of water – and therefore the existing range of alternatives is unreasonably narrow and contrary to law under NEPA.

Response: See response to comment793-5.

Comment# 846-97: In the passages above, the CCP rejects consideration of the most promising alternative available to meet the purposes of Lower Klamath and Tule Lake Refuges – reducing or phasing- out the leaseland program – by relying on two incorrect factual assertions regarding Oregon water law: 1) The 1905 water rights cannot be used to support wetlands; and 2) Lower Klamath Refuge's 1925 priority date water right, Tule Lake Refuge's 1928 and 1936 water rights, and presumably the refuges' other more junior priority date water rights, are too junior to reliably supply water in most years. This discussion also inexplicably ignores the Refuges' other water rights for wildlife habitat on Lower Klamath and Tule Lake Refuges.

Response: See response to comment 634-3.

Comment# 846-99: Refuge has a steady record of using all water rights on an annual basis. Therefore, under Oregon water law, the Refuges' 1905 approved claims for irrigation can supply water at the current place of use to promote growth of wetland plants for waterfowl purposes—not only agricultural crops as the CCP incorrectly claims. There is no legal reason to reject consideration of a reduction or elimination of leaseland agriculture as a viable tool to provide the water needed to fulfill the refuge purposes. By incorrectly concluding that "agriculture on the Refuge is generally assured of receiving water in most years year [sic] while wetland areas are not,"156 the CCP has failed to evaluate this option or to include an appropriate range of alternatives...Our assessment is that a transfer of the place of use of the 1905

rights would meet the criteria for a transfer.

Response: See response to comment 634-3.

I. Range of Alternatives – Livestock
Letter ID # 56-30, 56-118, 653-1, 663-11

Public Concern Statement: Two commenters recommend expanded alternatives that consider authorizing fewer animal-unit months (AUMs) or acres of livestock grazing, or that make lands unavailable for grazing. One comment also indicates that the Service should evaluate non-livestock mowing alternatives to reduce vegetation height.

Comment# 56-118: Benefits of a range of mowing/cutting alternatives: Mowing/cutting can occur during a brief and compressed period of time, and target very specific plant areas depending on apparatus and methods used. It can be fine-tuned to only target specific undesirable vegetation and cover while leaving desirable vegetation and cover alone. But of course, first the Refuge must establish an actual NEED for reducing protective cover. It involves no weed-causing wildlife-injuring or disturbing fencing or other facilities of any kind. It does not involve daily rancher/lessee disturbance of motorized use, dogs, horses, etc. It does involve fencing, and in fact allows the Refuge to remove existing fences and other harmful livestock facilities that kill and injure native biota, and cause other ecological degradation and conflicts with the Refuge purposes and FWS mission. Migratory bird territory and nest searches in advance of mowing can minimize harassment, take, egg destruction, injury, mortality and displacement of migratory birds. It very likely would have a significantly lower climate change gas emission footprint. One or two mowing events annually will burn fossil fuel. However, livestock emit methane, a potent global warming gas. Plus they compact and alter soil structures and otherwise affect carbon sequestration. Careful human mowing (with equipment washed beforehand) will not transport weeds into nesting migratory bird habitats. This is the dead opposite of cows infested with weed seeds in guts, coats, mud on hooves, etc. This will minimize future and connected herbicide use. Human mowing equipment (potentially a combination of larger mower and human mower if areas are too wet) will have much less of a soil compaction, soil pocking footprint than thousand pound cattle. This will reduce churning up sediments with many potential poisons and toxins from ag use, old mining, past cow use and waste, etc. lacing them. Human mowing will reduce the risk of West Nile virus-carrying mosquitoes breeding in livestock hoofprints that get filled with stagnant water. As the refuge is well aware, West Nile is a very serious concern for avian and some other species, and the grazing period strongly overlaps the period of high concern for West Nile. What studies have been conducted on West Nile, and where has it been documented, in this area? How has it impacted species? It will eliminate the possibility of hundreds of cattle and scores of rancher visits (including in areas often closed to the public) transporting chytrid fungus that may kill native amphibians, as well as a host of other diseases carried by domestic cattle. It will aid the human agricultural sector, as this may employ more people for the job than a single rancher/lessee. It will better protect conservation and sustainability of water resources that can be used for high value cash crops; minimize herbicide drift and soil erosion impacting neighboring ag; provide an opportunity for native seed collection and other plant material uses, etc.

Response: Mowing can be used to control invasive plant species on portions of the refuges where there are level fields, along roads, the tops of berms, and adjacent to structures. Mowing is incorporated into ongoing refuge management where feasible. Mowing cannot be used at Clear Lake Refuge and on much of Upper Klamath Refuge where the terrain is uneven and there is a high danger of wildfire. On Upper Klamath Refuge, approximately 200 acres is hayed (native and annual grasses that are mowed and baled)

annually. See also response to comment 56-30.

Comment# 56-30: It is also necessary to ensure protection of the purposes for which the Refuge has been established, and that they are not adversely impacted and/or jeopardized. This includes a range of alternatives using mowing apparatus to reduce the height of vegetation, if that is indeed to be shown to be necessary and proper baseline studies and scientific evidence shows that vegetation height, age, or any other attribute the FWS seeks to alter is a biological concern, and that significant collateral damage to numerous rare and important species and Refuge values will not take place. From review of other FWS documents, it appears all manner of mowing and haying apparatus may be used in the region –from weed whips to large tractor-pulled devices. The Refuge must fulfill its conservation mandates that are described in the proposal.

Response: Mowing is used as a tool for habitat management and maintenance where appropriate on each of the refuges. Mowing can be used as a tool on fields, berms, roads, and around buildings. Mowing cannot be used where the terrain is uneven and there is a high risk of wildfires. Stipulations to protect refuge resources are included in the compatibility determination for haying on Lower Klamath Refuge (Appendix G).

Comment# 653-1: Here, the Service's EIS does not comply with NEPA because it fails to consider any alternatives for Clear Lake National Wildlife Refuge that authorizes fewer AUMs or acres of livestock grazing, or that makes lands unavailable for grazing altogether. This is despite the fact that livestock grazing negatively impacts many of the resources that the Refuge must protect by law. According to the EIS, the Service currently authorizes grazing on the Clear Lake Refuge on around 5,500 acres from mid-August to mid-November resulting in around 600 AUMs annually. EIS at Fig. 4.8, 4-47 to 4-49. The Service also allows livestock from neighboring Modoc National Forest allotments to access the Refuge. Id. at 6-73. Under Alternative B, the Service would continue to authorize this grazing and additionally authorize grazing on an additional 3,000 acres with 300-500 cattle from March 1 to mid-April with new additional infrastructure including fencing and troughs. Id. at 4-50–4-51; Table 4.11. No reductions or removal of livestock are analyzed.

Response: An alternative reducing grazing was not included for two reasons. First, as the impact analysis indicates, grazing is a management method that is highly controlled at Clear Lake, as well as at Lower Klamath and Upper Klamath Refuges. The species of livestock changes depending on the management need, and the timing, intensity and duration of grazing are all managed to produce a specific result based on the habitat objectives. For example, in early and middle spring, non-native cheatgrass and medusahead are preferentially grazed by cattle. The Refuge proposes to use short-term, intense grazing at this time of year specifically to help slower growing native bunchgrasses flourish. Research (Merrill-Davies, undated) indicates that this kind of grazing not only reduces annual grasses and increases native perennials and forbs, but also results in no change in bare ground (i.e., soil loss and water absorption rates do not change between grazed and ungrazed plots).

Second, as noted in responses to other comments (see 1-1, for example), the Lower Klamath, Clear Lake, Tule Lake, and Upper Klamath Refuges are governed not only by laws and regulations that apply to all National Wildlife Refuges, but also by the Kuchel Act which only applies to Lower Klamath, Clear Lake, Tule Lake, and Upper Klamath Refuges. Consistent with the Kuchel Act, the Refuge incorporates agricultural practices like grazing to help achieve its wildlife and habitat objectives. The use of grazing to help meet vegetation objectives like consuming pest and invasive plants, opening areas that would otherwise be choked with vegetation and sub-optimal for use by waterfowl, and creating short-grass pasture for migratory birds are examples of this approach.

Given the controlled prescriptions for livestock grazing at the Refuge and consistent with the Kuchel Act, the Service believes expanding this agricultural practice to further achieve wildlife objectives is substantially more likely to improve habitat rather than degrade it; reducing grazing would have the opposite overall effect.

Comment# 663-11: One of the purposes of the CCP process is to "evaluate existing and proposed uses of each refuge to ensure that they are compatible with the refuge purpose(s) as well as the maintenance of biological integrity, diversity, and environmental health." ES-3. Further, one of the main issues the CCP intends to address is Agriculture, namely to "[d]iscuss the pros and cons of continuing existing agriculture, and the compatibility of agriculture on refuges." ES-12. In a planning document such as this, the failure to analyze the reduction and elimination of grazing violates NEPA's direction to study reasonable alternatives. W. Watersheds Proj. v. Salazar, No. 4:08-cv-BLW, 2011 WL 5426746, at *14–*15 (D. Idaho Sept. 28, 2011). Consideration of an action's costs, benefits, and environmental impacts in the context of "all possible approaches" is "critical to the goals of NEPA." Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1228 (9th Cir. 1988). Thus, "informed and meaningful consideration of alternatives—including the no-action alternative—is thus an integral part of the statutory scheme." Id. Indeed, an EIS must consider a no-action alternative. 40 C.F.R. § 1502.14(d). And, in the context of analyzing whether or not to authorize livestock grazing, a "real no action alternative" means declining to allow grazing at all—not authorizing grazing at status quo levels. W. Watersheds Proj. v. Rosenkrance, 4:09-cv-298-EJL, 2011 WL 39651, at *10–*11 (D. Idaho Jan. 15, 2011). Here, the Service's EIS does not comply with NEPA because it fails to consider authorizing fewer AUMs or acres for livestock grazing or making lands unavailable for grazing altogether in any of the three Klamath Complex units where grazing is currently allowed. To illustrate, in the Lower Klamath Refuge, grazing or grazing and/or haying currently occurs on 14,500 acres of the refuge, with at least 3,670 AUMs annually authorized. EIS at Fig. 4.3, 4-13–4-15. Grazing at these levels and in these areas would continue under Alternative B. Id. at 4-23. Under Alternatives C and D, grazing would increase, with up to 17,500 acres available for grazing. Id. at Figs. 4.6, 4.7, 4-27, 4-30. Thus, under every alternative grazing will either stay the same or increase. Id. at Table 4.8, 4-35. Likewise, the Service currently authorizes grazing on the Clear Lake Refuge on around 5,500 acres from mid-August to mid-November resulting in around 600 AUMs annually. EIS at Fig. 4.8, 4-47–4-49. The Service also allows livestock from a neighboring Modoc National Forest allotment from accessing the Refuge. Id. at 6-73. Under Alternative B, the Service would continue to authorize this grazing and additionally authorize grazing on an additional 3,000 acres with 300-500 cattle from March 1 to mid-April with new additional infrastructure including fencing and troughs. Id. at 4-50–4-51; Table 4.11. As with the Lower Klamath Refuge, both of these alternatives would either allow status quo grazing or increased grazing. No reductions or removal of livestock are analyzed. For the Upper Klamath Refuge, the EIS describes grazing as a feature common to all alternatives. EIS at 4-81. Current grazing occurs annually on the Barnes-Agency tract on roughly 2,200 acres (about 560 AUMs). Id. Haying also occurs annually on 200 acres. Id. at 4- 82. Alternative B would allow this grazing to continue. Id. at Fig. 4.12, 4-89, Table 4.16. For each of these areas, the EIS purports to analyze a no-action alternative (Alternative A). However, even under that action, grazing would continue to occur at currently authorized levels or in the areas where it occurs now. By failing to consider reduced and no-grazing alternatives, the Service has not acted in accordance with NEPA's requirement to analyze all reasonable alternatives, including a true no-action alternative. The final EIS must analyze the reduction and elimination of livestock grazing and related agricultural activities such as haying in order to comply with NEPA.

Response: We disagree with the commenter's characterization of the No Action Alternative. The Service is preparing a management plan where ongoing programs initiated under existing legislation and regulations will continue even as new plans are developed. In cases such as this, the "no action" is "no change" from current management direction or level of management intensity. As discussed in "40 Most Asked Questions Concerning CEQ's NEPA Regulations," to construct an alternative that is based on no

management at all would be a useless academic exercise. Therefore, the "no action" alternative may be thought of in terms of continuing with the present course of action until that action is changed. The ongoing activity of concern in this comment is grazing. In 1994, consistent with the National Wildlife Refuge System Administration of 1966 (Public Law [PL] 94-223) and the Kuchel Act (PL 88-567), the Service found that grazing on Lower Klamath, Clear Lake, and Upper Klamath was compatible with the National Wildlife Refuge System mission and the refuge purposes. Therefore, it is appropriate to include grazing as part of the No Action Alternative. These refuges exist within a highly modified system. The Service uses tools that mimic the natural vegetation disturbance processes to optimize wildlife habitat values. Grazing is one of those tools.

J. Range of Alternatives –Leased Agricultural Lands
Letter ID # 704-9, 734-11, 734-19, 793-6, 846-1, 846-18

Public Concern Statement: Similarly, other respondents suggest that the Service should expand the range of alternatives to include a reduction in, or elimination of, lease land agriculture or options to reallocate water from agriculture to wetlands.

Comment# 704-9: The plan also fails to put forward or analyze an alternative which eliminates or phases out the leaseland farm program on these refuges. These refuges and the public deserve a more enlightened CCP.

Response: The reasons for not considering a buyout of agribusiness leases are explained in sections in the Alternatives chapter of the CCP/EIS (see Section 4.2.7, for example) titled Management Actions Considered but Eliminated from Detailed Alternatives Analysis. To paraphrase, the Refuge is obliged to follow existing laws and policies, which include the Kuchel Act as well as more traditional conservation guidance. As noted in an additional section on *Alternatives Development* in the final CCP/EIS (4.1.1), this means an alternative that eliminates or phases out the lease land farm program could be inconsistent with the legislated purposes governing management at the refuges. The Klamath Basin NWR Complex needs to function as a migratory feeding station of sorts for waterfowl migrating along the Pacific Flyway to, in part, keep them from depredating regional farmlands. Leased agricultural lands are considered an important component of supplying the necessary energy needs for these waterfowl (see also Appendix N). The water rights for Lower Klamath and Tule Lake Refuges also have a critical influence on the range of alternatives evaluated. See response to comment 634-3 regarding the feasibility of using irrigation water for wetland purposes. In summary, without irrigated agriculture, the Service would be unable to meet the energetic needs of migrating waterfowl. For these reasons, elimination or phasing out of lease lands was not considered as a realistic option.

Comment# 734-11: We also believe that the EIS should include alternatives that look into the retirement of commercial farm lands that are significantly adding to water quality impairments and lack of adequate waterfowl and fish habitat within the refuges. This analysis needs to include a site specific analysis to inform final decisions. A willing seller program mixed with a phased lease retirement program of non-compatible crops is the best way to achieve this goal. Water rights or Bureau of Reclamation contracts associated with leases should be transferred to wildlife refuge and/or instream uses. That phase-out should begin with potatoes, which require many pesticides and fungicides and are not a benefit to the refuge ecosystem. We would also like to see alfalfa, as a water intensive but relatively low value crop, phased out. We are not at this time advocating for the phasing out of cereal grains as we believe that this crop can benefit fish and wildlife consistent with the language of the Kuchel Act. BMPs and Waste Discharge Requirements on the lands that stay in farm production can minimize the potential of existing water quality discharges as can dry farming, nutrient management plans, active water quality monitoring and

reporting, and an organic requirement.

Response: Section 4.1.1 of the CCP/EIS explains our rationale for development of the alternatives.

Comment# 734-19: An agriculture-based Waste Discharge Permit for agricultural activities is being developed that will address this issue and USFWS and lease lands will be subject to this permit, monitoring requirements, and load limits. Because the refuges are public lands that are to be managed primarily for the benefit of fish and wildlife, USFWS should be getting ahead of this process by creating alternatives that implement water quality improvements. The retiring of lease lands that are causing water quality impairments is not only is the best way to obtain this load reduction, but limited land retirement can take some of the burden off of private land owners, especially if these retired lease lands, and their associated water contracts, can also be used for treatment wetlands and improving endangered sucker habitat.

Response: See response to comment 734-4, concerning the TMDL process.

Comment# 793-6: We cannot identify any legal reason to reject consideration of a reduction or elimination of lease land agriculture as a viable tool to provide the water needed to fulfill the refuge purposes. And by concluding that "agriculture on the Refuge is generally assured of receiving water in most years year [sic] while wetland areas are not,"24 the CCP has failed to evaluate this option or to include an appropriate range of alternatives.

Response: The reasons for not considering a buyout of agribusiness leases are explained in sections in the Alternatives chapter, Chapter 4 of the CCP/EIS (see Section 4.2.7, for example), titled Management Actions Considered but Eliminated from Detailed Alternatives Analysis. To paraphrase, the Refuge is obliged to follow existing laws and policies, which include the Kuchel Act as well as more traditional conservation guidance. As discussed in Development of Alternatives (see Section 4.1) in the final EIS, this means an alternative that eliminates or phases out the lease land farm program is inconsistent with the refuge purposes and requirements stated in the Kuchel Act (see Chapters 3, 4, and 5 in Appendix M). The Klamath Basin NWR Complex needs to function as a feeding station for waterfowl migrating along the Pacific Flyway to in part keep them from depredating regional farmlands. Crops grown on leased agricultural lands are considered an important component of supplying the necessary calories for these waterfowl.

Comment# 846-1: The Draft CCP/EIS is fatally flawed because it does not address the fundamental underlying threats to wildlife habitat – lack of water for the Refuge wetlands. "Proper waterfowl management" requires the Service to ensure that the refuge lands have the minimum amount of water necessary to support the wetland habitat required by waterfowl and other wildlife. In order to provide the minimum necessary quantity of water, the Service may have to decrease – or eliminate – the acreage of leaseland farming on refuge lands. Or the Service may have to provide the wetlands with a higher priority for water delivery as compared to the lease lands. Along with these management steps, the Service must also consider whether and to what extent a major restoration effort is required in the Klamath Refuge Complex in order to meet their purposes as required by law. Consideration of these management steps is required by federal law because these lands have been dedicated for "the major purpose of waterfowl management."1 In passing the Kuchel Act, Congress addressed the conflict between agriculture and wildlife conservation and "resolved the issue in favor of conservation, primarily waterfowl management purposes, because it clearly appears that such a priority is in the public interest * * *."2 The Draft CCP/EIS fails to reflect this fundamental policy choice made by Congress. In fact, the Draft EIS fails to even consider an alternative that would result in reallocation of water from leaseland agriculture to

wetland habitats within the Refuge Complex.

Response: We disagree. See, in part, response to comment 793-5. Appendix M has carefully laid out the Service's interpretation of the requirements of the Kuchel Act, including a well-supported definition of proper waterfowl management, a key term in the Act. The alternatives are designed to achieve proper waterfowl management by balancing the application of available water between wetlands and providing for agriculture to feed waterfowl, control invasives, and perform other refuge functions. This approach fulfills obligations in the Kuchel Act for optimum agricultural use andconsistent with proper waterfowl management. The reasons for not considering a buyout of agribusiness leases are explained in sections in the Alternatives chapter of the CCP/EIS (see Sections 4.2.7 and 4.4.6) titled Management Actions Considered but Eliminated from Detailed Alternatives Analysis.

Comment# 846-18: A reduction in or elimination of leaseland farming on the Lower Klamath and/or Tule Lake NWRs. In the Draft CCP/EIS, the Service interpreted comments requesting a buyout of existing leases as "eliminating lease land farming * * *."145 To be perfectly clear, we are asking the Service to consider a range of potential reductions in the leaseland farming program for the two refuges, as well as phasing out that program altogether on one or both refuges. These reductions could occur through buying out existing leases and/or not reoffering leases once they expire. Water that would otherwise have been used for leaseland farming could then be used to restore wetland habitat in these areas of the refuges, and/or in other areas of the Refuges through water rights transfers. By considering a range of alternatives that looks at various levels of reduction in or phasing out of the leaseland program on the two refuges, the decision maker will be able to fully understand the environmental consequences of any continued leaseland agriculture under the 15-year term of the CCP. For instance, the Draft CCP/EIS could consider separate alternatives that involve 25%, 50%, and 75% reduction in leaseland farming on the Tule Lake and Lower Klamath Refuges as well as an alternative that phases out the leaseland framing program altogether. The important point is that the alternatives, however they are precisely structured, must allow the decision maker to examine the comparative benefits of reducing and/or phasing out the leaseland farming program.

Response: See response to comment 846-1.

K. <u>Range of Alternatives – Wildlife</u>
Letter ID # 701-29, 701-30, 701-35, 701-36, 701-37, 701-39

Public Concern Statement: It is argued that the CCP/EIS should evaluate additional waterfowl management alternatives that provide natural foods in wetlands and consider recent population data with regard to proposed population objectives.

Comment# 701-29: The Dugger et al. (2008) energetics study also concluded that the 8 management scenarios modeled in the report were not exhaustive, suggesting their scenarios were a framework, and that other alternatives could be devised for future management objectives. The 2016 draft CCP/EIS, however, did not include some of the management alternatives modeled in the 2008 study, some of which were particularly interesting and meritorious from a waterfowl management perspective. Nor did the CCP/EIS include any significantly new alternatives developed since 2008 (but see Tule Lake Alternative C, described below, as the one exception).

Response: The process the Service used to define the "reasonable" range of alternatives is described in Section 4.1.1 in Chapter 4, Development of Alternatives. Within that range, NEPA requires a reasonable

number of examples that cover the full spectrum of alternatives ("Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 1981). Information and analysis from the Bioenergetics study (Appendix N) and Kuchel Act paper (Appendix M) were used to create what the Service believes is the reasonable range of alternatives. Each meets purpose and objectives, resolves needs and issues to a large degree, and is consistent with stated laws and policies. They are also technically and financially feasible. See also response to comment 701-49.

Comment# 701-30: Results of model experiments 6 and 7 in Dugger et al. (2008) were not directly incorporated into specific management alternatives in the draft CCP/EIS. These 2 experiments involved conversion of a significant acreage at Tule Lake from agriculture to seasonal wetland. Natural foods in wetlands provide waterfowl with needed protein and a full complement of amino acids not found in cultivated grains in agricultural fields (Reinecke et al. 1989, as cited on pages F-9 and F-32 in the CCP/EIS). Thus, shifting management away from agriculture to providing natural foods in wetlands is a better management practice, even for waterfowl species that can feed on crops. For species that rely on wetlands for food, such a conversion has obvious advantages. All waterfowl are flightless during periods of the breeding/molting season, when providing food in wetlands is essential for feeding and protection from some predators. By providing crops for food instead of preferred wetland foods, the refuges may also be encouraging waterfowl behavior that will lead to depredation of crops elsewhere. The refuge, however, seeks to reduce crop depredations by waterfowl. If adequate natural foods can be made available to support refuge population objectives without encouraging waterfowl to feed on agricultural crops, then planting crops to feed waterfowl is not consistent with good waterfowl management. It appears, however, that the CCP/EIS has specifically eliminated management options like those in Dugger et al. (2008) model experiments 6 and 7. The CCP/EIS addresses this in the detailed management alternatives in Appendix F for both Lower Klamath (section 4.2.7) and Tule Lake (section 4.4.6), stating that an agriculture lease buyout program was not considered because crops can support waterfowl, that water currently delivered to grow crops would not likely be available for wetland management if crops were eliminated (water would be diverted to other, higher-priority users) so croplands converted to wetlands would be dry in many years (crops would, thus, be better than wetlands), costs associated with moving and manipulating water are likely now beyond the refuge budget, and that, although consistently challenged by the Fish and Wildlife Service, current laws are likely to frequently prevent the refuges from getting adequate water for many years to come. Another potential alternative to an outright conversion of agriculture to wetlands is to rotate these lands between crops and wetlands in alternate years, which could enhance both agriculture and wetland productivity. Although this practice is incorporated into TL Alternative C for lands currently flooded in Sump IA, the practice is dismissed as not feasible for current acreage in crops because flooding more land interferes with agriculture, the rotation system reduces the total amount of agriculture land, and there is no guarantee the necessary water would be available to flood the additional areas. Given the benefits to waterfowl of providing seasonal wetlands instead of agricultural foods explained previously, however, introducing aspects of Dugger et al. (2008) experiments 6 and 7 into management alternatives should be more thoroughly considered and addressed in the CCP/EIS.

Response: See response to comment 634-3. Other alternatives propose the use of flood fallow management to provide seasonal and semi-permanent wetlands on the landscape. The interspersion of this habitat would provide for a broad spectrum of life-cycle requirements for many different waterbird guilds (e.g., shorebirds, wading birds, waterfowl). However, based on our water rights, we cannot reliably provide energetic needs based solely on wetland habitats. Further, the periodic drawdown of Sumps 1A and 1B, combined with walking wetlands, would provide a mosaic of seasonal wetland for foraging and are included in the Preferred Alternative.

Comment# 701-35: In any system where professionals are judged by how well they meet goals, it is

tempting for those professionals to set their own goal at levels that can likely be met, rather than setting goals at levels that may be of more merit but that are difficult to achieve. In wildlife management, managers often set population goals at the levels recently observed, because, given no change in management, that is probably what will be achieved, not to mention that many factors affecting population levels are often out of their control. The CCP/EIS does not exactly do that, but the plan does lack a discussion of whether waterfowl, other competing species, or the public would benefit from higher or lower species numbers than those selected as population objectives which are solely based on past population values. For example, given that many goose species are quite abundant, are easily supported by waste grains and other crops on already-harvested crop fields on private lands, and that large concentrations of these birds on refuges has sometimes resulted in waterfowl disease outbreaks, should goose population objectives in peak seasons be reduced in favor of better-supporting other, more-rare species? Similarly, if less-abundant but popular species declined during the 1970s, but have seen welcomed increases in recent years, does it make sense to use the lower 1990s data to set population objectives? Setting population objectives in a more-robust way would not necessarily require a totally different approach, but would perhaps only involve a more-thorough review of population data from all years (not settling on the 1990s data precedent described in the next section) along with use of a ranking system that would help evaluate whether factors other than past numbers should be considered in adjusting population objectives.

Response: The CCP/EIS alternatives, and goals, objectives and strategies for refuge management (Appendix F) are based on Pacific Flyway population objectives as outlined in the North American Waterfowl Management Plan (NAWMP) and historic population counts. The bioenergetics model was used to evaluate habitat availability under different management scenarios to test the Refuge's capacity to support waterfowl populations (Appendix N). Appendix N summarizes empirical research and modeling activities designed to assist the Service in efforts to develop biologically sound management plans for waterfowl. Using this continental and the long-term population index provides a more stable estimate to evaluate without the noise of annual variation in water availability, migration chronology, and continental population changes. This work is part of an overall Strategic Habitat Conservation approach being developed to design, implement, and monitor management actions on both Lower Klamath and Tule Lake Refuges.

Comment# 701-36: Many refuges do not have species-specific, year-by-year waterfowl counts like those available for Lower Klamath and Tule Lake, so those refuges are encouraged to step-down flyway-level or continental means from the 1990s to establish local population objectives. By using local counts from the 1970s for population objectives, the CCP/EIS is able to more-precisely address NAWMP objectives directly. It is interesting, however, that the CCP/EIS population objectives for geese and swans are instead based on more-recent counts (1990-99), as explained in the Dugger et al. (2008) document. This, then, suggests that when the situation warrants, criteria other than the 1970s average counts could be adopted to establish population objectives. If there are concerns, for example, about the potential for 13 spread of disease with high goose numbers, or if certain populations were thought to have declined due to deteriorating local habitat conditions, population objectives could be adjusted accordingly, as has already been done for geese and swans in the draft CCP/EIS. Most of the population objectives in the current draft CCP/EIS seem reasonable given the data provided in the draft. Data from Gilmer et al. (2004) and a review of annual counts available for Tule Lake and Lower Klamath over the last decade (unpublished), however, suggest that some adjustments could be made to population objectives based on these other data. One example is that Canvasback numbers seem to have increased in the 1990s (based on the Gilmer report) and remained relatively high in fall counts at Tule Lake in particular through 2014 (review of year-by-year refuge counts). An increase in the population objective for the diving duck guild may be in order given these strong and consistent numbers. Dugger et al. (2008) and Gilmer et al. (2004), however, do not report any waterfowl population survey data from the last decade. It seems reasonable, given that

these recent population data are available, that data for 2000-2009 and for 2010-2014 be included in the CCP/EIS and evaluated for developing different population goals or for adjusting the goals chosen earlier by Dugger et al (2008). The CCP/EIS already strays from the 1970-79 objectives for geese and swans by using 1990-99 data for the basis of population objectives for those species, so it seems reasonable to also consider population data from the last 15 years in developing population objectives, and to present those data in the CCP/EIS along with an explanation of how they either support population objectives already chosen or lead to adjusting the objectives to new levels presented in a future draft.

Response: We believe Chapter 2 of Appendix N adequately details the rationale for the waterfowl population objectives that were selected. Population objectives for nongame waterbirds are listed in Appendix F (Table 5). Together, these population objectives form the basis for the habitat objectives for Lower Klamath and Tule Lake Refuges, detailed in Appendix F.

Comment# 701-37: The alternative management strategies listed in the CCP/EIS rely on an adaptive management approach, so when conditions warrant, managers can react with appropriate management changes to meet new challenges. Many such changes may be minor and accomplished within the framework of the CCP/EIS, but it is acknowledged that more substantial changes would require filing future Environmental Assessments as called for in the NEPA process. Thus, again, it would be advisable to present all available population data from 2000 to present within the CCP/EIS, and address any substantial shifts in waterfowl numbers that might warrant significant changes in population or habitat management objectives.

Response: Comment noted.

Comment# 701-39: even if we assume that the current state of water delivery priorities is not likely to change within the next few years, it is important that the very best data and modeling tools be used. By pointing out some errors, inconsistencies, and gaps in the CCP/EIS related to waterfowl management at Lower Klamath and Tule Lake, and making some suggestions with respect to how the draft CCP/EIS could be improved, hopefully this review will lead to an improved final CCP/EIS with respect to waterfowl management.

Response: Comment noted.

L. <u>Range of Alternatives – Restoration</u>

Letter ID # 846-12

Public Concern Statement: One entity recommends that the CCP/EIS assess the potential need for a major restoration effort within the Klamath Refuge Complex.

Comment# 846-12: Because the Bioenergetics Report and the Draft CCP/EIS do not address wetland habitat conditions at the time the Kuchel Act was passed, those documents are biased against the potential need for a major restoration effort within the Klamath Refuge Complex. The CCP should address detailed current and historical description of flow, fauna, and habitats as well as the problems that may impact ecological integrity.111 And the CCP must "where appropriate, restore, biological integrity, diversity, and environmental health."112 Unless the Service describes historic habitat conditions and compares those to current conditions, it cannot make a rational decision on whether and to what extent a major restoration effort is appropriate. Given the significant loss of wetland habitat and over-allocation of water for non-wildlife purposes within the Refuge Complex, we believe the law requires the CCP to call for such a restoration effort to meet the purposes for which the Refuges were set aside by the federal government.

Response: See response to comment 846-11 regarding the population objectives used in the Bioenergetics Report and rationale for defining proper waterfowl management in contemporary terms. See Chapter 5 and Section 6.7 in Chapter 6 for a discussion of the historic habitat conditions. The Service believes that the Preferred Alternative identified in the final CCP/EIS is the best alternative to protect biological integrity, diversity, and environmental health.

4. Refuge-Specific Recommendations

A. General

Letter ID # 846-48, 846-54, 846-65, 846-70, 846-77

Public Concern Statement: One commenter states that current CCP/EIS Refuge alternatives are not supportable and provides specific recommendations for actions to be implemented for each Refuge.

Comment# 846-48: To meet the goals mandated for national wildlife refuges viable alternatives for Lower Klamath Refuge should include all or a combination of the following:

• A minimum of 114 thousand acre feet (TAF) water provided annually for wildlife / habitat needs with viable wetlands acres. Increased water in the refuge and the subsequent increase in viable wetlands would improve water quality; which currently does not meet state standards.

• Consideration of changes to refuge water rights, such as transfer(s) of place of use to be used in other Refuge areas to support wetland habitats. As discussed elsewhere, no change of use would be required for the refuges' 1905 rights to support wetland habitats within current leaslands and co-op lands.

• Consideration of a reduction or phasing out of agricultural leasing program in order to provide more diverse wetland habitat and food resources.

• As at Tule Lake NWR, no grazing in wetlands nor during breeding season. Consideration of increased prescribed burns or mechanical means (e.g. disking, tilling) to improve habitat quality rather than grazing.

• Updated Inventory & Monitoring plan that would specifically include assessment of grazing impacts as well as dedicated monitoring to assess refuge molting waterfowl populations. There has been only one dedicated aerial survey conducted (in 2003) to assess molting waterfowl numbers on Lower Klamath Refuge.199 Most molting waterfowl are flightless and especially vulnerable to environmental or human disturbance during this time (typically mid-late summer).200 Access to open water is especially important during this time to avoid predation. With the increasing trend of years with little or no water at Lower Klamath, it is imperative that the Service understands molting duck numbers and to secure appropriate water delivery during this vital time.

• If standing grain for waterfowl forage can be increased on cooperative farming lands, as proposed in Alternative C, then the Service should consider a reduction in the leaseland farming program to make room for additional wetland habitat without loss to forage resources from agricultural crops.

• To the extent leaseland and cooperative farming are continued on the refuge, the Service should plan for the transition of all farmed units to be managed organically by the end of the planning period.

• Consider turn-outs on Stateline Road for vehicles to safely stop to view birds as well as more raised viewing platforms along the Tour Route where high dikes obstruct views.

Response: Many of these suggestions are unreasonable, given the constraints imposed by the Kuchel Act, water rights, and water supplies. Please see the new section describing the Development of Alternatives in Chapter 4, Section 4.1, and responses to comment 56-28, 634-3, 653-1, and 704-9, for example. Grazing also provides specific benefits for native vegetation and habitat that are described in the EIS and is monitored as described in Chapter 5, Management and Monitoring Practices, in Chapter 6, pages 6-30 and 31 of the draft CCP/EIS, and in responses to comments 56-28 and 653-1, for example.

The Preferred Alternative includes preparation of an inventory and monitoring, which would include a detailed evaluation of surveys needed to inform management priorities.

Regarding providing standing grain on lease lands as opposed to cooperatively farmed units, this would not free up water for wetlands for the reasons outlined in response to comment 634-3. Second, cooperatively farmed grain is an important tool for setting back succession in wetland units, which would not be available if grain were only grown on the lease lands. Third, the cooperatively farmed grain units are generally closer to the permanent seasonal and wetlands units, so they help to minimize the energetic cost for waterfowl to forage. Fourth, the Service uses the cooperatively farmed units to leverage additional wetland habitat on private lands off Refuge that would otherwise not be available. However, the Preferred Alternative for Lower Klamath Refuge does include an action to structure lease lands contracts so that if objectives for standing grain cannot be met on cooperatively farmed units, the lease land contract holders would be required to leave some grain standing until objectives are met.

Regarding transitioning all farming to organic, see response to comment 730-4. Regarding the development of additional viewing opportunities such as vehicle turnouts along State Line Road, the Preferred Alternative already includes this action. Specific details of these viewing opportunities will be developed at a later date.

Comment# 846-54: None of the Alternatives for Clear Lake NWR are supportable as they currently stand. To meet the goals mandated for national wildlife refuges a viable alternative for Clear Lake NWR should include the following:

• Adequate water levels maintained to sustain migratory, resident, and breeding bird populations (i.e. maintaining islands at needed water level for breeding waterbirds including one of the largest American White Pelican nesting colonies on the West Coast; appropriate levels for shoreline that are adequate for Greater Sage Grouse for brood rearing, etc.) with the Service having water allocation priority over Reclamation if wildlife populations are jeopardized due to inadequate water.

• Employ mechanical methods, prescribed burns, and other more wildlife-friendly methods rather than grazing and herbicides to manage habitat for sage grouse.

• Population target set for Greater Sage Grouse that use the refuge and incorporation of monitoring sage grouse population trend and reproductive success in Inventory and Monitoring Plan.

Response: We believe the alternatives for Clear Lake Refuge management represent the full range of reasonable options. As described in Section 1.6.2, Clear Lake is managed by Reclamation for irrigation, flood control, and wildlife habitat. Since the refuge does not have jurisdiction over lake levels, habitat management has been focused on shore and upland habitat. The encroachment of western juniper, which has occurred since settlement of the refuge area, has been identified as one of the greatest risks to the continued existence of sage grouse in the area. Juniper expansion displaces sagebrush, which is vital as cover and food for the sage grouse. Through ongoing refuge management the majority of western junipers have been removed from the Refuge. Therefore, one action alternative was developed to expand on current refuge management (see Table 4.11). Several of the objectives identified for the Clear Lake

Refuge (see Appendix F) include maintaining and promoting native forbs and grasses along the shoreline of Clear Lake, and reducing or eliminating disturbance to the main Clear Lake nesting islands.

Herbicide use is tightly controlled through the Pesticide Use Proposal (PUP) process to ensure impacts are temporary and minor as described in the CCP/EIS and responses to comments 730-12, 730-13, and 730-14. Given this level of control, application of pesticides is not inherently any less "wildlife-friendly" than prescribed burning or mechanical treatment of invasives. However, we would remind the commenter that mechanical treatment of invasives such as mowing is not viable at Clear Lake Refuge because of the uneven terrain and the potential to start fires. Prescribed burning is not used because it would damage sagebrush habitat. The use of targeted grazing, removal of western juniper, and herbicides are the viable Integrated Pest Management (IPM) tools to control invasive plant species on this refuge.

Comment# 846-65: none of the Alternatives for TLNWR are supportable as they currently stand. To meet the goals mandated for national wildlife refuges a viable alternative for TLNWR should include the following:

• Over long-term, reduction/phasing out of lease lands and restoration of native wetland habitat. Not only would this benefit non-game wetland-dependent waterbird species, the natural filtration effect of wetlands would also improve water quality. Alternatives developed from Bioenergetics Models #6 and #7 (described above) could potentially provide some viable ways to meet all waterbird needs (not just migratory waterfowl).

• An avian disease management plan that sets proactive targets (not just reactionary response to outbreaks) to minimize avian disease outbreaks.

• Updated I&M plan that would include specifically dedicated monitoring to assess refuge molting waterfowl populations. There has been only one dedicated aerial survey conducted (in 2003) to assess molting waterfowl numbers in TLNWR (CCP pg F-2). Most molting waterfowl are flightless and especially vulnerable to environmental or human disturbance during this time (typically mid-late summer) (Ringelman 1990). Access to open water is especially important during this time to avoid predation. With the increasing trend of years with little or no water at LKNWR, it is imperative that USFWS understands molting duck numbers and to secure appropriate water delivery during this vital time.

• If standing grain for waterfowl forage can be increased on cooperative farming lands, as proposed in Alternative B, then the Service should consider a reduction in the leaseland farming program to make room for additional wetland habitat without loss to forage resources from agricultural crops. 226 40 CFR § 1505.1(e).

• To the extent leaseland and cooperative farming are continued on the refuge, the Service should plan for the transition of all farmed units to be managed organically by the end of the planning period.

• To the extent leaseland farming is continued on the refuge, to stop the destruction of birds and their nests during spring alfalfa harvest in plain violation of refuge purposes, include a plan for the phase-out of all acreage planted in alfalfa on refuge lands by the end of the planning period.

• To the extent leaseland farming is continued on the refuge, phase out all irrigation- intensive leaseland crops (such as alfalfa, potatoes, and onions) in favor of lower water use crops (such as dryland crops) by the end of the planning period and dedicate all resulting conserved water under the Refuge's 1905 irrigation water right to wetland plants.

Response: We believe the alternatives for Tule Lake Refuge management represent the full range of

reasonable options. Please see Section 4.1 in Chapter 4, which describes how the range of alternatives was developed for each of the Refuges. The suggestions to include options that create substantially more seasonal wetlands (models 6 and 7 from the Bioenergetics Report) or to buy out lease land to create additional wetlands were not included for reasons stated in Section 4.4.6 of the Alternatives chapter (Management Actions Considered but Eliminated from Detailed Alternatives Analyses).

Water is used on the Refuge in accordance with the Amended and Corrected Findings of Fact and Final Order of Determination (ACFFOD), issued March 28, 2014. In the FOD, the state of Oregon denied the Service's claim that Oregon's definition of irrigation was broad enough and commonly applied to include the application of water to grow wetland plants. In the ACFFOD, the state ties irrigation and cultivation of wetland plants within the project as "an attempt to create continuity with historic conditions on the place of use rather than a physical change in the historic conditions made to increase the usability of the land." The ACFFOD also stated that the growth of wetland plants is inconsistent with provision of the Reclamation Act, which encourages "conversion of arid and semi-arid land to agricultural use." The United States is challenging the State's legal opinions on reclamation and irrigation in the Adjudication court. However, until that challenge is resolved, the more restrictive language in the ACFFOD is applied to the water right, and the Service is not allowed to change the purpose of the claims, which is currently agricultural irrigation. Accordingly, sufficient food resources for waterfowl can only be reliably produced through agricultural crop production on lease lands. In addition, alternatives must also consider requirements of the Kuchel Act.

The Service currently has and implements a wildlife disease management plan at Tule Lake Refuge (in CCP/EIS Chapter 4, for example) and other refuges in the Refuge Complex, which includes patrolling wetland areas to detect any outbreaks and respond accordingly. Dead birds are also removed from the wetlands to prevent the spread of disease.

In terms of moving toward organic farming, the Walking Wetlands program on Tule Lake Refuge significantly reduces pest levels and allows these units to be rotated into organic crop production following flooding cycles (see CCP/EIS Section 6.4). Action alternatives for Tule Lake Refuge would also include expanding the acreage of lease and cooperatively farmed lands in organic production and increasing the use of incentives such as lease extensions for farmers who grow organically. Incentives would also include awarding farm lots within the refuge or longer term leases to those growers who use the walking wetlands approach to organic farming both on Refuge lands and on private lands outside the Refuge (see Chapter 4, Alternative C for Lower Klamath and Tule Lake Refuges). Although no specific goal to transition to 100% organic farming by the end of the 15-year planning cycle is part of the CCP, these measures will substantially increase the acreage of organic farming in the vicinity of the Refuge. Also, see response to comment 730-1.

Comment# 846-70: none of the Alternatives for Upper Klamath Refuge are supportable as they currently stand. To meet the goals mandated for national wildlife refuges a viable alternative for Upper Klamath Refuge should include the following:

• Adequate water levels maintained to sustain migratory, resident, and breeding bird populations (waterfowl, non-game water birds, relevant songbirds and raptors, etc.) with the Service having water allocation priority over Reclamation if wildlife populations are jeopardized due to inadequate water.

• Restoration of the Barnes and Agency Lake areas and concurrent monitoring to assess benefit to wildlife and water quality.

• Full consideration should be given to maintaining some or all of the existing levees in order to carry out

wetlands restoration in this area. The Bureau of Land Management successfully rehabilitated the nearby Wood River Wetlands, and greatly improved local water quality, by gradually flooding and filling the subsided peat areas. The Refuge should collaborate with BLM to analyze the Agency and Barnes Lake area.

• A clear plan with near-term actions to improve water quality in Upper Klamath Lake which regularly fails to meet water quality standards.

• As suggested for Tule Lake Refuge, no grazing in wetlands nor during the breeding season. Consideration of increased prescribed burns or mechanical means (e.g. disking, tilling) to improve habitat quality rather than grazing.

Response: We disagree and believe the alternatives for Upper Klamath Refuge management represent the full range of reasonable options. As described in Section 4.5, the extent of wetlands at Upper Klamath Refuge is entirely dependent on water levels in Upper Klamath Lake. Reclamation manages water in Upper Klamath Lake for Klamath Project purposes in accordance with the 2013 BiOp.

As noted above (response to comment 681-6), a fully developed plan for the Barnes-Agency Ranch Unit is something the Service would include in future "step-down" (detailed) plans such as for habitat management (if Alternative B is selected). In Appendix F, Goal 1, Objective 1.2, for Upper Klamath Refuge is to prepare and implement this very plan (in Alternative B) within 10 years to restore wetland habitat on the Barnes-Agency Unit. The need for breaching containment levees and decisions about which ones and when to breach them are decisions this step-down plan will analyze. Information from similar projects such as the Williamson River Preserve or Wood River experience may be important sources in completing the plan and NEPA document. Appendix F notes that the Service will collaborate with BLM to integrate subsidence reversal into the plan.

Water quality in Upper Klamath Lake is hypereutrophic, a condition that is primarily a result of natural conditions, but also which has been worsened by human land uses in the area, including removal through diking and draining of wetland areas. Objective 1.2 for Upper Klamath Refuge is to prepare and implement a plan to restore wetland habitat on the Barnes-Agency Unit, an action that could potentially help in improving water quality in Upper Klamath Lake. Beyond this, the Refuge is not able to control much of the activity (water diversion both into and out of the lake, conversion of 35,000 acres of wetlands to pasture and agriculture on the lake periphery, etc.) affecting water quality in the lake.

Properly managed grazing can be important management tools for maintaining a healthy wet meadow community (Appendix F) and is an agricultural practice consistent with the requirements of the Kuchel Act (Appendix G, compatibility determination for grazing at Upper Klamath Refuge). Periodic removal of accumulated dead vegetation in sedge communities encourages new growth in spring, which provides important migration habitat used by a variety of waterbird species for loafing and feeding. Grazing would also generally limit encroachment by trees and shrubs; create openings in tall, dense, and decadent vegetation; reestablish more structural habitat diversity; set back plant succession; revitalize vegetation; allow forbs and other low-growing plants a better chance to flourish; help create a more diverse mosaic of habitats across the Refuge; and could reduce the spread of some invasive plant species. These habitat changes would benefit a diversity of wildlife species. In addition to its habitat benefits, using ranchers to conduct grazing operations on the Refuge also saves the Service a significant amount of money and staff time, compared with doing this work with in-house resources. Although grazing-related activities would create some intermittent, short-term, and localized wildlife disturbance; and (although cattle do not and would not have direct access to the lake or canals) nutrients associated with livestock manure may make a modest contribution to the current eutrophication problems of Upper Klamath Lake, the larger and longer

term habitat benefits of a properly conducted program would far outweigh such negative effects.

Comment# 846-77: neither Alternative for Bear Valley Refuge is supportable as they currently stand. To meet the goals mandated for national wildlife refuges a viable alternative for Bear Valley Refuge should include the following:

• Clearly define what management actions would be taken if winter roosting Bald Eagle numbers decline and define at what threshold these actions would be taken.

• Forest thinning, riparian habitat management, and changes in hunting should only occur if such activities do not affect the roosting habitat and/or behavior of the wintering bald eagles and helps maximize species diversity. Forest thinning practices plan should be released for review in a separate EIS.

• Eliminate use of chemicals for vegetation control.

Response: We believe the alternatives for Bear Valley NWR management represent the full range of reasonable options. Currently, the Refuge creates the best possible habitat in its forests for bald eagle nesting and roosting and counts the numbers of both breeding and wintering eagles. Rather than focusing on a particular desirable number of bald eagles, the Service creates the best possible habitat, supported in Appendix F as the "most important strategy for conservation of eagles and other landbirds" associated with the kind of forests at the refuge (Altman 2000). Both alternatives would continue this approach, but Alternative B also uses data from current inventory and monitoring of eagles to determine whether to increase silvicultural thinning. As noted in the appendix, multi-layered stands of mature or old-growth ponderosa pine or mixed conifer, particularly if it is close to feeding sources like those available at Lower Klamath and Tule Lake NWRs, is a relatively rare and important habitat for bald eagles. Benefits of managing to create and maintain this type of habitat are detailed in the CCP/EIS (see Section 6.6.4 in the final EIS for example).

A limited deer hunting program takes place at the Refuge. However, the Service prevents impacts to eagles through the use of timing restrictions; hunting is not allowed after October 31 in the Unit of the Refuge where the birds winter and nest. Monitoring indicates that bald eagles arrive in this part of the forest beginning in late October and early November to roost in the late fall and early winter and begin nesting in late January. As noted in the CCP/EIS (see Section 6.6.4 in the final CCP/EIS, for example), impacts to wintering or nesting eagles are avoided through the use of these restrictions.

Impacts of prescribed fire and silvicultural management are described at a programmatic level in the CCP/EIS (see page 6-195 of the draft EIS for example). As with the hunt program, the Service avoids or minimizes impacts to eagles through the use of timing restrictions (see Appendix L, Best Management Activities).

The Service practices IPM, and the limited use of pesticides is one of several tools used for IPM on the Refuge. The CCP/EIS explains that the PUP process evaluates each pesticide for its non-target impacts and restricts uses to only those with negligible or minor impacts. The effects of pesticides applied at the Refuge have been shown in the lab to be "practically nontoxic" to birds and other wildlife. In addition, pesticide use at Bear Valley NWR is minimal and used on average on 1 to 10 acres per year in a 4,200-acre refuge from 2011 through 2014.

Regarding the programmatic nature of this document, see response to comment 56-96. Regarding the use of chemicals for vegetation control, see response to comment 846-75.

B. Bear Valley NWR

Letter ID # 622-33, 622-34, 641-2, 641-3, 641-8, 641-20, 748-64, 846-71, 846-72, 846-73, 846-74, 846-75

Public Concern Statement: Public comments on proposed management activities for the Bear Valley NWR support a range of proposed actions.

Comment# 622-33: Bear Valley: 1. Continue to manage Bear Valley for mature, old growth forest characteristics using methods most appropriate for the site. Silvicultural thinning of small trees, mechanical slash busting, prescribed fire, or other suitable methods should all be considered. If time or funding is limited, emphasis should be placed on lower elevation stands dominated by Ponderosa pine and Douglas fir.

Response: Comment noted.

Comment# 622-34: Bear Valley: Manage Bear Valley Creek for desired riparian habitat conditions for focal avian species identified in the East Slope Cascades Partners in Flight program. This may entail removing some Ponderosa pines larger than 20 inches DBH. As an alternative to removal, girdling of these trees would create large long term snags for cavity nesting birds.

Response: Comment noted.

Comment# 641-2: Alternative B Habitat Management The Department supports the proposal to evaluate the potential to manage forested habitats for a wider array of wildlife species while continuing to promote old growth and mature mixed conifer forest characteristics. The Service would evaluate the need for future silvicultural thinning to achieve desired habitat characteristics. Prescribed fire should also be part of the adaptive management approach.

Response: Comment noted.

Comment# 641-20: The Service also proposes to manage riparian areas along Bear Valley Creek for more optimized use by priority wildlife species by mechanical thinning of quaking aspen to encourage increased water flow in Bear Valley Creek and to promote growth of grasses and forbs. The Department is concerned that removal of aspen will likely not increase surface water in Bear Valley Creek. The Department recommends that the Service thin competing conifers along the riparian corridor to promote more vigorous aspen growth and understory vegetation. It may be that aspen is being outcompeted by encroaching conifers within the riparian area.

Response: The Service is not proposing to do mechanical thinning of aspen at Bear Valley Refuge; this is an error in the draft CCP/EIS. The final CCP/EIS, Sections 4.6.3 and 6.6.4 have been corrected.

Comment# 641-3: Lower elevations within Bear Valley provide big game winter range habitat. The Department recommends the Service continue treating juniper stands which will enhance the understory vegetation including shrubs, grasses, and forbs.

Response: Comment noted.

Comment# 641-8: The Department supports development of a wildlife inventory and monitoring plan

which would include all priority wildlife species in addition to bald eagles.

Response: Comment noted.

Comment# 748-64: App H Bear Valley NWR Suggest adding a plant list for Bear Valley NWR for consistency.

Response: A plant list for Bear Valley is unavailable.

Comment# 846-71: Bear Valley Refuge. The two management alternatives (no action Alternative A and Alterative B) are quite similar. In terms of wildlife management, Alternative B additionally includes "evaluation" for future need of forest thinning to achieve mature forest habitat characteristics and evaluate managing for a "wider array of wildlife." Consideration of forest thinning, riparian habitat management, and changes in hunting should only occur if such activities do not affect the roosting habitat and/or behavior of the wintering bald eagles and helps maximize species diversity appropriately.

Response: We concur. Habitat management changes are made in consideration of furthering Refuge purposes.

Comment# 846-72: Bear Valley Refuge Effects of prescribed fire and silvicultural thinning can be described as "minor" or "negligible" (see Ch. 6) only if practiced on a very small scale. Forest thinning silviculture prescriptions should include the appropriate snag retention parameters for the landscape to benefit cavity-dependent wildlife.

Response: In its description of how the analysts view minor impacts, the CCP/EIS says minor impacts are detectable but of little consequence to a population, wildlife, or plant community. Although prescribed fire or noise associated with chainsaws or other mechanized equipment needed for thinning does at a minimum disturb and can displace eagles, the impact is temporary and affects individuals with no apparent change in population numbers as indicated by ongoing monitoring. As disclosed in Section 6.6 of the CCP/EIS, the amount of burning is small. The Service currently thins less than 5 acres per year, generating 10 to 15 piles per acre. Burning is only done when there is significant snow or completely saturated soils. In addition, we are not removing snags. We stand by our conclusion of minor or negligible impacts. Desired conditions for snags are included in Objective 1.1 (for ponderosa pine stands) and Objective 2.1 (for mixed conifer stands) (Appendix F).

Comment# 846-73: Bear Valley Refuge We agree that the Partners in Flight East Slope Cascades Plan should help guide management of the Bear Valley Creek riparian zone.

Response: Comment noted.

Comment# 846-74: Bear Valley Refuge The winter roost monitoring of Bald Eagles should continue as described. However, it needs to be clearly defined how the monitoring will be used to inform subsequent management actions. Is there a specific threshold if they see a drop on eagle numbers that will set some type of management action in motion? What management action would be taken? Is monitoring of food availability and water levels being conducted to inform eagle management as well? These questions need to be answered and fully incorporated into the Inventory and Monitoring Plan. Do not permit increased public use, hunting or other, when wintering bald eagles are present.

Response: These questions and other would be considered in the Inventory and Monitoring Plan.

Comment# 846-75: Bear Valley Refuge For the IPM plan, we recommend eliminating use of chemicals and go with mechanical and physical removal alone since only 1-10 acres have "needed" chemical treatment.

Response: We disagree. Although only a small amount of chemical weed control has been needed over the years, it can be a valuable tool and should not be discarded.

C. Clear Lake NWR
Letter ID # 622-32, 846-49

Public Concern Statement: Respondents state that the Service should protect island nesting water birds from watercraft disturbance and prioritize water deliveries to meet breeding waterbird and shorebird requirements.

Comment# 622-32: Clear Lake NWR: Protect island nesting water birds from watercraft disturbance (primarily from USFWS, USBR, and USGS activities).

Response: Comment noted.

Comment# 846-49: C. Clear Lake Refuge. Both Alternative A (no action) and Alternative B alternatives proposed for Clear Lake NWR are quite similar. Again, a key item to be added to Alternative B is that the Service needs to have the priority of water deliveries (over Reclamation) at least in terms of meeting wildlife requirements that are critical for the lake (i.e. maintaining islands at needed water level for breeding waterbirds including one of the largest American White Pelican nesting colonies on the West Coast; appropriate levels for shoreline that are adequate for Greater Sage Grouse for brood rearing, etc.).

Response: As described in Section 4.3.1, the Service does not have jurisdiction over water in Clear Lake. Reclamation manages water delivery at Clear Lake for Klamath Project flood control and irrigation and in accordance with the 2013 BiOp.

5. Document

A. Readability
Letter ID # 56-99, 100-1, 185-2

Public Concern Statement: Two commenters state that the 2015 scoping report and draft CCP/EIS was unclear or too lengthy and verbose for the public reader to understand. In contrast, another individual states that the draft CCP/EIS is well detailed and well presented.

Comment# 100-1: I am an ornithologist with a strong interest in conservation, and have made many visits to the Klamath Refuge. I have tried to read this document and regularly gotten bogged down by its length and extensive verbiage.

Response: The CCP is intended to provide a clear and comprehensive statement of the desired future

conditions for the Refuge and to ensure public involvement in refuge management decisions. The Service's intent was to provide enough background information to inform the reader.

Comment# 185-2: The Comprehensive Conservation Plan looks well detailed with considerable work involved. The information is well presented.

Response: Comment noted.

Comment# 56-99: The FWS 2015 Scoping document is written very unclearly. The FWS may be planning to allow grazing elsewhere as well, but this like the specific plans and actions for the Barnes-Agency areas are not described in any way so that they can be understood by the public, scientists, or any one at all. In fact, this is written so loosely that it appears to be opening the floodgates for even more grazing.

Response: Comment noted.

B. Document Organization

Letter ID #50-1, 743-18

Public Concern Statement: One individual suggests that the Kuchel Act and the various laws and Executive Orders establishing the Refuges should be listed in in the section titled Legal and Policy Guidance. Another commenter notes that population objectives in Appendix F are the drivers of much of the management directives in the CCP/EIS and should be clearly defined whenever referenced.

Comment# 50-1: As a point of organization, while the Kuchel Act and the various laws and Executive Orders establishing the different Klamath Basin Refuges are listed in the Executive Summary and the various draft Compatibility Determinations, they are not listed in in the section entitled "Legal and Policy Guidance." They should probably be listed here as well.

Response: In addition to appearing in the Executive Summary, the Kuchel Act is described under the Legal and Policy Guidance section, Section 1.4.2 of the CCP/EIS. In addition to appearing in the CCP/EIS Executive Summary and compatibility determinations (Appendix G), the Refuge Purposes are listed, by refuge, within Section 1.6, Refuge Establishment and Current Management.

Comment# 743-18: As the document is currently organized, the population objectives for TLNWR and LKNWR and supporting justification are set forth in Appendix F of the Draft CCP/EIS. Setting aside the appropriateness of proposed actions or management, allusions or references to population objectives throughout the EIS document should cross-reference Appendix F as the source of the population objectives, or more clearly define the population objectives in the text to be clear. The population objectives in Appendix F are the drivers of much of the management directives in the document4 and should be clearly defined whenever referenced.

Response: The CCP/EIS text in Sections 4.2.1 and 4.4.1 has been revised to address the comment.

C. Technical Edits

Letter ID #56-39, 56-62, 743-33, 743-34, 743-35, 743-36, 743-41, 743-59, 743-60, 743-61, 743-66, 743-67, 743-68, 743-69, 743-70, 743-71, 743-72, 743-73, 743-74, 743-75, 743-76, 743-78, 743-82, 743-83, 743-86, 743-87, 743-88, 743-90, 743-91, 748-1, 748-10, 748-11, 748-12, 748-13, 748-14, 748-15, 748-17, 748-18, 748-2, 748-20, 748-21, 748-22, 748-23, 748-24, 748-25, 748-27, 748-29, 748-3, 748-30, 748-35, 748-36, 748-38, 748-39, 748-4, 748-40, 748-42, 748-43, 748-47, 748-48, 748-5, 748-50, 748-51, 748-

52, 748-53, 748-54, 748-55, 748-56, 748-57, 748-58, 748-6, 748-60, 748-61, 748-62, 748-63, 748-65, 748-66, 748-67, 748-69, 748-7, 748-70, 748-71, 748-72, 748-73, 748-74, 748-75, 748-76, 748-77, 748-78, 748-8, 748-9, 906-37

Public Concern Statement: Numerous commenters provide wording or numerical edits within the CCP/EIS, while other comments note missing information, such as literature cited or referenced data and certain appendices.

Comment# 56-39: Where is a map of the three Refuge Units? Are they different from the supposedly targeted Agency-Barnes Units? Why is no map provided – including of all infrastructure and the complexity of soils, vegetation, water levels, rare species occurrences, etc.?

Response: Maps of the three Refuges that allow grazing were provided in the figures in the draft and final CCP/EIS. The areas of Upper Klamath Refuge that have been grazed in recent years are described in Section 5.5.6 of the CCP/EIS and shown on Figure 5.21. The areas of Clear Lake Refuge grazed in recent years are shown on Figure 5.11. The areas of Lower Klamath Refuge proposed for grazing are described in Section 5.2.6 of the CCP/EIS and shown on Figures 4.3 through 4.7 and 5.6.

Comment# 56-62: FWS Cannot Tier to Old 1994 CD, and Fails to Provide Full Baseline Information on Grazing and How Any Use Plan Might Govern These New Lands Contradictory information is provided on the size and magnitude of the land area to be grazed: Historically, the Refuge's Compatibility Determination (1994) authorized grazing of up to 2,300 acres utilizing 400AUM's acres per year depending on the specific vegetation species present at sites and the overall condition of harvested vegetation.This Compatibility Determination authorizes an experimental grazing study for 2 years on the Barnes-Agency addition (9,700 acres; obtained in 2010) based on habitat conditions and acreage guidelines established by the Upper Klamath NWR staff. The Refuge Manager, in conjunction with biological staff, will annually evaluate vegetative conditions and wildlife needs and establish grazing acreages in consideration of the habitat and wildlife conditions. Note that this acreage exceeds that of less than three thousand acres referenced elsewhere in the 2015 CD.

Response: Please review the Compatibility Determination for grazing at Upper Klamath in Appendix G of the CCP/EIS. As stated in the Compatibility Determination, the Compatibility Determination was prepared to document the Service's review of the existing grazing program at Upper Klamath NWR, document and evaluate proposed changes, and accompany the CCP/EIS. A Compatibility Determination is a written determination signifying that a proposed or existing use of an NWR is a compatible use or is not a compatible use. A Compatibility Determination does not authorize a use on a refuge; rather, it is one of many factors that we take into account whenever we consider taking an action, i.e., allow a refuge use (see 603 FW2.18).

Comment# 743-33: TID notes that, on page 4-79, the Draft CCP/EIS states that it has rejected any alternative that would curtail agriculture on TLNWR. This is in conflict with the sentence on page 4-23 referenced above. The statement in the first sentence on page 4-23 should be removed, at that location and wherever it appears.

Response: See response to comment 693-12.

Comment# 743-34: Appendix I of the Draft CCP/EIS is blank. Any implementation plan that is associated with the identified action alternatives will have significant implications for the environment, the reclamation project, and the economy. The implementation plan must be made available for public

review and comment prior to the final decision of the Service.

Response: The Implementation Plan (Appendix I) is included with the final CCP/EIS.

Comment# 743-35: the Draft CCP/EIS frequently states that "the growers pay an annual assessment of $100 to TID for irrigation water,"14 or words to similar effect. This is not quite accurate. Under article 33(d) the 1956 Contract between TID and the United States, the United States is responsible for payment to TID for costs of irrigation and drainage service to TLNWR lands. Through leases or cooperative agreements, the United States passes these costs through to the growers, who pay TID directly. But the cost referred to is not specifically a cost for water; it is a cost for operation and maintenance of the irrigation and drainage system. Nor is the cost fixed. It is annually determined by the TID board of directors. Finally, in addition to the current $100 cost, growers may be responsible for greater payments if certain amounts of water are used. With all of these things in mind, TID recommends that the Service characterize these circumstances as: "Growers on the lease lands and cooperative lands are required by their contracts with the United States to pay TID directly for the cost of irrigation and drainage service, which recently has been approximately $100 per acre."

Response: The CCP/EIS text has been revised to address the comment.

Comment# 743-36: the Draft CCP/EIS states, several times, that D Plant pumping has decreased due to the increased power costs. This is an inaccurate or overly simple description of TID operations. Power costs do create disincentives for pumping, but operation of D Plant is affected by many other factors, including other factors that have changed or evolved in recent years. These include the structure of biological opinions governing water availability as well as Tule Lake Sump elevations, water management "upstream" in the Klamath Project system (and on individual farms) and others. Thus, TID recommends that the document simply state that D Plant pumping has decreased in recent years for a variety of reasons.

Response: The CCP/EIS text has been revised to address the comment.

Comment# 743-41: The "Description of Use" for lease land farming states that 15,024 acres are leased. The Draft CCP/EIS includes many variations of the total acreage ranging from 14,800 acres20 to 15,500 acres.21 The actual acreage is, of course, variable. TID recommends that the description of leased acreage be consistent throughout. It is reasonable to state that there has been a range of leased acreage over time, with approximately 16,000 acres as the high end of the range of lease land acreage in a year.

Response: The CCP/EIS has been revised to show 14,800 acres of lease land on the Tule Lake Refuge.

Comment# 743-59: Page 1-5, last paragraph: The Draft CCP/EIS quotes incompletely from the Kuchel Act and omits the language recognizing the Klamath irrigation project, the reclamation function of the lands, and congressional intent to "stabilize" the management of lands within TLNWR. The full sections from the Kuchel Act must be quoted.

Response: The CCP/EIS references Appendix M, wherein the Kuchel Act is provided in its entirety in Appendix 1 to Appendix M.

Comment# 743-60: Page 1-6: The discussion of the Service's Compatibility Policy omits the provision that states that the compatibility requirements do not apply "where legal mandates supersede those

requiring compatibility."32 This exception should be added to the description.

Response: Section 1.4.3 was revised to list the exceptions to compatibility policy from 603FW2.

Comment# 743-61: Page 1-15, second to last paragraph: This paragraph is the first of several locations where the Draft CCP/EIS refers to lands being "vulnerable" to homesteading. Homesteading is not and was not a negative phenomenon. Changes should be made to remove this apparent bias. Also, text on this page should be modified consistent with TID's comments on legal issues.

Response: We disagree and feel this language is appropriate in the context of the refuge purpose and the Service's mission.

Comment# 743-66: Page 1-24, paragraph beginning with "Most of Sumps . . .": TID believes that the stated leased acreage is not correct or at least not reflective of historical practice generally. As discussed in other comments above, TID recommends that the Service describe the leased acreage as a historical range.

Response: We disagree. The paragraph referenced in the comment discusses current management. The 14,800 acres accurately reflects the current acreage that is leased, as provided by the Bureau of Reclamation.

Comment# 743-67: Section 3.2.1, page 3-2: The compatibility standard does not apply to the lease lands. The sentence stating "[d]iscuss the pros and cons of continuing existing agriculture" indicates a bias against the agricultural lands and should be removed.

Response: Regarding compatibility, see response to comment 643-1. CCP/EIS Section 3.2.1 summarizes the comments received during the public and internal scoping process from the public, agencies, and tribes; therefore, no changes were made to this section.

Comment# 743-68: Section 3.3.1, pages 3-5 through 3-7: TID recognizes the importance of water for refuge purposes, but recommends that this section be shortened. Some of the information is outdated or incorrect. The key points are simply that water supplies are strained due to competing demands including ESA species, agricultural lands have rights superior to the rights for wildlife uses, and that delivery contracts are lacking for wildlife purposes.

Response: The Service could not readily determine from the comment which information in Section 3.3.1 is outdated or incorrect. Though minor revisions have been made to this section, we believe it accurately describes the importance of water for achieving refuge purposes.

Comment# 743-69: Page 3-5, final paragraph: The statement that the Klamath Reclamation Project "is primarily a drainage project" is ambiguous and not supported. Similarly, the statement that this fact leads to a need for power "to deliver water" does not necessarily follow. It is certainly true that there are critical drainage features that serve significant portions of the Project but the statement should be modified simply to reflect that Project facilities provide both water delivery (primarily by gravity) and drainage.

Response: The referenced text has been modified to indicate this is a delivery and drainage project.

Comment# 743-70: Page 3-5, final paragraph: The Draft CCP/EIS states that, because of the former

availability of low cost power, Tule Lake Refuge received abundant return flows. As discussed in other comments and information, this statement about TID's operations is too simplistic. We recommend revisions consistent with earlier comments (section I.H) above.

Response: See response to comment 743-68.

Comment# 743-71: Page 3-6, final paragraph: This paragraph attributes reduction in Tule Lake inflows to increased power costs, declining water availability, and groundwater pumping. Again, TID believes that this should be revised, consistent with other comments on this subject.

Response: See response to comment 743-36.

Comment# 743-72: Section 3.3.3, page 3-8: TID believes this narrative is not necessarily needed. However, if retained, it should be corrected to reflect that only the KBRA has expired or terminated at this time.

Response: The referenced text has been modified to reflect the status of the KBRA.

Comment# 743-73: Page 4-4, second full paragraph: As noted in the preceding comment, only the KBRA terminated at the end of 2015.

Response: The referenced text has been modified to reflect the status of the KBRA.

Comment# 743-74: Page 4-4, final paragraph: The Draft CCP/EIS states in this paragraph that under the KBRA, the 1905 water right could be used for habitat management purposes. TID does not believe the KBRA would have changed the authorized use of any state water rights. TID agrees, however, that under a fully implemented KBRA, water deliveries for LKNWR would have been overall superior to current conditions, irrespective of the right under which the water was being supplied. This comment also applies to the description of Alternative B in Table 4.8.

Response: See response to comment 704-8.

Comment# 743-75: Page 4-25, "Agricultural Habitat Management," Farming, first paragraph: This paragraph refers to "SUPs." TID does not believe this term has been defined in any of the document prior to this reference, and the SUP requirements are not justified elsewhere.

Response: The heading Agricultural Habitat Management is used in the CCP/EIS to help clarify for the reader a group management action; Agricultural Habitat Management includes those actions that are more typically associated with agricultural programs than with Upland Habitat or Wetland Habitat management.

Comment# 743-76: Page 4-28, second to last paragraph: Similar to text on page 4-4, this paragraph states that if authorized Klamath Project purposes were revised, 1905 water rights for irrigation could be used for other purposes. TID does not believe this statement is legally correct.

Response: Comment noted.

Comment# 743-78: Page 4-57, first full paragraph: The description of water allocations under the KBRA

is not accurate. The KBRA contained no specific "irrigator allocation." It is correct that the KBRA Refuge Allocation was not charged for normal water use in Sumps 1A and 1B, and that the Refuge Allocation was charged 1 afa for walking wetlands in TLNWR.

Response: The CCP/EIS text has been revised to address the comment.

Comment# 743-82: Page 4-67, Alternative B; Adaptive Management Approach: Please see preceding comments including sections I.C, I.D, and I.G.

Response: Comment noted.

Comment# 743-83: Page 4-68; "Agricultural Habitat Management," Farming: The description of farming under Alternative B refers to "SUPs," a term that does not appear to have been defined previously in the document. In addition, and as discussed elsewhere, the changes in the agricultural program described under this heading are not consistent with the Kuchel Act or the 1956 Contract between TID and the United States.

Response: A Special Use Permit (or SUP) is defined in CCP/EIS Section 4.2.1 and elsewhere in the document.

Comment# 743-86: Page 5-42, third full paragraph: This paragraph refers to 14,900 acres of lands in TLNWR being leased in 2015. As reflected in other comments, TID believes it is appropriate to describe the total lease land acreage by reference to the historical range as this is part of historical practice to which the action alternatives would be compared.

Response: See response to comment 743-41.

Comment# 743-87: Page 5-52, final paragraph: The reference in this paragraph to unresolved "within project priority" is not clear in this context. However, based on page 5-54, the issue being referred to as unresolved may relate to Area K only. If this is the case, some clarification would be appropriate.

Also, this paragraph, like otherwise commented upon here, implies that the increase in power costs is responsible for reduced D Plant Pumping. There are a variety of reasons the D Plant pumping has declined. Please refer to other comments on this subject (section I.H above).

Response: See response to comment 522-4. Also, the Service acknowledges that D Plant pumping has declined over the years for a number of reasons. In part, the declines are related to the increased costs of pumping as well as possible increases in irrigation efficiency and increased subsurface losses as a result of declining groundwater heads and an increased vertical hydraulic gradient (Pischel and Gannett 2015).

Comment# 743-88: Page 5-105, first full paragraph: The quotation from the Executive Order is incomplete. Please see the comments in section I.A above and Attachment A to TID's comments and transmittal letter.

Response: The CCP/EIS text has been revised to address the comment.

Comment# 743-90: Page 5-111, section 5.4.2: The first paragraph of this section refers to 2,700 acres of

walking wetlands. It appears that some of the included acreage may be the cooperative farm lands.

Response: We concur: the 2,700 acres includes both coop and lease lands. The paragraph referenced does not distinguish between lease lands and cooperative farm lands.

Comment# 743-91: Page 5-122, final paragraph: This paragraph does not correctly characterize the legal standards applicable to the lease lands. Please see TID's separate comments on those issues. Also, this is one of several places that states a number for the leased acreage, and it is not consistent with other acreage figures in the document. As discussed in other comments, TID recommends a standard approach throughout for the leased acreage that includes the full area that can be and has been leased.

Response: The acreage of lease lands has been revised throughout the document so that it is consistent with the acreage numbers provided by the Bureau of Reclamation.

Comment# 748-1: 1.4.1 The Refuge Improvement Act… "The Refuge Improvement Act also directs the Service to maintain adequate water quantity and quality to fulfill the NWRS mission and refuge purposes and to acquire, under state law, water rights that are needed for refuge purposes." "Since the Kuchel Act is specific to the local NWR's allowing for an agricultural program which is more complicated than most NWR's, it is recommend to include Sec 5(D) of Improvement Act which states, "it is the policy of the United States to...ensure that the mission of the System described in paragraph (2) and the purposes of each refuge are carried out, except if a conflict exists between the purposes of the refuge and the mission of the system, the conflict shall be resolved in a manner that first protects the purposes of the refuge, and, to the extent practical, that also achieves the mission of the System". This section of the Act was also included in the 1998 IPM Plan EA on these NWR's.

Response: This sentence was added to the first paragraph in Section 1.4.1 of the CCP/EIS.

Comment# 748-10: 3.3.2 "In contrast,…" "…the within-project priority for irrigated lands on Lower Klamath Refuge has not been conclusively determined." Suggest revision to state: "…the Service and Reclamation continue to work towards a common understanding of the within-project priority for irrigated lands on Lower Klamath Refuge that is consistent with both Reclamation's water delivery contracts and the 2013 BiOp."

Response: Text modified per comment.

Comment# 748-11: 3.3.3 "Since 2003," "However, the U.S. Congress adjourned last year without authorizing them and the agreements expired." Suggest revising to state "An amended KHSA was signed on 4/6/2016 to achieve removal of four Klamath River dams through the FERC relicensing process, and parties to the KBRA continue to work to realize the other bargained-for benefits of the agreements, including firm water supply for the refuges." Suggest consideration of appending the referenced document. Also, suggest reconciling this language with that on page 4-4.

Response: Text in Section 3.3.3 was modified per comment.

Comment# 748-12: 4.2.1 KBRA and two companion agreements KBRA and two companion agreements… expired 1/1/2016. KBRA expired 12/31/2015. The other two agreements remained in force until the KHSA was superceded by the amended version 4/6/2016. The UKBCA remains in force.

Response: Text in Section 4.2.1 was modified per the comment.

Comment# 748-13: 4.2.1 The second scenario The second scenario represents how water would have been allocated under KBRA if it were implemented. Suggest revising to state: “Although the KBRA has expired, the water management scenario it represents provides a model for parties negotiating alternative agreements to secure a firm water supply for the refuges in the future” or some such language that provides relevance for any further discussion of the expired KBRA in this document."

Response: Text in Section 4.2.1 was modified per the comment.

Comment# 748-14: 4.2.2 “plants (e.g., pasture grasses and alfalfa)…” “and 1,800 acres in the northern (Oregon)…” Suggest changing to: “and up to 2,150 acres in the northern (Oregon)…”

Response: No change made. Text already references “2,150 in the northern (Oregon).…”

Comment# 748-15: 4.2.3 Alternative B would include the cultural resources management actions… “…to evaluate eligibility to the NRHP those historic properties…” Suggest revising this and the next sentence as follows: “In addition, the Service would implement a proactive program to evaluate the NRHP eligibility of cultural resources that may be impacted by Service undertakings, managment activities, erosion, or neglect. The Service also would develop partnerships with The Klamath Tribes...” Note that these same sentences occur in several instances throughout the document. Whatever revisions are made here should be incorporated elsewhere as well (e.g., pgs. 4-51, 4-69, 4-90, 4-99).

Response: Text on pages 4-25, 4-51, 4-69, 4-91, and 4-99 was modified per the comment.

Comment# 748-17: 4.4.2 Under Alternative A… dikes around lease land lots in Sump 3 "Since there is the potential to construct new dikes in Sump 2, it is suggested that the statement be revised to state: ""dikes around lease land lots in Sump 3 ""and potentially Sump 2,"" where walking wetlands…"

Response: Text in Section 4.4.2 has been revised per the comment.

Comment# 748-18: 4.6.1 The Service… """"Like what? What sorts of management decisions depend on these numbers? What is your threshold number or range you are trying to maintain; how often do you review or summarize the info etc."""" Suggest deleting this extraneous text that appears to be an editing error.

Response: This text was deleted in the final CCP/EIS.

Comment# 748-2: 1.6.1 Lower Klamath Refuge is divided into… This Agreement is necessary because the Service was given the ultimate administrative control over the lease lands with passage of a 1976 amendment to the National Wildlife Refuge Administration Act. "Recommend adding a new sentence below which further describes the 1977 Coop Agreement and in part, explains the existing presence of Reclamation on the refuges, ""Furthermore, this agreement clarified that Klamath Project ""constructed"" facilities within the local Klamath Basin NWR’s would continue to be under the ultimate administrative control of Reclamation."" "

Response: This sentence was added to the end of paragraph 1 under Current Management.

Comment# 748-20: 5.1.1 Upper Klamath Lake """"and presumably Middle and Lower Klamath Lakes"""" """"Middle"" Klamath Lake has not previously been mentioned. Please define."

Response: The final CCP/EIS text has been revised to delete the reference to “Middle” Klamath Lake.

Comment# 748-21: 5.1.1 Klamath Basin… 2 miles west of the town of Worton. Clear Lake Refuge is located in northeastern California. Suggest changing to: “two miles west of Worden, Oregon. Clear Lake Refuge is located in northeastern California, approximately 10 miles east of Newell, California.”

Response: Comment noted.

Comment# 748-22: 5.1.1 Klamath Basin Refuge Complex… """"Upper Klamath Refuge is located in Oregon, immediately north and west of Klamath Falls. Bear Valley Refuge is also located in Oregon, 2 miles west of the town of Worton"""" "Suggest revising the text as is referencing the town of ""Worden"", not ""Worton""."

Response: Text was searched for “Worton” but not found in the document. No change was made to the CCP/EIS. CCP/EIS Section 5.1.1 is consistent with the comment.

Comment# 748-23: 5.1.1 Link River Dam on Link River at the head of… """"The reservoir has a capacity of 873,000 acre-feet and is operated by the Pacific Power and Light Company, subject to Klamath Project rights (Reclamation 2008)"""" "The generally used value for UKL capacity is approximately 515,000 acre-feet. Suggest changing ""527,000 acre-feet"" to live storage volume of 515,000 acre-feet and 2013 BiOp should be referenced instead of 2008."

Response: Text in Section 5.1.1 of the CCP/EIS was revised to address the comment.

Comment# 748-24: 5.1.2 "Over the long term," "After reaching record levels in the 1950s and early 1960s, average abundance of autumn staging waterfowl for the Refuge Complex began a decline that lasted until the 1980s." Would recommend a graph to make it easier for readers to visualize data in this paragraph.

Response: Comment noted.

Comment# 748-25: 5.1.9 The Service is Responsible """…this Klamath Basin Refuge Complex CCP will compliment…"""" "Suggest revising to be ""complement"" "

Response: This edit was made throughout the document.

Comment# 748-27: 5.2.1 Table 5.14 2010 Recommend an asterisk next to 2010 to denote the lower acreage was due to drought and water curtailment.

Response: No changes made. Table 5.14 lists the wildlife species dependent on permanently flooded wetlands.

Comment# 748-29: 5.2.4 A paleontological resource is… """(owned in fee title by theService)"" " "Insert

a space, i.e., ""the Service"""

Response: The CCP/EIS text has been revised to address the comment.

Comment# 748-3: 1.6.1 Because the lands within the boundaries… "Thus, in the 1950s, Reclamation proposed homesteading and transferring areas of the refuges into private ownership." "If this is the first reference to Reclamation, recommend changing to ""Bureau of Reclamation (Reclamation)…"""

Response: This change was not made. The first reference to Reclamation is on page 1-5 in Section 1.4.2.

Comment# 748-30: 5.3.1 Clear Lake Dam """Water is surrounded by Clear Lake Dam""" "Replace ""surrounded"" with ""impounded"""

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-35: 6.2.3 Resource specific context for assessing effects of the alternatives to water quality are as follows: Water on the refuge originates from two sources: Tule Lake (source: Lost River) and Ady Canal (source: Klamath River). "It should be noted that the Klamath Drainage District installed infrastucture to recirculate drain water. An estimated 7, 953 acre feet of drain water from the north side of the district is recycled back into Ady Canal at the Westside Pumping Plant during irrigation season. "

Response: The text in CCP/EIS Chapter 5 (Affected Environment) has been revised to address the comment.

Comment# 748-36: 6.2.4 As with wetland (1904 vs. 1925) "Please revise ""1904"" to 1905. Reclamation understands the most senior water right on LKNWR is 1905."

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-38: 6.2.5 In recent years "annual harvest of ducks on the refuge ranged from 3,557 to 14,341 individuals and for geese, from 1,631 to 7,576 individuals" Recommend a graph to make it easier to understand waterfowl harvest on an annual basis. Would be excellent to visualize the trends.

Response: Comment noted.

Comment# 748-39: 6.2.7 Cultural Resources Lower Klamath Regue is currently listed on the NRHP… """recorded cultural resources know to be within the refuge…" "revise to ""known"" "

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-4: 1.6.1 Lower Klamath Refuge is divided into… "North of the state line in Oregon lies the Straits Unit or Area K, which comprises approximately 5,500 acres." "Recommend revising sentence to: ""North of the state line in Oregon lies the Straits Unit or Area K, which comprises approximately 6,253 acres, with 5,605 acres irrigated."" "

Response: The CCP/EIS text has been revised to address the comment.

Comment# 748-40: 6.2.7 Cultural Resources Public Use Visitors to the refuge use… """"eligible to the NRHP and CCP."""" "remove ""and CCP""""

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-42: 6.3.7 Cultural Resources Although the area on and around the Clear Lake Refuge… Entire bullet point Suggest revising this by removing reference to no sites being nominated to NRHP.

Response: No changes made. Bulleted point provides the context.

Comment# 748-43: 6.3.7 Cultural Resources Wildfire suppression would involve... """"More information about the Service's process…is provided under the section on Lower Klamath Refuge, Cultural Resources (6.2.6)"""" Please confirm that the reference should be section 6.2.7 not 6.2.6.

Response: Reference was updated to 6.2.7.

Comment# 748-47: 6.4.6 An extensive farming "An extensive farming program is conducted on the refuge that includes 15,500 acres of lease land 41 crops of small grains, alfalfa, onions, and potatoes; 2,500 acres of cooperatively farmed units;" "Suggest revising to: ""An extensive farming program is conducted on the refuge that includes approximately 14,800 acres of lease land crops of small grains, potatoes, alfalfa, and onions; 2,300 acres of cooperatively farmed units of small grain, and potatoes"" "

Response: Chapter 6 was modified to reflect 14,800 acres of lease land agriculture and 2,300 acres of cooperative farming on Tule Lake NWR. These acreages were also updated in the Compatibility Determinations.

Comment# 748-48: 6.4.7 The area on and around Tule Lake was used extensively by Native Americans… Tule Lake Segregation Center "Should this be Camp Tulelake? See previous comment (# 5 above) re: these two resources. Maybe the segregation center is on Service land, but if so Figure 1.5 needs to be revised."

Response: Text in this paragraph pertaining to the Tule Lake Segregation Center has been modified.

Comment# 748-5: 2.4.1 The Service will also… """…practices that compliment…"""" "Suggest revising to be ""complement"" "

Response: This edit was made throughout the document.

Comment# 748-50: 6.4.7 Public Use The refuge is only open to hunting… Tule Lake Segregation Center Camp Tulelake? See previous comment (#5 and 12) re: these two resources.

Response: Text in this paragraph has been modified.

Comment# 748-51: 6.4.7 Public UseCultural resources effects would be similar… """Cultural resources effects would be similar…"""" "Suggest revising to ""Effects to cultural resources would be similar…"" "

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-52: 6.4.7 Public UseCultural resources effects would be similar… """for the pull-ff""" "Suggest revising to ""pull-off"""

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-53: 6.4.7 Public UseCultural resources effects would be similar… "Additionally, the Service would explore…transfer of the Tule Lake Segregation Center…""" Camp Tulelake? See previous comment (#5 and 12) re: these two resources.

Response: Text changed to "Camp Tulelake".

Comment# 748-54: 6.4.7 Mitigation The Service would continue to manage… """exercise Section 106…""" "Suggest revising to state ""comply with Section 106"". Please be sure to revise this statement throughout the document. "

Response: Text modified throughout Chapter 6 per comment.

Comment# 748-55: 6.5.2 "Hydrology of the large freshwater marshes at the refuge is dependent on the Klamath Reclamation Project managed by Reclamation, which establishes and modifies water levels in Upper Klamath Lake." "Hydrology of the large freshwater marshes at the refuge is dependent on the Klamath Reclamation Project managed by Reclamation, which establishes and modifies water levels in Upper Klamath Lake." It should be stated in this paragraph that Reclamation adheres to agreed upon minimum water levels consistent with the 2013 BiOp with the USFWS and NMFS.

Response: This sentence was added to the end of the paragraph in Section 6.5.2.

Comment# 748-56: 6.5.3 "As described previously in the Hydrology section, under Alternative A, the water supply for the freshwater marshes at the refuge is dependent on the Klamath Reclamation Project managed by Reclamation, which establishes and modifies water levels in Upper Klamath Lake. " "As described previously in the Hydrology section, under Alternative A, the water supply for the freshwater marshes at the refuge is dependent on the Klamath Reclamation Project managed by Reclamation, which establishes and modifies water levels in Upper Klamath Lake. Requirements of the Klamath Reclamation Project can affect, and to some extent restrict, how the Service manages the wetlands on the refuge, and can affect water quality." It should be stated in this paragraph that Reclamation adheres to agreed upon minimum water levels consistent with the 2013 BiOP with the USFWS and NMFS.

Response: Suggested sentence was added to the middle of this paragraph in Section 6.5.3.

Comment# 748-57: 6.5.7 Mitigation To prevent adverse effects on cultural resources """…avoide, preserve, and/or mitigate adverse effects…""" "Suggest changing ""preserve"" to ""minimize"" to reflect language in Section 106 regulations. "

Response: In the cultural resources sections in Chapter 6, “preserve” was changed to “minimize.”

Comment# 748-58: 6.7.1 Klamath Agreements "Recommend this be updated to account for the Amended

KHSA, KPFA, and potential additional settlement agreements"

Response: The CCP/EIS text has been revised to address the comment.

Comment# 748-6: 2.4.3 We will also work… """…practices that compliment…""" "Suggest revising to be ""complement"" "

Response: This edit was made throughout the document.

Comment# 748-60: 6.7.7 Clear Lake The dam likes at the head of the Lost River "Suggest changing ""likes"" to ""is located"""

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-61: All All references to elevation. "Suggest stating the vertical datum on all elevations throughout document. Alternatively, it is suggested to define the vertical datum in Appendix A. Many of the vertical datums used on the refuges are outdated, local, and/or inaccurate. For example, the vertical datum commonly used at Clear Lake is 56.5’ in error. "

Response: Comment noted.

Comment# 748-62: App F Rational """Habitat complexes tend to be complimentary, with the strength of one habitat complementing the weakness in another."" "Replace with ""Habitat complexes tend to be complementary, with the strength of one habitat compensating for weakness in another."" "

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-63: App F Rational """Rational""" "Suggest replacing all occurrences of ""Rational"" with ""Rationale"""

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-65: App H A mix of habitats… """Habitat complexes tend to be complimentary, with the strength of one habitat complementing the weakness in another."" "Replace with ""Habitat complexes tend to be complementary, with the strength of one habitat compensating for weakness in another."""

Response: This text was not found in Appendix H, but it was found and modified in Appendix F per the comment.

Comment# 748-66: App. F "Approximately 105,000 acre-feet of water is needed each year…" """… mainly due to unresolved questions about within-project priority."" "Suggest replacing with ""... mainly due to Lower Klamath National Wildlife Refuge’s existing contractual priority to project water."""

Response: We believe the existing sentence is accurate as currently written.

Comment# 748-67: pp. F-31 """Tule Lake Refuge receives…"" """Currently over 90% of pumping

costs are provided by [TID]…"""" TID is responsible for 100% of D Pumping Plant O&M costs.

Response: The CCP/EIS text has been revised to address the comment.

Comment# 748-69: Appendix A - Glossary of Terms Cultural Resources Inventory """…or sample inventory to project site distribution…""" There seems to be some word or words are missing in this sentaence. Suggest review and revision for clarity.

Response: Sentence reviewed. No changes made. No word or words are missing.

Comment# 748-7: 3.1 "Since 2010, (2 occurrences)" """Since 2010""" "Suggest replacing with ""In five of the six years from 2010 to 2015"""

Response: Comment noted.

Comment# 748-70: Appendix O Tule Lake Segregation Center Camp Tulelake? See previous comment (#5 and 12) re: these two resources.

Response: Comment noted.

Comment# 748-71: Exec Summ The Service will also… """…practices that compliment…""" "Suggest revising to be ""complement"" "

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-72: Exec Summ We will also work… """…practices that compliment…""" "Suggest revising to be ""complement""

Response: The CCP/EIS text has been revised per the comment.

Comment# 748-73: Exec Summ "On April 3, 1928, Calvin Coolidge" """Hanks Marsh, 1,069 acres of Reclamation land…""" "Suggest revising to state: ""Hanks Marsh, 1,069 acres of formaly Reclamation land…"""

Response: Sentence modified to “...formerly Reclamation land.”

Comment# 748-74: Exec Summ """Klamath Basin Restoration Agreement (KBRA)""" "The KBRA has expired and requires no consideration. However, it may be appropriate and necessary to consider potential post-KBRA settlement agreements with purposes similar to the KBRA, such as the Klamath Power and Facilities Agreement, and the subsequent agreements it anticipates to achieve the purposes of the KBRA. Suggest changing this heading to ""Klamath Basin Settlement Agreements"" and making bullets more generic."

Response: Planning for the CCP/EIS has extended over a number of years. The section in question lists the issues and concerns identified by the public, partners, and other agencies during the CCP process. Although the KBRA was not authorized by Congress, this list is an accurate accounting for the CCP process. No edit was made to the document.

Comment# 748-75: 4.2.4 "In addition the actions under Alternative A," """In addition the actions under Alternative A,""" "Revise to ""In addition to the actions under Alternative A,"" ?"

Response: This text was not found on page 4-25, but it was found on page 4-70 and revised.

Comment# 748-76: Table 4.8 "Same as A, and:" """Implement a cultural resources management program…""" "By definition, ""historic properties"" are cultural resources that have already been evaluated for NHRP eligibility. Suggest using ""evaluate the NRHP eligibility of cultural resources that may be impacted by Service undertakings…"" which is a bit more preferable to and more accurate than what is currently stated. "

Response: Text was modified under the Lower Klamath NWR. All other alternatives tables reference the Lower Klamath NWR.

Comment# 748-77: Table 5.1 Average Minimum Temperature (Jan) Average Minimum Temperature (Jan) "Cited values for Klamath Falls and Merrill are average maximum temperatures for January; only Tulelake is average minimum. Average minima are 21.1 for K Falls, 18.6 for Merrill. Tulelake is 20.1, not 20.0."

Response: The CCP/EIS text has been revised to address the comment.

Comment# 748-78: Table 5.5 "The Figure 5.5 title implies that 2015 values are the calendar year (Jan Dec), but shows only through August 2015. Please revise the table as needed. The text on page 5-52 correctly reflects 2015 deliveries through Nov. The Fig 5-3 title should be changed to delete the (2015 through Aug)."

Response: The CCP/EIS text has been revised to address the comment.

Comment# 748-8: 3.3.2 While the adjudication """If project water supply is limited, water is distributed to project users according to the within-project priority system."""" "Suggest replacing with ""If project water supply is limited, water is distributed to project users according to the within-project priority system, which is based on Reclamation's understanding of its water delivery contracts."""

Response: Modified text in Section 3.3.2 as comment suggested.

Comment# 748-9: 3.3.2 The irrigated lands… """The irrigated lands on Tule Lake Refuge have an A, or first right, to project water…""" "Suggest replacing with ""The irrigated lands on Tule Lake Refuge have first priority to project water…."" "

Response: Text modified from "first right" to "first priority."

Comment# 906-37: The Service has failed to disclose critical information in the CCP/EIS document, listed below. We request that the agency disclose this data in compliance with NEPA.445 The following list contains data specifically referenced but undisclosed or even uncited in the CCP/EIS:446

Water quality:

• 1991-2013 Reclamation Water Quality Data: from D-Pump and Klamath Straits Drain (only

summarized) [ref. 5-56];

• Ady Canal water quality data [ref. 5-56];

• Reclamation 1994, 2001, unpublished data regarding Clear Lake water quality and dissolved oxygen [ref. 5-91];

• Reclamation 1994, 2001, 2007 regarding Clear Lake water quality conditions being adequate for sucker survival [ref. 5-93];

• Reclamation unpublished data regarding sucker die off in Tule Lake in 1992-1993 [ref. 5-109];

• ODEQ 2002 regarding estimates of phosphorus loading to Upper Klamath Lake [ref. 5-142]; and

• Water Quality Sub Team 2011 regarding Upper Klamath regularly exceeding water quality standards [ref. 5-143].

Nesting and molting:

• Uncited duck and goose production figures for Lower Klamath, Tule Lake, and Upper Klamath Refuges [ref. 5-20]; and

• Yarris, McLandress, and Perkins 1994; S. L. Oldenburger, California Department of Fish and Game, unpublished data regarding mallard wing molt [ref. 5-20].

Population data:

• Uncited 1997 waterfowl population number for Upper Klamath [ref. 5-146]; and

• Uncited statement that 80% of Pacific Flyway migrating waterfowl pass through Klamath refuges [ref. 5-18].

Pesticides:

• Numerous pesticide investigations, published and unpublished regarding pesticides in water, soil, sediment, or living tissue on Tule Lake and Lower Klamath Refuges since 1984 [ref. 5-12]. The following list contains studies FWS appears to have relied upon without disclosing the underlying data:

Water quality:

• USFWS 1998a regarding water quality in Lower Klamath and Tule Lake Refuges [ref. 5-55];

• Oregon Progress Board 2000 regarding increased nutrient loads [ref. 5-9];

• Sorenson and Schwarzbach 1991; MacCoy 1994; Kaffka, Lu, and Carlson 1995; Winchester, Raymond, and Tickle 1995 regarding sources of pollution on Lower Klamath Refuge [ref. 5-55];

• Mayer (2005) regarding short-term, long-term, and seasonal water quality conditions [ref. 5-55, 5-110];

• Service 2002b regarding good condition of watershed [ref. 5-91];

• Service 2007b and Reclamation 2007 regarding Tule Lake Refuge water quality [ref. 5-109];

• Kann and Smith 1993 [from Service 1995] regarding water quality degradation in Upper Klamath Lake leading to large-scale fish kills and algal bloom cycles [ref. 5-144]; and

• VanderKooi et al. 2010 regarding the relationship between toxins generated by algae and fish (including sucker) die-offs in Upper Klamath Lake [ref. 5-144]. 93

Nesting and molting:

• Mauser, Jarvis, and Gilmer 1994 regarding habitat which provides brooding areas on Lower Klamath Refuge [ref. 5-57];

• Yarris, McLandress, and Perkins 1994 regarding duck molting on Lower Klamath Refuge [ref. 5-60];

• Shuford et al. (2006) regarding importance of Lower Klamath Refuge to breeding birds [ref. 5-21]; and

• Patterson communication regarding the efficacy of constructed islands for nesting [ref. 5-21].

Water delivery:

• Reclamation 2008 regarding the acreage for which the Klamath Project can provide water on Tule Lake and Lower Klamath Refuges [ref. 5-7].

Pesticides:

• Cameron 2008; Dileanis, Schwarzbach, and Bennett 1996 regarding pesticides in Tule Lake waters and their level of toxicity [ref. 5-110].

Response: One of the purposes of the EIS is to summarize and apply findings to make reasonable conclusions, but it is specifically not the purpose of the EIS to provide full data sets. The Council on Environmental Quality (CEQ) NEPA regulations that apply to all federal agencies specifically instruct them to make EISs analytic rather than encyclopedic, to "avoid useless bulk," and notes that "verbose descriptions of the affected environment are themselves no measure of the adequacy of an EIS (40 CFR 1502.15)." The description of existing conditions is to be "no longer than is necessary to understand the effects of the alternatives," rather than to publish the voluminous data sets and extensive details the commenter suggests. Adding complete data sets would not contribute to the decision maker's or public's understanding of the effects, particularly at a programmatic level.

D. Attachments

Letter ID#: 56-97, 683-1, 846-10, 846-24

Public Concern Statement: None

Comment# 56-97: Please be sure to include all of these Grazing Proposal comments by WLD related to the 2015 cattle grazing proposal into the Comprehensive Conservation Planning process.

Response: Comment noted.

Comment# 683-1: The undersigned parties are familiar with Tulelake Irrigation District's (TID) comments and submittal of evidence and other information concerning the U.S. Fish and Wildlife Service's May 2016 Lower Klamath, Clear Lake, TuleLake, Upper Klamath, and Bear Valley National Wildlife Refuges Draft Comprehensive Conservation Plan and Environmental Impact Statement. We join in TID's comments and submittals and adopt them as our own. Document contains signatures.

Response: Comment noted.

Comment# 846-10: Our comments on the Bioenergetics Report and the missing pieces of the analysis are supported by two expert reviews prepared by Dr. Robert B. Frederick and Dr. Gregor Yanega. Their reports are attached to our comments as Exhibits 2 and 4.

Response: Comment noted.

Comment# 846-24: In 2014, WaterWatch of Oregon commissioned an expert analysis of refuge water supply options, titled, Opportunities for Improving Water Supply Reliability for Wildlife Habitat on the Tule Lake and Lower Klamath National Wildlife Refuges ("Goldinwater Report"). This report contains useful and relevant information about water supply options for the refuges available under Oregon water law. We incorporate this entire report and its recommendations in our comments here by reference, and attach it to these comments as Exhibit 33.

Response: Comment noted.

E. Requests for Information

Letter ID#: 653-19, 780-5, 87-6

Public Concern Statement: None

Comment# 653-19: Please add Western Watersheds Project's California Office to the list of interested public at the address listed below and continue to keep us informed as this process develops.

Response: Comment noted.

Comment# 780-5: We note that the Draft EIS states that restoration activities would be subject to additional site-specific NEPA analysis (page 6-147), and request to be included on the distribution list for any such NEPA documents.

Response: The Service will place the commenter on the distribution list.

Comment# 87-6: KDD looks forward to continued collaboration with the Service on land and water management issues. KDD hereby requests notice of the Final CCP/FEIS and all related documentation relating to this CCP/EIS.

Response: The Service will announce the completion of the final CCP/EIS in the *Federal Register*.

6. General Analysis

A. Baseline Data and Analysis
Letter ID # 734-7, 906-38

Public Concern Statement: One commenter states that the draft CCP/EIS does not provide sufficient baseline data across multiple affected resources: wildlife, wetland habitat, pesticide use, water quality and delivery, and climate conditions. Another entity similarly expresses concern that the document does not sufficiently analyze a range of site-specific and cumulative impacts, including commercial farming, walking wetlands, herbicide use, and grazing.

Additional in-depth comments on these resources are provided by topic elsewhere in the response to comments report.

Comment# 734-7: We are also concerned that the site specific, and cumulative impacts, from commercial farming, walking wetlands, herbicide use, and grazing are not included in this DEIS. Many processes related to these issues, and refuge management, are happening concurrently within the basin at this time and will demand changes in refuge management. Therefore it is in the best interests of both the public and decision makers to include this information in the Final EIS, along with alternatives that include restrictions and mitigations to address these issues. Looking at past, present and reasonably foreseeable management and cumulative effects is also a legal requirement of NEPA, therefore to dismiss these issues as already resolved, such as in the case of pesticide management, because there was so sort of NEPA analysis in the past is inappropriate.

Response: The CCP/EIS is a programmatic rather than site-specific document, for the most part. Only where decisions regarding management in a particular location are imminent has site-specific information been gathered and analyzed. Otherwise, the impacts of Refuge-wide management and agricultural practices have been evaluated as programs or groups of similar actions. The impacts of the actions the commenter mentions of current practices are all included in Chapter 6 under subheadings Wetland Management, Farming Programs, Haying and Grazing Programs, Pesticide Application, etc., for each alternative at each Refuge in the complex. The additive effects of past land use practices, current management, and reasonably foreseeable future actions on each resource are discussed in the cumulative impact section, Section 6.7, of the CCP/EIS. In addition, Chapter 5 discusses current conditions at the Refuge, which are in large part the result of farming, water control and delivery, and other actions that began long before the Refuge was established and whose impacts remain today. In other words, the Affected Environment describes the effects of past and current actions, a very large part of the cumulative impact scenario.

The use of pesticides is consistent with the IPM approach that the Service uses for pest management activities on Service lands. IPM specific to lease land farming was evaluated in 1998, and the results of that evaluation were incorporated by reference into the CCP/EIS. The 1998 IPM/EA for lease land farming evaluated but did not select an alternative to transition from synthetic pesticide use to long-term organic. The action alternatives at both Lower Klamath and Tule Lake NWRs include strategies to increase organic agriculture on cooperative farmland and on lease lands through incentives such as lease extensions for farms that manage fields organically.

Comment# 906-38: the Service has failed to include sufficient baseline data in five areas: wildlife, wetland habitat, pesticide use, water quality and delivery, and climate conditions. We ask that the Service include the missing baseline information in the CCP/EIS so it may fully consider the impacts of its

proposed management plans, as required by NEPA.

Response: Baseline information in Affected Environment (or in impacts of No Action) is included to help decision makers and the public understand current conditions; the impact analysis evaluates the effects of proposed changes. Extensive and detailed baseline information in an EIS is discouraged; CEQ NEPA regulations state EISs need to be "analytic rather than encyclopedic" (40 CFR 1500.4 (b)) and must emphasize information that is "useful to decisionmakers and the public and reduce emphasis on background information (40 CFR 1500.4 (f))." We believe the extent of background and baseline information in the EIS meets these requirements.

B. Monitoring/Mitigation

Letter ID # 56-57, 56-58, 56-102, 641-16, 846-52, 906-52

Public Concern Statement: Several respondents ask for additional information on how the Service will monitor Refuge lands and proposed management activities. In particular, one commenter states that this information should be provided in an inventory and monitoring plan. Similar comments also request that the CCP/EIS provide mandatory terms and conditions or other mitigations with demonstrated efficacy, rather than just a list of best management practices (BMPs) for implementation.

Comment# 56-102: None of these are required. Language is loose, uncertain and non-binding. When has the Refuge inspected home pastures in the past? Please show us.

Response: This comment was originally submitted in 2015 on an Interim Compatibility Determination for Grazing on the Upper Klamath Refuge. The 2015 Interim Compatibility Determination is superseded by the Compatibility Determination included in Appendix G of the CCP/EIS. The term "home pasture" was not found in the Compatibility Determination. The Description of Use section in the Compatibility Determinationhas been revised to clarify how grazing is used to enhance habitat on Upper Klamath Refuge.

Comment# 56-57: Where, when and how will the Refuge monitor vegetation quality? Water quality? This must be done periodically throughout this and any other grazing bouts that occur across the Refuge. What levels of manure, urine, and trampled mire pollution will the Refuge deem unacceptable? What actual stocking rates, levels of use, use measured on what species, would the Refuge deem unacceptable? Are there any utilization caps? What are these and how does this translate into sufficient residual cover for rare species? Trampling caps? What are these and how do they translate into protection of habitats for native biota? Are there woody browse species? What caps would be used? Will it be a free-for-all? What levels of all of these uses have been measured in the past? How will monitoring occur, and what methods will be used? What is the scientific basis for these levels? See Fleischner 1994, Ohmart 1996, Belsky and Blumenthal 1998, Manier et al. 2013 USGS BER.

Response: This comment was originally submitted in 2015 on an Interim Compatibility Determination for Grazing on the Upper Klamath NWR. The 2015 Interim Compatibility Determination is superseded by the Compatibility Determination included in Appendix H of the CCP/EIS. Each Compatibility Determination includes stipulations to ensure the use (e.g., grazing) will be compatible with refuge purposes. Refuge staff qualitatively (visually) monitors vegetation on the refuge on an ongoing basis, typically up to 3 times per month. Grazing is used to reach a habitat objective to provide spring browse. Objectives are provided in Appendix F. Habitat is evaluated annually to determine the most beneficial methods to reach habitat objectives; therefore, grazing may not be used every year.

Comment# 56-58: The Refuge must consider a broad range of mandatory controls on cattle grazing, trampling and browse use levels and limit waste deposition and include many other mandatory Terms and conditions and other "mitigations" in an EIS if it decides to continue this process.

Response: Comment noted.

Comment# 641-16: The Department supports the Adaptive Management Approach in which the goals, objectives, and strategies identified for Upper Klamath Refuge in Appendix F would guide management over the next 15 years. In addition, the Department supports the proposal to develop a new inventory and monitoring plan for Upper Klamath Refuge with the purpose to identify and prioritize existing and new inventories necessary to inform adaptive management of refuge resources. A small population of red-necked grebes nests in Pelican Bay. There is a need to assess the current population of this priority species.

Response: Comment noted.

Comment# 846-52: Regardless of what habitat management occurs, appropriate monitoring of wildlife and habitat associated with management activities needs to take place on a regular basis. Any management methods that threaten habitat need to be discontinued until wildlife friendly actions can be taken. Such monitoring should be included in an updated Inventory and Monitoring plan.

Response: Comment noted.

Comment# 906-52: the mitigation measures are set forth in Appendix L as "Best Management Practices" ("BMPs") (and Appendix Q for the Integrated Pest Management Plan).485 This listing of BMPs is precisely the type of discussion that has been rejected by the Ninth Circuit numerous times because a mere listing of measures does not inform the public or the decision maker as to whether those measures can be expected to be effective. Without that discussion, it is impossible to determine in a rational way the ultimate environmental effects of the agency's proposed action. Therefore, as currently drafted, the Service cannot rely on any of these mitigation measures in reaching its ultimate conclusion on the potential environmental effects of the chosen alternative.

Response: If mitigation measures are mandatory such as BMPs, the EIS analysts assumed they would be in place and have analyzed impacts as though this were the case. If mitigation measures are optional, we agree that the impacts of including them or not including them need to be part of the analysis. However, since this is not the case with BMPs, thecommenter's stated concern is not applicable.

C. <u>Cumulative/Connected Actions</u>

Letter ID # 56-40, 56-120

Public Concern Statement: One commenter asks if there is a connection between proposed flooding of the Williamson area and proposed grazing on the Barnes-Agency unit and asks that grazing comments be entered into the record for both projects.

Comment# 56-120: Please also enter these Refuge grazing comments into the record for the Williamson project. That EA must candidly disclose all direct, indirect and cumulative effects on the environment. It

must also consider the wide range of issues we describe in these grazing comments.

Response: See response to comment 56-40.

Comment# 56-40: We note there is an EA on-line at the Klamath Refuge Website, examining flooding the Williamson area lands as a restoration project. Is this in any linked to the proposal to now impose herds of cattle on Barnes-Agency? Are the cows being moved from the areas to be inundated in restoration – and onto the Interim Grazing CD Barnes-Agency lands?

Response: The environmental assessment (EA) online about the Williamson area restoration project referred to in the comment is part of the Klamath Marsh Refuge (not part of this CCP/EIS) and is a separate action, with a separate public review and planning process. That restoration project and EA are not within the scope of this CCP/EIS.

7. Physical Resources

A. Air and Climate
Letter ID # 748-19, 780-7, 734-34, 780-10, 906-43

Public Concern Statement: Comments request that the CCP/EIS provide estimates for air emissions associated with construction, pesticide application, organic and conventional farming, walking wetlands, and proposed engine restrictions. It is also requested that the Service use current climate models and provide year-by-year climate data for each Refuge. Other comments request an outreach mechanism to share findings about climate change adaptation and analysis of project impacts to resources—specifically water—in drought years and due to changing climate.

Comment# 734-34: It is important that the Final EIS include alternatives that discuss water quality and quantity issues and meeting needs in drought years and due to a changing climate.

Response: In terms of future droughts and/or climate change, although future effects are unknown, past drought years, scientific predictions of continuing drying and warming in the basin (Barr et al. 2010), and water rights and delivery constraints (see response to comments 634-3 and 522-4) mean there are some recognized constraints regarding water availability the Refuge must manage. Rather than assume more water will "appear," the Service therefore used an approach that "bracketed" the upper and lower reasonable future delivery scenarios in drought, median, and high water years. This approach is described in the Alternatives chapter. For example, Section 4.2 of the draft CCP/EIS (Lower Klamath National Wildlife Refuge Alternatives) discusses potential water deliveries to Lower Klamath Refuge under the current water allocation system (2013 BiOp) and the KBRA scenario that would be common to all alternatives, as well as any differences between alternatives. This includes a large range of water deliveries dependent upon water year, including drier than normal years affected by drought and/or climate change. Similarly, Sections 4.4 and 4.5 discuss water managment and any differences among alternatives for Tule Lake and Upper Klamath Refuges. The effects of alternatives within this bracketed range of deliveries are discussed in Section 6, Environmental Consequences. For all Refuges and all proposed alternatives, effects on water quality are expected to be negligible or minor, compared with current baseline conditions, with some beneficial effects (i.e., effects of expanding organic agriculture, requirements allowing only 4-stroke or direct injection 2-stroke boat engines, etc.). Any minor effect would be mitigated through BMPs (Appendix L).

Comment# 748-19: 5.1.1 All five refuges… """based on two regional climate modela presented in Stralbert et al. (2009)""" "For a more current model that also includes precipitation, see http://www.usbr.gov/climate/secure/docs/2016secure/wwcra-hydroclimateprojections.pdf".

Response: Comment noted.

Comment# 780-10: Recommendation: Consider including in the Comprehensive Conservation Plan an outreach mechanism to share findings about climate change adaptation and resiliency in the Basin with other federal, state, and local management agencies.

Response: Comment noted.

Comment# 780-7: Lower Klamath Refuge Alternative D would generate air emissions during construction·of the "Big Pond." Construction would involve building a new 6 mile dike, removal of31 water control structures, and potential removal of up to 29 miles of interior levees and roads. The Draft EIS does not include estimates for these emissions and, instead, specifies that this alternative would require additional analysis for NEPA compliance. Lower Klamath Refuge Alternative B would decrease air emissions due to a decrease in harvested grain acreages through expansion of "preferential permits for cooperatively farmed grain and hay units" on the refuge for farmers who participate in the walking wetlands program on their private lands (page 6-25). Alternative C could further reduce emissions beyond Alternative B by incentivizing organic farming within the refuge and in the surrounding area, thereby reducing emissions associated with pesticide application. Alternative C also includes proposed restrictions for the types of engines allowed in the refuge for recreational boating (page 6-25). Upper Klamath Lake Alternative B would require engine restrictions for boats and a speed limit that could reduce air emissions (page 6-158). The Draft EIS does not quantify air emissions for a comparative analysis. Recommendation: In the Final EIS, provide estimates for air emissions associated with construction, pesticide application, organic and conventional farming, walking wetlands, and proposed engine restrictions. EPA understands that actual emissions will vary depending on how widely each program is adopted, and recommends a per unit or per acre estimate to better compare alternatives.

Response: Sections 6.2.4 and 6.4.4 have been revised to include estimates of emissions (per acre) for prescribed fire and farming (land preparation, harvesting and pesticide use). In addition, pollutant emissions from constructionof the “Big Pond” alternative are also added.

Comment# 906-43: FWS includes general regional climate information, including precipitation averages. However, it does not include climate or precipitation information for the individual refuges. This data, particularly regarding precipitation, is crucial in understanding the impacts of proposed actions including water delivery scenarios. FWS must include in the CCP/EIS:

• Year-by-year precipitation data for each refuge [ref. 5-1].

Response: See response to comment 906-37.

B. <u>Fire</u>
Letter ID # 853-8

Public Concern Statement: One entity notes that they work with federal agencies to support burn permit requests.

Comment# 853-8: Siskiyou County encourages the frequent use of prescribed fire to reset eutrophication of the wetlands areas, farming processes, grazing enhancement, access and to control noxious weeds as part of our Integrated Noxious Weed program. Siskiyou County has a long history of working with federal agencies to find the most expeditious ways to support their burn permit requests.

Response: Comment noted.

C. Soils
Letter ID # 56-61, 56-71, 56-78, 56-114

Public Concern Statement: One respondent asks for baseline data on Refuge soils, as well as further analysis regarding how livestock grazing actions will affect soils.

Comment# 56-114: Won't cattle trampling churn and displace soils (including potentially sub-irrigated areas - the grazing proposal lacks any real description of the site-specific conditions and the high variability in soil moisture and characteristics, vegetation composition, etc).

Response: The effects of grazing are analyzed in Chapter 6 of the CCP/EIS.

Comment# 56-61: What systematic baseline studies on soils (health, compaction, chemical composition, permeability, salinity, etc.) have been conducted? How will this affect soil health? Erosion? Microbiotic crusts if uplands are included in any grazed areas? Invertebrate food for migratory birds?

Response: Soils were described using the Web Soil Survey, a web-based program operated by the U.S. Department of Agriculture, Natural Resources Conservation Service (see Section 5.1.1 of the draft CCP/EIS). The composition, drainage characteristics, organic matter, permeability, potential for erosion, and how it is used by agriculture and wildlife for each soil type is described in some detail in the Affected Environment Chapter (see Section 5.2.1 for an example). The availability of invertebrate food is described in the same chapter under Biological Resources, Vegetation and Habitat Resources (see Section 5.2.2 for an example). References for this section vary and are cited in the Affected Environment chapter. Although the soils in the Klamath Basin Refuge Complex vary across individual refuges, no microbiotic crusts have been described.

Comment# 56-71: FWS has included very little data regarding water quality and quantity on the refuges. Water is crucial for proper waterfowl management.469 Baseline information on these topics is therefore essential. FWS must include in the CCP/EIS:

• CBOD data and dissolved oxygen for Lower Klamath [ref. 5-56] and Tule Lake [ref. 5-108] Refuges;

• Water quality surveys or data from refuges [ref. 5-9-10];

• Data re: causes of WQ issues [ref. 5-9, 55];

• Water quality and quantity data for Bear Valley Refuge [ref. 5-161];

• Year-by-year water delivery to Lower Klamath Refuge, including Area K leaselands [ref. 5-52];

• Year-by-year water quantity and release data for Clear Lake Refuge [ref. 5-91];

• Year-by-year water delivery to Tule Lake Refuge [ref. 5-108-109]; and

• Year-by-year water quantity data for the Upper Klamath Refuge marshes [ref. 5-142].

Response: This comment was originally submitted in 2015 on an Interim Compatibility Determination for Grazing on the Upper Klamath NWR. The Interim Compatibility Determination is superseded by the Compatibility Determination included in Appendix H to the CCP/EIS. See also responses to comments 56-4 and 56-125.

Comment# 56-78: Just what is the water situation, including saturation of soils, sub-irrigation, decay8ing dikes, etc.? WHAT about human manipulation of water for cattle? How will this action retard any natural recovery of soils, porosity, peat accumulation, etc.?

Response: See response to comment 56-71.

8. Water Resources

A. General

Letter ID # 100-3, 245-1, 318-1, 336-1, 373-2, 431-5, 432-3, 500-1, 524-2, 562-2, 622-1, 622-2, 624-1, 634-4, 681-4, 681-9, 701-40, 704-7, 726-3, 740-1, 766-1, 774-1, 846-66, 895-3, FL-1-3, FL-1-4

Public Concern Statement: Numerous commenters request that the CCP/EIS generally focus on increasing and stabilizing the NWRs' water supply, in part by restricting delivery to agricultural lands.

Comment# 1001-3: Use all water rights owned by the US Fish and Wildlife Service for wildlife and wetlands first, not to support agribusiness. It is unacceptable for wetlands and wildlife areas to be dried up while the USFWS allows full water deliveries to industrial agriculture on refuge lands.

Response: Comment noted.

Comment# 1001-4: Aggressively pursue programs to increase the amount of water available for wildlife, and use it to restore wetlands and improve conditions for native wildlife.

Response: Comment noted.

Comment# 100-3: An increase and stabilization of the water supply seems to me the most urgent priority right now.

Response: Comment noted.

Comment# 245-1: Farmers have complained they have been using this water for generations it's a 'way OF life.' I say: The birds have been using this water for 10,000 years. It's their way FOR life, they have no alternative for water. But it doesn't need to be an 'either or' situation. I suggest: Farmers roll back their use to their pre-1902 'rights' and farm organically as did their Great Grandfathers.

Response: Comment noted.

Comment# 318-1: Please stop diverting water resources for agriculture for federally protected land. Bear Valley, Tule Lake, Clear Lake, and Lower Klamath national wildlife refuge suffer greatly without the water & agriculture run on 22,000 acres of the protected land is over using water.

Response: Comment noted.

Comment# 336-1: I support the priority of water use going to the Refuges vs. agribusinesses. These are Wildlife Refuges and the water should be used for such vs. giving business priority.

Response: Comment noted.

Comment# 373-2: Use your water rights to increase water to the wildlife sanctuary and the Klamath river. Decrease leases to farmers and other water users that drain water away from the natural flow.

Response: Comment noted.

Comment# 431-5: Re-allocate the water resource if it's over-allocated. Animals, birds, and wildlife deserve inherent rights to clean water. Insist on water quality in the Klamath Basin. Remove irrigation backflow from all upper Basin streams.

Response: Comment noted.

Comment# 432-3: In the future, the U.S. Government's water rights should not be used to water crops which are owned by individuals and for-profit corporations. In most years, water is very scarce in Klamath County, OR, and many wetland/pond/lake acres in these refuges were allowed to completely dry up while the U.S. Government's water rights were simultaneously being used to water crops owned by individuals and for-profit corporations. The U.S. Government's water rights should've been left "in stream" to fill (or partially fill) these wetlands, ponds and lakes which were desperately needed by fish and wildlife, including shore birds, wading birds, and waterfowl.

Response: Comment noted.

Comment# 500-1: We need water in the Klamath basin WLRs.

Response: Comment noted.

Comment# 524-2: Since we have been in a serious drought here in California for the past five years (and Oregon has been in a drought for the past two years) we have all been asked to cut back on our water usage. Farmers NEED to do the same! It is against the law for anyone to take what does not belong to them! This MUST apply to people taking water from our refuges!

Response: Comment noted.

Comment# 562-2: It is time to tell the farmers that free irrigation is over. No future irrigation should be

allowed, unless it is drip drip irrigation which is very good at using much less water.

Response: Comment noted.

Comment# 622-1: Because of the tenuous and uncertain nature of water supplies for refuges located with the Klamath Project (Lower Klamath and Tule Lake NWRs), it is difficult to develop detailed comments pertaining to their future management. KBAS believes that wetland habitat preservation and management is impossible without adequate timing, quality and quantities of delivered water. To solve the issues of poor water quality, water shortages and continued loss of wetland habitat, the Fish and Wildlife Service (Service) must solve the water delivery issue, particularly to Lower Klamath NWR. This should be a primary future focus of the Service.

Response: Comment noted.

Comment# 622-2: Currently, Lower Klamath is dependent upon Bureau of Reclamation Klamath Project facilities to receive the Refuge's state water rights. The Service must seek Secretarial intervention to bring balance to the multiple resources in the Klamath Basin that are dependent on water quantity and quality.

Response: The request in the comment is beyond the scope of the CCP/EIS.

Comment# 624-1: The draft statement and everyone involved have had to juggle so many 'priorities'. But the law is pretty clear, the primary purpose is for fish and wildlife. Then it's how you define "primary" purpose. I offer that today this means something different than it did yesterday. Planners MUST take into account the FUTURE availability of water in the basin and do all that can be done, and do it now. The procurement of water "rights" should not be a question for the USFWS. Extend the lives of these species a little longer.

Response: Comment noted.

Comment# 634-4: For the 210,000-acre Klamath Project, USBR has approved claims sourced from the natural water of the Klamath River and Upper Klamath Lake, plus additional water stored in Upper Klamath Lake, with a May 19, 1905, priority date.4 When in the past USBR has delivered water preferentially within the Klamath Project based on claimed priority dates, water was delivered to irrigate farmland with 1905 claims, while deliveries were significantly curtailed to adjacent refuge wetlands that had junior claims. The lack of a reliable water supply has impaired the ability of the refuges to preserve and protect waterfowl as intended.5 For example, water shortages on the refuges sparked separate large-scale avian disease outbreaks in 2012 and 2013, killing tens of thousands of waterfowl6.

Response: Comment noted.

Comment# 681-4: It is the duty of the Service to acquire a water supply sufficient for the habitat needs of the migratory waterfowl for which the NWRs serve as a critical staging area during their annual migrations on the Pacific Flyway. To do so will require cooperation from the Bureau and other affected agencies within and outside of the Department of Interior. The Secretary of Interior should be enlisted to referee a proper distribution of water, along with the agreements necessary to ensure delivery at the times and places that provide the greatest benefit to the refuges and the species that depend on them. It will also require participation in the water rights adjudication for the Klamath River Basin.

Response: Comment noted.

Comment# 681-9: the CCP does acknowledge in numerous places that waterfowl habitat is a primary purpose the Klamath Basin National Refuge Complex. The CCP also acknowledges that waterfowl hunting is a primary recreational activity on the refuges. The Klamath Basin, and the NWRs in particular, are an extremely important link in the migration of millions of waterfowl on the Pacific Flyway. Failure of the refuges to provide sufficient habitat, or outbreaks of avian diseases on the refuges, has an impact on bird populations all along the flyway. It is essential to the well-being of this public trust resource that the Service acquire the water supply and funding it needs to meet the purposes stated in the foundational statutes creating the refuge complex.

Response: Comment noted.

Comment# 701-40: Declines in water availability and water quality degrade wetlands for all wildlife and reduce the amount of food, nesting habitat, and open water needed for migrant and resident breeding bird populations alike. Many non--game waterbirds depend heavily on native wetlands and open water. Native wetlands and agricultural fields are not interchangeable habitats for the majority of water birds. While flooded fields can support certain shorebirds, geese, and dabbling ducks, there are many species for whom flooded fields will not serve (Shuford et al. 2006), or for whom bioenergetics food equivalence with native wetlands have not been established. (Strumpf 2011). Water delivery to wetlands; maintenance of open water habitat with regular flow; water of varying depths, some that are maintained in perpetuity such that they can support fish; and varied wetland habitats including open water lakes and ponds, emergent wetlands, and marshes are necessary to support the full spectrum of species that depend upon the Klamath wildlife refuges for habitat.

Response: Comment noted.

Comment# 704-7: The Fish and Wildlife Service should develop a CCP that: Addresses the fact that under current water management regimes all 14,400 acres of Upper Klamath NWR wetlands are drained dry for part of almost all future years.

Response: The Service believes that the CCP/EIS does indeed address the challenges of providing habitat in light of a range of water availability.

Comment# 726-3: The Executive Summary states, "... Thus, as our highest priority for Lower Klamath National Wildlife Refuge, we will continue to seek solutions for securing and delivering consistent water. .." DU strongly agrees that this should be USFWS' highest priority for that area. Having a sufficient water supply and the infrastructure to allow that water to be used efficiently and effectively to provide high-quality wetland habitat is critical for that refuge to be able to support Pacific Flyway waterfowl and a diversity of other wetland-dependent species.

Response: Comment noted.

Comment# 740-1: We have been coming to the Klamath Basin for over 30 years. We have witnessed the drastic changes that have occurred to both Lower Klamath and Tule Lake Refuges. Anything and everything should be done to supply these refuges with more water! Only agricultural practices that promote benefits to waterfowl management should continue to be allowed.

Response: Comment noted.

Comment# 766-1: The importance of water is vital to the future of the Klamath Basin for the agricultural community as well as the willdlife that inhabit the Klamath Basin. Lower Klamath NWR has been left dry many years since 2002. The marshes of Lower Klamath provide critical nesting, brood, and molting habitat for waterfowl of the Pacific Flyway. I would urge the Federal Government and its agency partners within the Klamath Project, including the Bureau of Reclamation, to make the availability and delivery of water to Lower Klamath in the summer and fall a priority.

Response: Comment noted.

Comment# 774-1: The primary objective of the Complex units, Lower Klamath, Tule Lake, Upper Klamath, and Klamath Marsh, should be to provide habitat for waterfowl. Migration habitat is the top priority; waterfowl and waterbird production habitat is an important, but secondary priority. To achieve this objective you must be provided water and have control of agricultural operations. At 'the current level of water availability, the water needs of the wetlands should take priority. When the use of water must be balanced between wetlands and agriculture, it must be done on a strictly biological basis with the benefits to waterfowl governing decisions.

Response: Comment noted.

Comment# 846-66: Upper Klamath Lake is important for thousands of migratory and nesting non-game waterbirds including Western/Clark's Grebes, American White Pelicans, Double-crested Cormorants, etc.227 and there is good potential that expanded restoration of wetlands in Barnes and Agency Lake would help bolster populations of marsh birds including species of concern like Black Terns and Yellow Rail (potentially via reintroduction from neighboring populations). Adequate water levels must be maintained to sustain these populations and the Service must negotiate water allocation priority over Reclamation if wildlife populations are jeopardized due to inadequate water.

Response: Comment noted.

Comment# 895-3: What doesn't work here is the lack of water on theLower Klamath side and over silted Tulelake marsh. I think everyone who posted here is concerned about the first refuge in the United States and its poor condition, the habitat is here, just add water. This should be everyone's focus on how to get more water on Lower Klamath, large numbers of people can really get things done.

Response: Comment noted.

B. Water Rights – Ensuring Supply

Letter ID # 11-4, 522-3, 522-5, 56-13, 570-1, 622-12, 622-20, 622-4, 634-10, 634-2, 634-3, 634-5, 634-6, 634-7, 634-8, 634-9, 704-5, 774-3, 778-5, 793-28, 793-7, 793-73, 846-100, 846-20, 846-23, 846-26, 846-28, 846-29, 846-37, 846-82, 846-98, 853-7, Form Letter 4-4, Form Letter 4-5, Form Letter 4-6

Public Concern Statement: One entity requests that the CCP/EIS more fully explain the NWRs' water rights and water use situation in detail so that the public can understand the water delivery system, and how water is being used. Another commenter states that the CCP/EIS contains factual and legal errors and inaccuracies regarding Oregon water law and that the Service should engage legal counsel to reconsider

and re-draft the CCP's analysis and discussion of the Refuge's water rights and water supply options. More specifically, other commenters suggest that the Service ensure that all water rights are fully utilized.

Comment# 11-4: While I believe there is no need to purchase "water rights" (why should the public pay to get the water it already owns back), I realize this is an effective way to get more water in the refuge. So would support the refuge purchasing water from willing sellers.

Response: Comment noted.

Comment# 1004-4: Use all refuge water rights for refuges purposes such as waterfowl habitat, including the most senior refuge water rights now used for commercial farming.

Response: See response to comment 634-4.

Comment# 1004-5: Vigorously pursue refuge claims in the Oregon Klamath Water Rights Adjudication for the full amount of water needed by the refuges.

Response: Comment noted.

Comment# 1004-6: Ensure off-refuge junior water users are regulated so that on-refuge senior water rights are delivered.

Response: Comment noted.

Comment# 522-3: At this juncture, the Refuges in question are simply not providing the benefit to migratory birds that was anticipated with their creation. While we acknowledge that water scarcity and water deliveries are the primary factor in the current circumstance on the Refuges, we also believe the Service has the legal responsibility to seek remedy to ensure all water rights are fully utilized. Sacrificing the waterfowl management functions of the Refuges to other Service or other agency priorities is quite simply inappropriate. Having the Refuges not fully functional is a significant net loss to waterfowl in the Pacific Flyway. Extensive research has consistently confirmed the critical importance of the Refuges as staging areas during both the spring and fall migration. Additionally, there is clear evidence that the Refuges are essential post-breeding/molting habitat for a variety of breeding duck species in the region as well as the Refuges role in terms of providing breeding habitat. These factors demonstrate the uniqueness of the Refuges while also documenting the critical nature of ensuring the Refuges are optimized to meet its foundational objectives of waterfowl management.

Response: Comment noted.

Comment# 522-5: The Service should be an active participant and stalwart advocate for USFWS water rights as part of the ongoing Oregon Adjudication process.

Response: Comment noted.

Comment# 56-13: Please explain the very complicated water rights and water use situation in detail so that the public can understand the water delivery system, and how water is being used.

Response: The hydrology of the Upper Klamath Basin watershed is summarized in the CCP/EIS in

Chapter 3, Section 3.3, and Chapter 5, Section 5.1.1, under the subsection Hydrology.

Comment# 570-1: I am writing in support of full allocation of the water rights to the Klamath National Wildlife Refuge, so that the historical mandate of the establishment of the refuge 100 years ago is restored. The leasing of water rights from this public land has resulted in the decimation of bird and salmon resources that belong to the American Public.

Response: Comment noted.

Comment# 622-12: Tule Lake NWR: B. Water rights. The refuge should continue to engage in water rights now before the courts. Specifically: Seek to broaden the definition of "irrigation" under the adjudication to include the growing of plants within seasonal marshes as well as water used in the "Walking Wetlands Program". An irrigation use of water within the Walking Wetland Program will also benefit private landowners that are currently using this practice. In addition, the period of use for irrigation rights should be extended to include the full calendar year. When the final Klamath Consent Decree is issued, the refuge should re-evaluate its present use of water and determine if changes in the place of use and the purpose of use for refuge water rights are required to meet refuge purposes.

Response: The Service is pursuing exceptions to the Klamath adjudication FOD.

Comment# 622-20: Lower Klamath NWR: The Refuge should continue, through the Oregon Water Rights Adjudication process, to pursue efforts in moving the priority date for the Lower Klamath NWR's reserved rights from 1925 to the date which the refuge was established (1908). The Refuge should expand their irrigation right to include the full calendar year, and broaden the refuge's irrigation use of water to include the application of water to grow plants in seasonal wetlands for the Walking Wetland Program.

Response: See response to comment 622-12.

Comment# 622-4: Remain vigilant and active in the current Oregon Adjudication process currently in its exception filling process.

Response: Comment noted.

Comment# 634-10: The USFWS has a range of viable options for securing a more reliable water supply to enhance wildlife habitat at TLNWR and LKNWR. While the USFWS approved claims are not yet subject to transfer, the fairly reliable 1905 approved claims for irrigation can be utilized to promote growth of wetland plants at their current places of use. The USFWS can plan to transfer some portion of the 1905 approved claims to wildlife habitat use within the refuges and/or establish a program to acquire water rights from willing sellers using Public Law 101-618 and the Lahontan Valley program as an example. The options outlined can be implemented sequentially and in combination until the desired habitat conditions are achieved.

Response: See response to comment 634-3.

Comment# 634-2: In the Klamath River Basin of Oregon and California, the state of Oregon's adjudication of pre-1909 water rights and federal reserved water rights (the "adjudication") creates new opportunities to address refuge water needs by clarifying rights to water, allowing for enforcement, and eventually allowing for water right transfers. The adjudication provides both these refuges with 1905

irrigation rights that could be used for wetland purposes at this time, and the adjudication will create opportunities to use Oregon's transfer process to make significant improvements to water supply reliability on the chronically water-short wetland habitats of TLNWR and LKNWR.

Response: See response to comment 634-3.

Comment# 634-3: GOLDINWATER's analysis highlights three options that should be considered to enhance refuge water supply: 1. Use the refuges' 1905 irrigation rights for wetland purposes within the existing places of use of those rights, instead of for irrigation of leaseland farmland as currently practiced. 2. Transfer USFWS-owned senior water rights to refuge habitat areas with less senior water rights. 3. Purchase or lease senior water rights for transfer to the refuges to enhance wildlife habitat through the Federal Water Rights Acquisition Program, or other programs or funds.

Response: The GOLDINWATER Consulting report, referenced by several commenters, presents an analysis of the Service's water rights and some options for using water rights to enhance the Refuges' water supply. The Service appreciates the effort that went into producing the report and the concern over the water supply situation for Lower Klamath and Tule Lake NWRs.

The CCP/EIS focuses on actions that can be completed by the Service during the 15-year lifecycle of the CCP/EIS. The Service cannot immediately implement some of the recommendations in the GOLDINWATER Consulting report due to Oregon interpretation of water law or until the Klamath Basin adjudication is finalized. However, there are some irrigation water practices that the Service plans to implement with the adoption of this CCP/EIS. Please see discussion and Service responses below.

The GOLDINWATER Consulting report recommends the following three options, all based on the future transfer of water rights:

1. Use the Refuges' 1905 irrigation rights for wetland purposes within the existing places of use of those rights, instead of for irrigation of lease land farmland as currently practiced.

2. Transfer Service-owned senior water rights to refuge habitat areas with less senior water rights.

3. Purchase or lease senior water rights for transfer to the refuges to enhance wildlife habitat through the Federal Water Rights Acquisition Program, or other programs or funds.

<u>Service Response to Option 1</u>: The Service is unable to use the 1905 irrigation rights for wetland purposes within the existing places of use because wetland purposes are not currently considered an agricultural irrigation practice for the Klamath Project under Oregon water law.

In the vested claims filed by the United States in the adjudication, both Reclamation and the Service claimed "irrigation for or consistent with Refuge purposes," which was specified to include the growth of wetland plants. As noted in the GOLDINWATER report, the State of Oregon's definition of irrigation, "the artificial application of water to crops or plants by controlled means to promote growth or nourish crops or plants" [OAR 690-300 (26)], is broad enough and commonly applied to include the application of water to grow wetland plants. But in the Amended and Corrected Findings of Fact and Final Order of Determination (ACFFOD), issued March 28, 2014, the State denied the claimed use, asserting that the use of water for wetland plants is not consistent with the meaning of the term "reclamation." In the ACFFOD, the State views irrigation and cultivation of wetland plants within the project as "an attempt to create continuity with historic conditions on the place of use rather than a physical change in the historic conditions made to increase the usability of the land" [Page 43 of 271, KBA ACFFOD 07017]. Thus, the State's definition of irrigation for the Klamath Project is much narrower than for the rest of the state and

does not currently allow irrigation for wetland purposes.

The limitations imposed on the Service in the ACFFOD are inconsistent with other project uses approved by the State. For example, the State granted project irrigation water rights to landowners within the project for such uses as watering golf courses, cemeteries, parks, and backyard landscaping. These uses are clearly non-agricultural since there is no crop grown or harvested, nor is livestock raised. Further, there are issues as to whether some of these other lands were ever "reclaimed." Thus the ACFFOD is inconsistent in limiting irrigation rights of the Service but not those of other users and in limiting the definition of irrigation for the Klamath Basin, compared with the rest of the state. The United States is challenging the State's determination on reclamation and irrigation in the Adjudication court. However, until that challenge is resolved, the more restrictive language in the ACFFOD is applied to the water rights, and the Service is not allowed to change the purpose of the claims, which is currently agricultural irrigation.

The United States claimed a year-round use of water for irrigation in the adjudication for the purpose of allowing pre-irrigation. However, , the state limited all the irrigation water rights on Lower Klamath NWR (Area K in Oregon and the other co-op farmed lands in California) to the March 1 to October 31 irrigation season [page 50 of 271, KBA ACFFOD 07017]. The United States is contesting this in the adjudication as well. However, until that is resolved, the irrigation right on Lower Klamath NWR is limited to the March to October season, and pre-irrigation November through February is not allowed. The irrigation right on Tule Lake NWR is limited to a slightly longer season, February 15 to November 15 [page 51 of 271, KBA ACFFOD 07017], although pre-irrigation is less common in that area. The federal reserved water right claims for both refuges were granted a season of use for the entire year, so it is possible to use non-project water on the Refuges from November through February, although these claims are lower in priority than the 1905 irrigation claims, and non-project water is not always available.

<u>Service Response to Option 2</u>: The approved claims in the adjudication are not eligible or subject to transfer prior to issuance of the decree under Oregon water law.

Option 2 may be feasible once the adjudication is complete, depending on whether the state allows the purpose of these rights to be transferred from agricultural irrigation to wildlife or if the United States is successful in contesting the narrow limitation imposed on the purpose of these rights by the state. Once the decree is final in the Klamath Basin adjudication, these rights will become "water uses subject to transfer" and it may be possible to file a permanent transfer to change the purpose of the Services vested rights from irrigation to wildlife. The Service will investigate this option further once the adjudication is complete and the rights are decreed, including all appropriate public involvement.

Oregon water law allows temporary transfers of "determined claims" in the Klamath Basin (Senate Bill 206) and the Service's water rights for the Refuge are determined claims. But these temporary transfers may only be used to temporarily change the place of use and, if necessary to convey water to the new temporary place of use, temporarily change the point of diversion or point of appropriation. A temporary transfer cannot be used to change the purpose of a "water use subject to transfer" (see Oregon Revised Statutes 540.523). As emphasized above, the Service already holds 1905 irrigation rights for most of the area of the Refuges. The immediate problem of water supply is not related to a limited place of use for its senior water rights, and there is no need to transfer water rights to these areas right now. The main challenge for irrigated lands on Lower Klamath NWR is not a lack of senior water rights but a within-project water delivery priority that has not yet been determined.

<u>Service Response to Option 3</u>: As with Option 2, the approved claims in the adjudication are not eligible

or subject to purchase or permanent transfer prior to issuance of the decree under Oregon water law.

Until the Klamath Basin adjudication is finalized, the opportunities for acquiring water rights are difficult to evaluate since many rights are not final yet. As noted in the GOLDINWATER report, the Lost River decree is already complete and there may be some water rights available in that basin. However, the main refuge water supply challenge facing the Service is at Lower Klamath NWR and acquiring water in the Lost River Basin would require that water be moved from the Tule Lake side to the Lower Klamath side.

This would have to be done by pumping it through D Plant, adding considerable expense and energy requirements to the proposition as well as the complication of wheeling water through the project and the sumps. It may be possible to move the water through the Lost River Diversion Channel, although this channel reverses direction and flows from the Klamath River to the Lost River during the irrigation season, or to trade Klamath River water for Lost River water.

There may be appropriative water rights available for transfer to Lower Klamath NWR in the Upper Klamath Basin, above the lake. This includes Service-owned water rights at Upper Klamath Lake NWR. These rights are junior to the Project water right and other pre-1905 rights but that may not matter early in the season before a call is made by senior water right holders. An additional consideration is that this water would need to be wheeled through Upper Klamath Lake and released by Reclamation at Link River Dam for delivery to the refuge at the Ady Canal. This option is currently being investigated by the Service.

Conclusion for Options 1–3 as recommended in the GOLDINWATER report: Resolution of the water rights issues discussed above require the issuance of the Klamath Basin adjudication decree under Oregon water law. The timeline to the adjudication's final decree is unknown, but is not expected to occur within the 15 years life cycle of this CCP/EIS. Therefore, the Service considers the options above infeasible actions for consideration at this time. However, as noted, the Service has challenged the ACFFOD determination on reclamation and irrigation in the Adjudication court. If and when the legal framework for water rights pertaining to these refuges is resolved, the Service will certainly consider all options that would best achieve refuge purposes.

Water rights actions that the Service can implement immediately: Meanwhile, there are water-related actions the Service can implement immediately upon the adoption of this CCP/EIS. These concepts are outlined here.

As noted above, the State of Oregon has determined that irrigation water rights for the Klamath Project cannot be used for wetland purposes. However, these lands are not precluded from flooding via pre-irrigation and flood/fallow, which are common agricultural practices that are used on both Lower Klamath and Tule Lake NWRs. The Service believes the practices of pre-irrigation and flood/fallowing are legally permissible under the constraints of the existing irrigation water rights imposed by the State of Oregon, both on the lease lands and on the co-op farmed lands.

Flood/fallow for control of quackgrass and other noxious weeds and pests is a historically common agricultural practice used on Lower Klamath NWR and the private farm lands, particularly the Klamath Drainage District (KDD) lands (Reclamation 1974) and more recently on the Tule Lake NWR. This agricultural practice is used to control weeds and pests such as nematodes and rodents without using pesticides or other means that may be harmful to the environment. The practice also serves as alkali abatement, improving the leaching of salts from the soil profile. It also may benefit soil fertility and limit the need for chemical fertilizers. The period of flood/fallowing can help farmers achieve the 3-year period without use of non-organic chemical inputs and controls that is required for organic certification. Finally, there is the added benefit of providing good waterfowl habitat. Preliminary observations indicate that the

permanently flooded fields will grow sago pondweed and other submergents and provide good habitat for diving ducks, a habitat that is limited on Lower Klamath NWR. The Service recognizes that flood/fallowing is an important element of the habitat management and IPM programs for Lower Klamath and Tule Lake NWRs. As such, the Service has included a stipulation in the Tule Lake NWR lease land farming Compatibility Determination to increase the average annual acreage of walking wetlands /fallow program.

Also as noted above, the immediate challenge for irrigated lands on Lower Klamath NWR is not a lack of senior water rights but rather a "within-project" water delivery priority that has not been determined by the Secretary of the Interior. Claim 312 is a vested claim for the 1905 project irrigation right, and it is viewed by the state as being equal in priority to all the other 1905 project irrigation rights. The within-project priority of the Klamath Project is the system that determines the priority of project users relative to each other. While the Adjudication established the relative priority of all water rights within the Klamath Basin, the Adjudication did not determine the priority of project water users relative to each other, the "within-project priority." When the project water supply is not sufficient to meet all users, water is distributed to project users according to the within-project priority system, with the first or A priority users receiving all of their water before the second or B priority users receive any. While the within-project priority has been determined for most project water uses, it has not been determined for irrigated lands on Lower Klamath NWR (lease lands and other lands). By default, the Refuge has been assumed to be last in priority (see response to comment 522-4). Thus, the irrigated lands on Lower Klamath NWR have been the last of the project lands to receive water, and in fact, have been largely dry in recent years. The Service continues to work toward establishing a within-project A priority to deliver the 1905 project irrigation water to Lower Klamath NWR.

Comment# 634-5: According to the water right transfer requirements, the approved claims are not eligible or subject to transfer prior to issuance of the decree.8 But, the state could enact legislation allowing temporary or conditional transfers prior to the decree.

Response: See response to comment 634-3.

Comment# 634-6: With the system of appropriation by priority dates now operating, enforcement of approved claims is now possible. Because the Klamath Basin is over-appropriated, possession of a relatively senior approved claim is essential to ensure a reliable supply of water. Once the Court's decree is issued, the approved claims will become water rights subject to transfer under Oregon Statute (ORS 540.505-540.531) and the corresponding Administrative Rules (OAR 690-380) governing water right transfers.9 This future ability to transfer water rights could provide a means to improve water supply reliability on TLNWR and the LKNWR.

Response: See response to comment 634-3.

Comment# 634-7: Option 1. Increase Wetlands Areas on Refuge Leaselands and Co-Op Lands The irrigated farmland within the refuges has shown the ability to grow wetland plants when flood- irrigated under the walking wetlands program.10 The 1905 approved claims for irrigation can continue supplying water at the current place of use to promote growth of wetland plants.11 Through a focused expansion of the walking wetlands program and/or conversion of commercially and co-op farmed refuge lands to wetlands, additional wildlife habitat can be maintained through controlled flood-irrigation of wetland plants.

This option brings the wildlife habitat to the most reliable water supply. It is important to note that this

change could be implemented now and provide future flexibility to pursue other options, such as water right transfers. There are at least two approaches to water right transfers the USFWS can pursue in the future, described below.

Response: See response to comment 634-3.

Comment# 634-8: Option 2. Transfer USFWS-Owned 1905 Rights to Wildlife Habitat With Less Senior Rights Once the approved claims become subject to transfer, USFWS can change a portion or all of its more senior 1905 approved claims for irrigation use to wildlife habitat use within places where the junior approved claims now exist. Ideally, the transfers would allow the right to be used for wildlife purposes throughout the refuges including within the original place of use. The Department has approved transfers that changed the character of use from irrigation to wildlife habitat and substantially increased the area of the place of use. Use of the transferred water right for wildlife habitat should be broad enough both to flood wetlands and to irrigate wildlife crops to attract and sustain waterfowl, which is currently the primary purpose of irrigation on co-op lands owned and managed by the USFWS. The advantage of this approach is that USFWS already owns approved claims 312 and 317 on the refuges and has the mandate to best utilize its assets for wildlife purposes. Any potential for injury to existing water users outside the refuges is greatly reduced by the proximity of approved claims 312 and 317 to the new place of use, which is at the tail-end of the Klamath Project's water delivery system.

Response: See response to comment 634-3.

Comment# 634-9: Option 3. Purchase and Transfer Water Rights from Willing Sellers Through the Federal Water Rights Acquisition Program, or Other Programs or Funds. The USFWS could acquire from willing sellers, through lease or purchase, senior water rights for transfer to the refuges to enhance wildlife habitat. Some nearby areas such as the Lost River have already been decreed and may have water rights for sale that can be transferred to the refuges. One good example of this water rights acquisition approach exists at the USBR's Newlands Project in Churchill County, Nevada. In 1990, Congress passed the Truckee-Carson-Pyramid Lake Water Rights Settlement Act (Public Law 101-618). The Act re-authorized the Newlands Project to serve additional purposes – including recreation, fish and wildlife – and authorized a water rights purchase program to sustain about 25,000 acres of Lahontan Valley wetlands important for migratory waterfowl located on the USFWS's Stillwater National Wildlife Refuge. The subsequent Environmental Impact Study and Record of Decision defined the Lahontan Valley Wetlands Water Rights Acquisition Program with a goal of acquiring up to 75,000 AF of water rights from willing sellers through purchase, lease, donations and exchange of water rights.13 Since 1990, under authorization of the Act and previous efforts, the Lahontan Valley program has acquired 25,774 AF of water for the wetlands.14 An advantage of this acquisition option is that approved claims or water rights senior to USBR's 1905 approved claims could be acquired, which would substantially improve water supply reliability for wildlife habitat. This would be the most costly option, but there is a proven model to follow in Nevada and both the USBR and USFWS already know how to implement such a program successfully. USBR annually leased water from Klamath Project farmers between 2001 and 2006 to reduce on- project water demand. Annual lease prices ranged from $150 to $200 an acre with variation by crop type idled.15 A simple way to estimate a general purchase price is to multiply an annual lease price by 25, which provides a sale price range of approximately $3,750 to $5,000 per acre. If there are willing sellers at this price, purchasing 10,000 acres (35,000 acre-feet) of relatively senior irrigation rights for the refuges could cost upwards of $50,000,000.16 A thorough water pricing study should be completed prior to implementation of any program to acquire water rights.

Response: See response to comment 634-3.

Comment# 704-5: The Fish and Wildlife Service should develop a CCP that: Exercises, enforces and protects refuge water rights to ensure an adequate and secure source of water for the refuges and secures or builds refuge controlled delivery systems. The following actions should be implemented to accomplish this:

• Scarce water resources should not be used for commercial farming on the refuges, and all water rights associated with refuge leaselands should only be used for wetland, wildlife, and refuge purposes once the land is no longer leased for commercial farming.

• Take appropriate steps to transfer the 1905 water rights associated with refuge leaselands to refuge purposes.

• Winter and spring water could be stored on refuge lands currently used for commercial farming and used for wetland, wildlife and refuge purposes.

• Existing refuge water rights should be enforced against junior water right users, and the refuge's adjudicated rights should be pursued, protected, maintained and enforced for the full amount of water needed to maintain refuge wetlands.

• The Secretary of Interior should purchase water rights for the refuges as needed to provide adequate and secure water supplies. This could be done through the Federal Water Rights Acquisition Program, or other programs or funding sources.

Response: See responses to comments 634-3 and 846-100.

Comment# 774-3: The FWS must demand that the BR deliver the water rights legally owned by the Refuge. That the water right of 1925 is not being honored is not acceptable.

Response: Comment noted.

Comment# 778-5: More aggressively assert refuge water rights and work to make sure there is sufficient water for wetlands and wildlife on an annual basis. The Service should remain fully engaged in the adjudication of water rights, including any future derivations of the Klamath Basin Restoration Agreement and by filing for changes in use and place once a consent decree is issued.

Response: See response to comment 522-4.

Comment# 793-28: While the legal status of the water rights for Lower Klamath and Tule Lake Refuges has admittedly changed since the 1999 CD that is no justification for the Service's failure to consider impacts to water quantity from the leaseland program. Moreover, the Service has the authority and the ability to pursue changes to its water rights in order to achieve refuge purposes. In completing the final compatibility determinations for the leaseland farming program on Tule Lake and Lower Klamath Refuges, the Service must evaluate its options with respect to transferring water rights as potential stipulations necessary to ensure compatibility.

Response: See response to comment 634-3.

Comment# 793-7: While we recognize that ongoing Klamath Settlement negotiations may result in agreements to refrain from litigating senior water rights in exchange for other restorative measures, we

must also not rule out the potential for water rights transfers, which could secure additional water resources for the cultivation of wetland plants, not just commercial agricultural crops. Under Oregon law, the Service could apply for a transfer of the place of use of its 1905 water rights in order to use that water to grow wetland plants on refuge acreage in addition to, or other than the leaselands and co-op lands that are currently the designated places of use for the 1905 rights. Typically under Oregon law, an adjudicated water use claim (such as the Service's) is only allowed to be transferred after a court decree is entered for the adjudication.25 However, in 2015 (after the Goldinwater Report was produced), the Oregon legislature passed Senate Bill 206 which allows certain temporary transfers of "determined claims" (such as the Service's 1905 claims) in the Klamath Basin. The bill was enacted on June 16, 2015 and by its terms will be repealed on January 2, 2026 (Section 2). Under OR SB 206, the Service could apply now for a temporary transfer to change the place of use of its 1905 determined claims to support wetlands in areas other than the leaselands and co-op lands. After a court decree is entered for the Klamath Basin adjudication, the Service could apply for a permanent transfer. A summary of Oregon law on transfers is provided in the Goldinwater Report).26 As explained in the Report, because the refuge lands to which the 1905 rights might be transferred are in close proximity to the existing places of use, and all are at the tail end of the Klamath Project's water delivery system, any potential injury from such a transfer is greatly reduced.

Response: See response to comment 634-3.

Comment# 793-73: LKNWR's water needs based on current refuge management goals are equal to 60,000 acre-feet during the irrigation season and 35,000 acre-feet in the winter. Because the refuge's water rights for refuge wetlands have a priority date of 1908 and the Klamath Reclamation Project has a 1905 priority date for irrigation, LKNWR wetlands have suffered recently. In addition, the Klamath Basin water adjudication is not complete and the State of Oregon does not regulate water users that have water rights junior to the refuges. Leasing land for commercial farming on the refuges eliminates the best way to give water security to the refuges, which would be to use the old lakebeds on the refuge to store winter water for refuge use and use the water rights associated with those lands for refuge purposes, rather than use those lands for commercial farming. The KBRA does not solve the refuges water problem and in fact has many provisions that reduce water deliveries to LKNWR, make it more difficult to improve the refuges' water situation, and ensures the refuges will be the first to suffer during droughts. The KBRA also attempts to lock in commercial farming on the refuges for the next 50 years As part of the CCP process the United States Fish and Wildlife Service should:

· Explore means of attaining a secure source of water for the refuges.

· Defend its claims in the Oregon Klamath Water Rights Adjudication for the full amount of water needed by the refuges, and develop a plan to ensure junior water users are regulated so that refuge rights are achieved.

· Curtail commercial farming on the refuges in any year that the refuges are not receiving their full water supply and require the 1905 priority dated water rights associated with the refuge lands farmed for commercial agriculture be delivered to refuge wetlands rather than for irrigating 22,000 acres of refuge land for commercial farming.

· Phase out commercial farming on the refuges and use those refuge lands to store winter water and manage for refuge purposes.

· Develop a plan to attain water from willing sellers to meet refuge water needs. Acquire all contracts, licenses, or easements needed for water delivery systems for the refuges, and to improve and develop the

systems t adequately serve refuge water needs.

Consider managing the refuges consistent with a more natural hydrological regime.

· Not rely on the KBRA to solve its water needs.

Response: See response to comment 634-3.

Comment# 846-100: The CCP does not discuss why the Service has failed to make a call to enforce its wildlife habitat rights against junior users for use on Lower Klamath and Tule Lake Refuges since 2013, or why it has failed to divert more water under its wildlife habitat rights when there was no state regulation preventing diversions to these more junior water rights in the Upper Klamath Basin. The failure to use Lower Klamath and Tule Lake Refuge water rights to adequately support refuge purposes (and U.S. Bureau of Reclamation's ongoing interference with these rights) is a likely violation of federal law and this failure should be corrected in the CCP alternatives. Moreover, the CCP should discuss whether the Service's failure to make a call on its water rights may subject those rights to cancellation and whether this would violate the Service's obligations under the NWRSA to "acquire under State law, water rights that are needed for refuge purposes."

Response: See responses to comments 522-4 and 834-3. Also, the comment brings up the valid question of why the Service has not enforced regulation of junior water right holders in the Upper Basin with a water right call. This issue is complicated and has to do with the BiOp and how the state views water that is released for Endangered Species Act (ESA) purposes. While the BiOp requires downstream releases for river flows to protect listed salmon, the state views this water as "available" for appropriation. There is no water right that protects this water once it is in the river. From the state's view, there is water available for the refuge at its point of diversion (the Ady Canal), however, diversion of this water by the refuge is restricted due to the requirements of the BiOp in order to avoid jeopardy to the species and limit take. Since water is available from the state's perspective, the state will not enforce a water right call for the Service.

Comment# 846-20: Management provisions that require the Service to fully utilize and enforce existing water rights for the Lower Klamath and Tule Lake NWRs. As discussed below, the Service holds existing water rights to be used for wildlife purposes, but it has not been fully utilizing those rights in recent years. The Service should consider as a component of other alternatives a management prescription that requires the Service to fully utilize and enforce these existing water rights.

Response: The Service disagrees with this comment. The Service has fully utilized all available water rights. See response to comment 634-3.

Comment# 846-23: The discussion in the Draft CCP/EIS regarding the water rights and potential water supply options for the Refuges contains several factual and legal errors and inaccuracies regarding Oregon water law that lead to a fundamentally incorrect assessment of water supply options for the refuges. The Service should engage legal counsel with expertise in Oregon water law to reconsider and re-draft the CCP's analysis and discussion of the refuge's water rights and water supply options in order to ensure that the CCP accurately incorporates the refuges' lawful water supply options. The Draft CCP/EIS also inaccurately describes other key, real-world factors impacting current and future water supply options for Lower Klamath and Tule Lake NWRs.

Response: We disagree and believe the CCP/EIS accurately describes Refuge water rights and other

issues affecting refuge water deliveries. See responses to comments 522-4 and 634-3.

Comment# 846-26: the CCP rejects consideration of the most promising alternative available to meet the purposes of Lower Klamath and Tule Lake Refuges – reducing or phasing- out the leaseland program – by relying on two incorrect factual assertions regarding Oregon water law: 1) The 1905 water rights cannot be used to support wetlands; and 2) Lower Klamath Refuge's 1925 priority date water right, Tule Lake Refuge's 1928 and 1936 water rights, and presumably the refuges' other more junior priority date water rights, are too junior to reliably supply water in most years. This discussion also inexplicably ignores the Refuges' other water rights for wildlife habitat on Lower Klamath and Tule Lake Refuges.153 The CCP should be revised to incorporate the following correct analysis into one or more alternatives. a. Under Oregon water law, the refuges' 1905 water rights can be used now to support wetlands on the existing places of use (leaselands and co-op lands), and could be transferred to lands other than the leaselands to support wetlands on additional areas. Contrary to the claims in the CCP, Oregon water law plainly allows the use of the refuge's 1905 water right to grow wetland plants. The Oregon definition for irrigation applicable to water permits, certificates or transfers is found at OAR 690-300-0010(26): "Irrigation" means the artificial application of water to crops or plants by controlled means to promote growth or nourish crops or plants. Examples of these uses include, but are not limited to, watering of an agricultural crop, commercial garden, tree farm, orchard, park, golf course, play field or vineyard and alkali abatement. The Service itself recognized this fact in the CCP for the Klamath Marsh NWR: All the Klamath Marsh water rights that have been recorded are for "irrigation use." As defined by Oregon State OAR 690-300-0010 (26), irrigation means "the artificial application of water to crops or plants by controlled means to promote growth or nourish crops or plants. Examples of these uses include but are not limited to watering of an agricultural crop, commercial garden, tree farm, orchard, park, golf course, play field, or vineyard; and alkali abatement." An Oregon judge has decided that this covers application of water to grow waterfowl food as well. Water rights held by Klamath Refuge are required to be exercised once every five years as stated in ORS 540.610(1) "Whenever the owner of a perfected and developed water right ceases or fails to use all or part of the water appropriated for a period of five successive years, the failure to use shall establish a rebuttable presumption of forfeiture or all or part of the water right." The Refuge has a steady record of using all water rights on an annual basis.155 Therefore, under Oregon water law, the Refuges' 1905 approved claims for irrigation can supply water at the current place of use to promote growth of wetland plants for waterfowl purposes—not only agricultural crops as the CCP incorrectly claims. There is no legal reason to reject consideration of a reduction or elimination of leaseland agriculture as a viable tool to provide the water needed to fulfill the refuge purposes. By incorrectly concluding that "agriculture on the Refuge is generally assured of receiving water in most years year [sic] while wetland areas are not,"156 the CCP has failed to evaluate this option or to include an appropriate range of alternatives. Further, under Oregon law, the Service could apply for a transfer of the place of use of its 1905 water rights in order to use that water to grow wetland plants on refuge acreage in addition to or other than the leaselands and co-op lands that are currently the designated places of use for the 1905 rights. Typically under Oregon law, an adjudicated water use claim (such as the Service's) is only allowed to be transferred after a court decree is entered for the adjudication.157 However, in 2015 (after the Goldinwater Report was produced), the Oregon legislature passed Senate Bill 206, which allows certain temporary transfers of "determined claims" (such as the Service's 1905 claims and other claims with later priority dates) in the Klamath Basin. The bill was enacted on June 16, 2015 and by its terms will be repealed on January 2, 2026 (Section 2). Under Senate Bill 206, the Service could apply now for temporary transfers to change the place of use of its 1905 determined claims to support wetlands in areas other than the leaselands and co-op lands. After a court decree is entered for the Klamath Basin adjudication, the Service could apply for permanent transfers. A summary of Oregon law on transfers is provided in the Goldinwater Report (again, this summary predates passage of Senate Bill 206 that allows temporary transfers of determined claims prior to a court decree in the Klamath Basin adjudication).158 As explained in the Report, because the refuge lands to which the

1905 rights might be transferred are in close proximity to the existing places of use, and all are at the tail end of the Klamath Project's water delivery system, any potential injury from such a transfer is greatly reduced.159 Our assessment is that a transfer of the place of use of the 1905 rights would meet the criteria for a transfer. b. The Service's junior water rights can be used to support wetlands across the Lower Klamath and Tule Lake Refuges. The Service holds seven approved water right claims with various places of use on the Lower Klamath and Tule Lake Refuges with a character of water use as "wildlife habitat."160 These rights result from the refuge's Federal Reserved water right claims. Each of these seven wildlife habitat water rights are junior to the 1905 rights but, importantly, have a year-round period of use from January 1 to December 31. The Oregon Water Resources Department's Findings of Fact and Final Order of Determination for the Klamath Basin Adjudication was issued in March of 2013, making the summer of 2013 the first year that calls were made under the adjudicated water rights claims. Since 2013, state regulation of water rights based on water rights calls has not interfered with water diversions in the Upper Klamath Basin outside of the high-demand irrigation season, although the exact period of regulation has varied from year to year. Therefore, during the latter months of 2013, and during much of the spring, fall, and winter seasons of 2014 and 2015, no state water law or regulation has prevented the Service from diverting its wildlife habitat water rights and applying those to wetland areas. For example, no state water law would have prevented the Service from diverting Klamath River water via the Ady Canal to Lower Klamath Refuge wetlands under the Service's more junior water rights. Even so, the CCP states: "In 2014, there were zero Ady Canal deliveries to Lower Klamath Refuge and in 2015, 19,000 acre-feet (through November 2015)."162 However, elsewhere the CCP states, "In 2014 and 2015, Lower Klamath Refuge received zero project diversions through the Ady Canal."163 Regardless, neither diversion amount is anywhere close to the wildlife habitat water rights for Lower Klamath Refuge. The CCP does not discuss why the Service has failed to make a call to enforce its wildlife habitat rights against junior users for use on Lower Klamath and Tule Lake Refuges since 2013, or why it has failed to divert more water under its wildlife habitat rights when there was no state regulation preventing diversions to these more junior water rights in the Upper Klamath Basin. The failure to use Lower Klamath and Tule Lake Refuge water rights to adequately support refuge purposes (and U.S. Bureau of Reclamation's ongoing interference with these rights) is a likely violation of federal law and this failure should be corrected in the CCP alternatives. Moreover, the CCP should discuss whether the Service's failure to make a call on its water rights may subject those rights to cancellation and whether this would violate the Service's obligations under the NWRSA to "acquire under State law, water rights that are needed for refuge purposes."164 The Final CCP should include a requirement that the FWS maximize use of and enforce the seven water rights it holds for wildlife habitat purposes to ensure that those rights are not subject to cancellation and to help fully meet refuge purposes. In summary, the Draft CCP/EIS does not include accurate analysis regarding the use of the seven wildlife habitat water rights for Lower Klamath and Tule Lake. Due to this failure, the CCP incorrectly concludes that it is only the agricultural lands and not wetlands that can be reliably supplied with water under the Service's water rights.165 This inaccuracy is consistent with the Draft CCP's overall pattern of ignoring key water supply options and/or mischaracterizing Oregon water rights law. This lack of appropriate action and consideration regarding these water rights harms waterfowl and other fish and wildlife, undermines the purposes of these Refuges, potentially places these water rights in jeopardy, and likely represents a violation of federal law. These deficiencies need to be corrected.

Response: See response to comment 634-3.

Comment# 846-28: It is also worth noting that the 1995 solicitor's opinion outlines one approach by which the refuges could improve their water supply by determining that the leaselands program is not consistent with refuge purposes, stating: The Kuchel Act (see footnote 5) requires that the refuge lands be used primarily for waterfowl purposes but with full consideration given to optimum agricultural use so far as agricultural use is consistent with the refuge purposes. 16 U.S.C. § 6951. In addition, the pattern of

agricultural leasing in 1964 is to be continued on specified lands within the refuges as consistent with proper waterfowl management. Id. § 695 n. Thus, it is possible that certain irrigated lands within the refuge boundaries would not be cultivated in the usual manner if that would be inconsistent with the purposes of the refuges. If such change in cultivation resulted in less water being used for irrigation within the project, then more water may be available for the refuges, pursuant to a change in the water right or otherwise, subject to prior existing rights and water availability.168 The Draft CCP/EIS summarily dismisses consideration of this suggested approach by relying on the conclusions of the Service's 2002 Finding of No Significant Impact (FONSI).169 According to the CCP, the 2002 FONSI rejected "alternatives that would have curtailed agriculture on the Refuge in years when only partial water deliveries were made… because any water savings from a reduced irrigation program on the Refuge would simply make more water available to higher priority Project water users rather than to refuge wetlands."170 Both the Draft CCP and the 2002 FONSI are incorrect because, as described above, the refuge could (without securing a water right transfer) curtail water deliveries to agriculture on the refuges and instead use its 1905 water rights to supply wetland plants in the leaseland areas.

Response: See response to comment 634-3.

Comment# 846-29: n addition to the Service, the USBR has been mischaracterizing the status of the Service's federal reserved water rights in order to claim authority to deny water to Lower Klamath and Tule Lake Refuges. The Service and the U.S. Secretary of the Interior should not condone this unlawful water grab by assuming the validity of the USBR's highly questionable claims discussed in the CCP.172 The Secretary is in fact obliged by federal law to stop this water grab. The National Wildlife Improvement Act of 1997 directs the Secretary of the Interior to "assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the [National Wildlife Refuge] System and the purposes of each refuge."173 The Secretary has authority over both USBR and the Service, and has an obligation under federal law to direct USBR to end its ongoing unlawful interference with the Service's water rights. To the extent the actions or statements of the USBR are impeding the Service from meeting the water quantity and quality needs of the Refuges, the Secretary, through the CCP, should address and resolve these issues.

Response: The request in the comment is beyond the scope of the CCP/EIS.

Comment# 846-37: All of the alternatives for Lower Klamath Refuge fall back on maintaining 1905 irrigation rights and 1928 Federal Reserved water rights as of the 2013 adjudication, while inexplicably neglecting to discuss the Refuge's other water rights. A reprioritization must take place that puts the minimum amount of water needed to support the entire wetland habitat and wildlife – at least if not more than 95,000 on an annual basis on Lower Klamath (not including Area K) (114 TAF including Area K).191 Within-project priority of water allocation must be resolved to help move this amount of water to Lower Klamath Refuge annually. There is a lack of clarity and consistency on within-project priority at the Refuge.

Response: See response to comment 634-3.

Comment# 846-82: While the legal status of the water rights for Lower Klamath and Tule Lake Refuges has admittedly changed since the 1999 CD that is no justification for the Service's failure to consider impacts to water quantity from the leaseland program. Moreover, as discussed in detail in Section VI(A) above, the Service has the authority and the ability to pursue changes to its water rights in order to achieve refuge purposes. In completing the final compatibility determinations for the leaseland farming program on Tule Lake and Lower Klamath Refuges, the Service must evaluate its options with respect to

transferring water rights as potential stipulations necessary to ensure compatibility.

Response: See response to comment 634-3.

Comment# 846-98: Contrary to the claims in the CCP, Oregon water law plainly allows the use of the refuge's 1905 water right to grow wetland plants. The Oregon definition for irrigation applicable to water permits, certificates or transfers is found at OAR 690-300-0010(26):

Response: See response to comment 634-3.

Comment# 853-7: Mentioned throughout the draft Plan is the Services intention to pursue exceptions to the Final Order of Determination for the Klamath Basin Adjudication. However, it is Siskiyou County's understanding that the final date for filing exceptions was September 3, 2014. Is there a new opportunity to file exceptions to the Adjudication? If not, what are the Services plans?

Response: The Service filed exceptions to the ACFFOD by the deadline established in the adjudication schedule.

Comment# 1004-7: Purchase water from willing sellers to meet refuge water needs through the Federal Water Rights Acquisition Program, or other programs or funds.

Response: Comment noted.

C. Water Rights – Feasibility
Letter ID # 732-3, 743-31, 743-32, 743-92, 846-36

Public Concern Statement: In contrast to above comments, other respondents argue that the CCP/EIS's discussion regarding alternative water right options may not be feasible or legal due to current rights and obligations, limited water quantity, as well as the absence of contracts for delivery of water. Further, these comments state that the Service needs to provide a detailed plan in the CCP/EIS on how it will accomplish these actions and provide an analysis of the adverse environmental impacts that could result from implementation.

Comment# 732-3: We also share TID's concerns about the discussion of water rights transfer to the Lower Klamath National Wildlife Refuge. The DCCP and associated EIS discuss changing water rights to ensure that the wetlands have water. We share TID's concerns about the feasibility and legality of this approach and the lack of information about the proposal in the DCCP and associated EIS.

Response: Comment noted.

Comment# 743-31: The description of Alternative B for LKNWR on page 4-23 and elsewhere (e.g., Figure 4.5) states that if there is not in the future a comparable agreement to the Klamath Basin Restoration Agreement (KBRA), the Service would pursue changes in other water rights to ensure water for LKNWR wetlands. It specifically references "Tule Lake" water rights. As a practical matter, this action is no different than the action the Service has already decided against, in the 2002 "Finding of No Significant Impact; Implementation of an Agricultural Program on Tule Lake National Wildlife Refuges." There have been no changes in circumstances that cause such action to be more appropriate, or legal, than it was in 2002. TID submits that any such action or attempted action is infeasible as a matter of law for

numerous reasons including water rights considerations and rights and obligations under the TID contract (including articles 33(a) and 8), the absence of contracts for delivery of water to LKNWR, and major adverse impacts that would require evaluation under National Environmental Policy Act (NEPA).

Response: We disagree. The 2002 EA and Finding of No Significant Impact evaluated whether water is used in Refuge farmlands that could otherwise be used in Refuge wetlands in years of limited water supply. The Service concluded that if farming were curtailed on Tule Lake or Lower Klamath NWR during periods of water shortage, any water savings would not likely be available for refuge wetland use. In contrast, under Alternatives B, C, and D in the CCP/EIS, the Service could pursue changes in the type, place of use, and period of use of for Lower Klamath and Tule Lake water rights to ensure that sufficient water is available for refuge wetlands. If such changes are pursued in the future, compliance with NEPA and other environmental laws will be conducted as appropriate.

Comment# 743-32: TID believes that the Service appears to have mistaken assumptions in regard to the ability to transfer water, the quantity that could be transferred, and the ability to realize water delivery from the transfer. Preliminarily, no water rights recognized in the Klamath Basin adjudication are even a "water use subject to transfer" at this time. Oregon Administrative Rules 690-380-0100(14). TID also submits that at such time as a transfer involving change of both purpose and place or use may become permissible, it will not be feasible without the agreement of the district within which the transferor use occurs. In addition, the quantity transferable will not be the face value of water rights; the Service would at most be able to transfer amounts representing elimination of consumptive use on transferor lands. As studies and information by the U.S. Geological Survey (USGS) and University of California Extension have shown, this quantity is likely to be limited. Moreover, a legal transfer would not assure delivery of any quantity. Within the Klamath Project, allocation is controlled by contract priorities, even where water right priorities are equal. There are no contracts for wetland or wildlife uses or any such deliveries have the lowest legal priority. New contracts with districts, if authorized by law, would be required in order to be sure of any delivery, even when water is potentially available under the applicable priorities. The Draft CCP/EIS does not include analysis of the adverse environmental impacts that would result from implementation of this action. Those impacts are significant. The Service has been provided, and is being provided again in section III below, information regarding impacts of fallowing of lease lands.

Response: See responses to comments 522-4, 634-3, and 743-31.

Comment# 743-92: Pages 6-4 through 6-72, section 6.2, Lower Klamath National Wildlife Refuge "Environmental Consequences": The discussion of environmental effects of alternatives for LKNWR fails to include any discussion at all of major environmental effects of Alternatives B, C, and D, particularly as related to the element of changes [to] water rights such as those of TLNWR. See section I.F above. Setting aside legal and pragmatic problems with that concept, those changes would have major impacts associated with moving water from other lands such as the lease lands in TLNWR. The potential impacts include changes in hydrology, water quality, vegetation and habitat, air quality, fish and wildlife, socio-economic impacts, and other matters.

Response: This is a programmatic document. If in the future we pursue changes, we will evaluate the effects of that in a subsequent NEPA document.

Comment# 846-36: As discussed above, the KBRA, or similar agreement, should not be relied upon in crafting alternatives because the likelihood of any such management alternative is speculative. The Draft CCP eliminated a complete alternative based on the KBRA because it has not been passed. As the Service states, the lack of action on the KBRA "leave any increased water supply reliability on the refuge

uncertain.189 Thus, any KBRA-like water delivery scenario is equally uncertain and should not be included in the alternatives analysis. Alternative B, C, and D for Lower Klamath Refuge state that in the absence of the KBRA or some comparable agreement, the Service will pursue changes in Lower Klamath and Tule Lake water rights to ensure sufficient water is available for refuge wetlands.190 This is vague. The Service needs to provide a detailed plan in the CCP on how it will accomplish this.

Response: None of the alternatives rely upon the implementation of the KBRA. Each alternative discloses how the Service would approach habitat management based on a range of available water supply. The water supply and flexibility of water supply that the Refuge would have received under the KBRA was used as an upper bookend for each alternative.

D. Water Delivery

Letter ID # 221-6, 50-2, 522-4, 522-6, 522-7, 622-17, 622-18, 622-19, 622-23, 622-3, 622-5, 622-6, 641-9, 681-3, 693-11, 704-6, 735-3, 748-68, 766-3, 778-6, 778-7, 778-9, 793-25, 846-19, 861-9

Public Concern Statement: Commenters note that the Service should seek an "A" delivery contract with Reclamation, as well as seek opportunities for water delivery that are outside Reclamation authority.

Comment# 221-6: Lower Klamath NWR Goal 1, Objective 1 Water An alternative not discussed in the CCP but would solve several problems is entering into a long term agreement with the Klamath Drainage District (KDD) for water delivery and the enhancement of water movement capabilities of the North Side Canal. The widening and placing culverts at farm access points along its length would be easy. The North Side Canal's intake point is downstream from the confluence of the Lost River Diversion and Klamath River. This canal could deliver water, via gravity, from the Klamath River and likely be able to directly feed into the "A" Canal, through the use of culverts under Highway 161, at a point near the Steams Tract. Once water was in the "A" Canal, gravity flows could occur to most of the Refuge. With a structure, water may even be able to be "backed" into the White Lake Unit. A worst case situation would be the need for a small pumping station at or near Highway 161 but the electrical cost of this smaller, low lift pump, or pumps, would much more cost efficient than the large "D" Plant pumps. The feasibility of this project should be explored.

Response: The Service considered an extension of the North Canal in the past and had some engineering work completed on this option. The main challenge in the end was in securing an agreement with KDD.

Comment# 50-2: In the vision statement for the Lower Klamath NWR it is stated that the highest priority is seeking solutions is for securing and delivering a consistent amount of water. To that end the Fish and Wildlife Service needs to continue to strive to get wildlife and the refuges included as an authorized purpose of the Klamath Reclamation Project. This was adequately addressed within the proposed Klamath Basin Restoration Act, but since that comprehensive attempt has failed to materialize, this key point should not be abandoned, but pursued via other avenues. In addition, consideration should be given to developing high volume deep water wells along the southern boundary of the Tule Lake NWR, tapping into the Medicine Lake aquifer, to provide water for both Tule Lake and Lower Klamath Refuges.

Response: Comment noted. Regarding the potential use of groundwater, an action to explore the feasibility of developing this resource is included in the Preferred Alternative.

Comment# 522-4: The central challenge of meeting the Refuges needs for migratory birds is ensuring a dependable source of water. The complexities of entangled water rights, a Service biological opinion and other factors all have had impact on the ability to deliver water to Klamath resulting in the decreased capability of the Refuges to meet their mandates for waterfowl management. While drought has severely compromised the Service's ability to manage, we believe that a variety of policy decisions, especially those related to water, have had a significant impact. The Refuges have certainly been negatively impacted by drought in the past, recent droughts, coupled with policy decisions, has led to a significant reduction in habitat with negative consequences for migratory birds. We believe the ability to manage the Refuges for migratory birds is inextricably tied to the timing and volume of water deliveries. Central to the issue of water deliveries is collaboration between the USFWS and BOR. While this issue today appears to be in stalemate, we believe that the issue of ample water deliveries to the Refuges should be asserted by the USFWS and negotiated with BOR. Precedence exists that demonstrates that all Interior agencies can and should work together to ensure all of the multiple objectives that exist for BOR water. Secretary Stewart Udall spoke to these multiple responsibilities before Congress as part of his testimony on the Kuchel Act, “The bill clearly recognizes that the Federal Government has obligations to the local irrigation districts must be fulfilled. At the same time, the bill enables us to meet our international treaty responsibilities for the conservation of migratory waterfowl.” As such, we believe the following actions must be taken to ensure the full function of the Refuges: 1. Seek an “A” delivery contract with BOR.

Response: The within-project priority of the Klamath Project is the system that determines the priority of project users relative to each other. While the Adjudication established the relative priority of all water rights within the Klamath Basin, the Adjudication did not determine the priority of project water users relative to each other, the “within-project priority.” When the project water supply is not sufficient to meet all uses, water is distributed to project users according to the within-project priority system, with the first or A priority users receiving all of their water before the second or B priority users receive any. While the within-project priority has been determined for most project water uses, it has not been determined for irrigated lands on Lower Klamath Refuge (lease lands and other lands). By default, the refuge has been assumed to be last in priority. Thus, the irrigated lands on Lower Klamath Refuge have been the last of the project lands to receive water, and in fact, have been largely dry in recent years. However, the Service believes that the irrigated lands on Lower Klamath NWR are entitled to an A priority. Information supporting this position is presented below.

Reclamation has a long-standing practice of viewing the water supply contracts with the districts as representative of the within-project priority. However, the contracts themselves do not establish the within-project priority, they simply reflect it. Federal Reclamation laws in place at the inception of the Klamath Project did not begin with a contract as a pre-condition as to whether specific lands were entitled to project water. Rather, Reclamation considered the location of lands within the Klamath Project and the method of water delivery (gravity/pumping) to the lands as the underlying basis for within-project priority, not the existence of a contract. This priority system is reflected in the type of water supply contract held by the project water user (i.e., settlement, repayment, Warren Act) (Reclamation 1992 Drought Plan, dated 2/12/1992). Settlement contracts (A priority) are for water users who had water rights that pre-dated the Klamath Project. Repayment contracts (also A priority) are for the main lands within the original project boundaries that use gravity methods of water delivery. (Note that Reclamation has long considered the location of lands within the Klamath Project and the method of water delivery [gravity/pumping] to the lands as the underlying basis for within-project priority. The type of contract merely reflects this priority). Warren Act contracts (B priority) are generally for lands not within the main portions of the project and/or lands that are above the gravity distribution system of water delivery. A third category of priority, a C priority, applies to a small area of lands that receive excess project water under water rental agreements. Most of these lands are

outside of the original, uncovered area of the project and only receive water after the A and B priority users have received all of their water.

If an individual wished to receive project water for such lands that were determined to be irrigable and could be irrigated through project facilities, that individual would enter into a contract (originally in the form of a water right certificate) to repay the identified charges. The contract was the administrative vehicle that allowed for the costs of project construction to be repaid in return for a supply of project water for lands already identified as eligible to receive project water. Therefore, the contract does not determine the within-project priority, it just reflects it.

The United States does not use contracts for agreements between agencies. The most common types of instruments to represent such agreements are memoranda of understanding, memoranda of agreement, or inter-agency agreements. Such instruments are the administrative vehicles for repayment of project costs between agencies. The Service has two inter-agency agreements with Reclamation from the 1940s for funding and development of infrastructure to allow water delivery to Lower Klamath Refuge for both irrigation and broader wildlife purposes. These facilitated the delivery of direct project diversions and project return flows to Lower Klamath Refuge. Similar to many contracts for project water delivery to irrigation districts, these Reclamation/Service agreements do not address the quantity or priority of water deliveries. Unlike with contracts, Reclamation has no written policy or guidelines for determining the within-project priority of agreements between agencies, however, it is assumed that, as with contracts, the basis for determination would be the location of lands and method of water delivery.

The lands within the Lower Klamath and Tule Lake Refuges have always been and continue to be within the original boundaries of the project, on lands that were drained and reclaimed and are served by a gravity water distribution system. Under Reclamation's historical criteria, these lands are entitled to an A priority within the project. The irrigated lands on Tule Lake Refuge have an A within-project priority that was expressly established through the 1956 TID contract. Through that contract, Tule Lake Refuge receives full water deliveries for irrigation of lease lands and co-op lands from the project. In contrast, there is no single contract document or other agreement that expressly establishes the within-project priority for Lower Klamath Refuge irrigated lands.

Comment# 522-6: Seek other means of ensuring the Refuge's water rights that are outside of BOR authority including a Service owned and controlled diversion between Addy Canal and Klamath River and a new contract with KDD for delivery of North Canal water.

Response: Comment noted.

Comment# 522-7: Explore the potential for additional ground water supplies at Tule Lake NWR.

Response: The Preferred Alternative for Tule Lake Refuge includes exploring options for water supply.

Comment# 622-17: Lower Klamath NWR: B. Water Rights/Water Related Issues 1. The Refuge should work to implement an A priority contract/agreement with Reclamation for delivery of irrigation water and Federal Reserved water rights on LKNWR. This agreement should also stipulate that Reclamation deliver water for Refuge purposes through Project infrastructure.

Response: Comment noted.

Comment# 622-18: Lower Klamath NWR: Investigate the cost/feasibility of developing a new point of diversion between the Klamath River and the Ady Canal. Currently, the Ady canal is owned by the Klamath Drainage District (KDD), but via agreement, the Service is allowed to use 50% of the capacity of the canal. The impediment to its current use is ownership of the headworks of the canal by Reclamation. If the Refuge were to develop a new point of diversion and own the headworks, this removes Reclamation from blocking the use of the water and allows the Refuge direct access to exercise their State Water Rights. This would require consultation under the ESA, but unlike previous consultations, the Refuge would be a full party to this consultation because they would be the action agency, not Reclamation.

Response: Comment noted.

Comment# 622-19: Lower Klamath NWR: The Refuge should continue to pursue an agreement for use of water in the North Canal with KDD. This action would have the same benefit as that described for the Ady Canal. Currently, KDD owns the North Canal and the diversion point on the Klamath River. This action would have the same benefits as the one described for the Ady Canal.

Response: Comment noted.

Comment# 622-23: Lower Klamath NWR: The Service should push for Secretarial intervention in water supply issues in the Klamath Basin as it is related to the Klamath Refuge Complex. Many of the refuges in the Refuge Complex were built to preserve remaining wetland values and/or mitigate effects of Klamath Project and other irrigation developments. It is impossible to mitigate the loss of wetlands in the Klamath Basin without setting aside adequate water supplies toward that effort. In the Central Valley Project Improvement Act (CVPIA), water supplies to address wetland mitigation were provided to some degree. The Klamath Basin should do the same.

Response: Comment noted.

Comment# 622-3: To support Refuges and migratory wetland birds in the Klamath Basin, the Service and Interior should: - Seek an “A” water delivery contract with Reclamation.

Response: Comment noted.

Comment# 622-5: Seek alternative strategies for delivery of the Refuge’s state water rights that are not dependent on Reclamation facilities. A Service owned diversion point between the Ady Canal and the Klamath River and a new contract with KDD for delivery of North Canal water are two such possibilities.

Response: Comment noted.

Comment# 622-6: Explore the potential for additional ground water supplies at the south end of Tule Lake NWR.

Response: Comment noted.

Comment# 641-9: Water allocation to Lower Klamath Refuge for the purpose of maintaining permanent wetlands, seasonal wetlands, and flood fallow continues to be a complex and difficult issue.

The Department has and will continue to support the Service to obtain better water allocations for Lower Klamath Refuge to meet goals and objectives for wetlands and waterfowl management. The Department fully supports obtaining exceptions to the POD which would allow the use of irrigation water in seasonal wetlands and change the period of use to year round.

Response: Comment noted.

Comment# 681-3: there are other possible actions that can and should be taken with respect to a water supply for the Lower Klamath NWR. These include:

• Activate the water rights identified under Claims 312 and 313 allowed under the Klamath River Basin Adjudication, as Class A priority water rights under the Klamath Project;

• Enter into an A priority contract/agreement between the Service and the Bureau for the delivery of irrigation water and Federal Reserved water rights to the Lower Klamath NWR for refuge purposes through Project canals.

• Develop a new point of diversion between the Klamath River and the Ady Canal. This would allow the Service to utilize its allowance of 50 percent of the capacity of the Klamath Drainage District's canal.

• Enter into an agreement with the Klamath Drainage District (KDD) for the use of water in the North Canal.

• Seek through the Klamath River Basin Adjudication to move the priority date for the Lower Klamath NWR's reserved rights from 1925 to 1908, the year the refuge was established.

• Provide financial assistance to the Tule Lake Irrigation District for the payment of the costs of pumping water from the D Plant through Sheepy Ridge to the Lower Klamath NWR;

• Purchase senior water rights from either the Upper Klamath River Basin or from irrigators within the Klamath Reclamation Project;

• Renegotiate the current agreement with the Bureau over delivery of water through the P Canal System on the Lower Klamath NWR; and,

• Involve the refuge complex in all future Endangered Species Act consultations regarding Project water supplies.

Response: Comment noted.

Comment# 693-11: Tulelake Irrigation District (TID) was very successful in Oregon water rights adjudication completed in 2013. It took 37 years to determine water rights in the Klamath Basin. Such water rights were based on "First in time, First in Right". The Refuge adjudication water rights were determined to be a "Federal Reserve Right." Whatever that means? It is less than a 1905 project purpose "A" water right. The TID "A" water right greatly benefits the Tule Lake National Wildlife Refuge. The 17,000 acres of Lease Land Farming result in "A" water not otherwise available to the Refuge. The TID water for Lease Lands is stored, used to irrigate the Lease Lands and then returned to Sump 1A ad 1B permanent marshes. Without this "A" water these permanent marshes would be smaller by a significant amount, if not dry in the summer. Look at the Lower Klamath Refuge today for

a reality check. Is this what anyone wants?

Response: Comment noted.

Comment# 704-6: The Secretary of Interior should acquire all contracts, licenses, or easements needed for water delivery systems for the refuges, and to improve and develop the systems to adequately serve refuge water needs. This should entail developing a system with capacity to deliver water from the Klamath River/Upper Klamath Lake and reducing D Plant reliance.

Response: Comment noted.

Comment# 735-3: Water rights. Under the recent State of Oregon Adjudication of Klamath River water rights the refuges received various rights. The main 1905 Reserved Right for Tule Lake, under current State law, must be used for traditional agricultural purposes and cannot, at this date, be transferred to other lands, i.e Lower Klamath. Lower Klamath has a 1905 right for 30,000 acre feet for agricultural purposes. In there is a 1928 Reserved Right for Tule Lake and a 1925 Reserved Right for Lower Klamath, this water to be used for refuge purposes. At the present time there is no contract with BOR for delivery of this water through their system. This must be a priority action by FWS. Over the recent past the FWS has been derelict in not working with BOR to get these water rights delivered. This cannot be accomplished at the refuge level and must be done at the Regional level in both agencies. If it cannot be accomplished by 2017 then the Department of Interior needs to step in and get it accomplished. It is a political action issue, not a water issue. The CCP should set specific dates for this to be accomplished.

Response: See response to comment 522-4.

Comment# 748-68: App. F """Tule Lake Refuge receives…""" """Establishing reliable water and the ability to cost-effectively and effiecinetly deliver it throughout wetland units on Tule Lake National Wildlife Refuge is paramount to the Service's ability to provide diverse wetland habitat..."""" "The preceding discussion does not identify any problem with respect to the reliability of water deliveries to TLNWR, but rather with the lack of flexibility in D Plant operations for purposes of providing water to LKNWR. Is this goal targeted towards water deliveries to TLNWR or LKNWR?"

Response: The text of Appendix F of the CCP/EIS has been revised to address the comment.

Comment# 766-3: The Tulelake Irrigation District supplies much needed fall water deliveries to Tule Lake and Lower Klamath Refuges. The relationship between the refuge and TID has been good for the community and beneficial to waterfowl of both Tule Lake and Lower Klamath NWR. I would like to see the Service invest in pumping of water from the D Plant through Sheepy Ridge to guarantee water delivery to Lower Klamath NWR. Though the cost of pumping has increased in the last decade, the Federal Government should honor its commitment to providing water to one of its original National Wildlife Refuges.

Response: Comment noted.

Comment# 778-6: The Service should seek an “A” priority contract with the Bureau of Reclamation for delivery of irrigation water and federal reserved water rights at the Lower Klamath Refuge.

Response: See response to comment 522-4.

Comment# 778-7: More broadly, however, the Service should seek alternative strategies to deliver water rights granted by the State of Oregon without reliance on Bureau of Reclamation infrastructure. For example, the Service should explore the possibility of a new point of diversion between the Klamath River and the Ady Canal.

Response: Comment noted.

Comment# 778-9: Develop additional water supplies for refuge purposes to benefit waterfowl and other wetland-dependent migratory birds, including, where feasible, acquiring or converting water rights to benefit waterfowl. So long as the present unsatisfactory relationship with the Bureau of Reclamation exists, and given the uncertainty of water supplies with a changing climate, the Service must aggressively explore and develop alternative sources of water. These might include, for example, additional ground water, to meet the needs of a whole array of wetland-dependent species.

Response: A strategy to explore the feasibility of utilizing groundwater is proposed in Tule Lake Refuge Alternatives B and C (CCP/EIS Chapter 4) and Tule Lake Refuge Objective 1.1 (Appendix F).

Comment# 793-25: Although not explicit in the CD, this discussion refers only to the refuge lands outside of the Area K leaselands.40 The Lower Klamath CD does not include any information on the amount of water the leaselands have received in recent years as a point of comparison. In contrast, the Tule Lake Leaseland CD only includes facts related to water deliveries on the leaselands and excludes any discussion of water deliveries for wetland habitat.41 Remarkably, the sections of the CDs discussing the anticipated impacts of the leaseland farming program do not include any discussion of impacts on water quantity.42 This is particularly concerning given Service staff comments regarding Lower Klamath Refuge that, [The] current problem is that water that we have available under water rights goes to leased land farming with some but limited wildlife benefit, while main purpose of refuge, waterfowl, is unmet.

Response: We believe the compatibility determinations for lease land and cooperative farming adequately address the anticipated impacts of the use sufficient to make a determination that the uses "...will not materially interfere with or detract from the fulfillment of the mission of the System or the purposes of the refuge" (16 USC §668ee). For more details on the potential effects of the farming program on water quality, see Section 6.2.3 of the CCP/EIS.

Comment# 846-19: Reprioritizing "Project Water" deliveries to give the Lower Klamath and Tule NWRs A priority. The Service should determine the minimum quantity of "Project Water" necessary to fulfill the purposes of each unit of the Klamath Refuge Complex currently associated with a 1905 priority date water right. It should then craft an alternative that would provide year-round wetland habitat with an "A" priority for that quantity of water, which would allow any surplus water to be used by any remaining lease land operations. This alternative would help to ensure that a minimum quantity of water is delivered to Klamath Refuge Complex each year to meet the purposes for which these lands were set aside by Congress for waterfowl and wildlife conservation.

Response: See responses to comments 522-4 and 634-3.

Comment# 861-9: Tulelake Irrigation District (TID) was very successful in Oregon water rights adjudication completed in 2013. It took 37 years to determine water rights in the Klamath Basin. Such

water rights were based on "First in time, First in Right". The Refuge adjudication water rights were determined to be a "Federal Reserve Right." Whatever that means? It is less than a 1905 project purpose "A" water right. The TID "A" water right greatly benefits the Tule Lake National Wildlife Refuge. The 17,000 acres of Lease Land Farming result in "A" water not otherwise available to the Refuge. The TID water for Lease Lands is stored, used to irrigate the Lease Lands and then returned to Sump 1A ad 1B permanent marshes. Without this "A" water these permanent marshes would be smaller by a significant amount, if not dry in the summer. Look at the Lower Klamath Refuge today for a reality check. Is this what anyone wants?

Response: Comment noted.

E. <u>Water Delivery Curtailments</u>
Letter ID # 87-1, 748-45

Public Concern Statement: One entity requests that the Service ensures fair delivery curtailments that do not place undue burden on B- and C-designated contractors. It is also requested that the Service revise CCP/EIS language to align with TID's Water Contract Article 33 (d), which requires the district to deliver water to all public lands within the district in equal priority as private lands.

Comment# 748-45: 6.4.2 Water for the agricultural lands which place private lands as a higher priority than refuge lands. "Since TL refuge lands are within TID, these lands have a first or A contractual priority right to water in the Klamath Project. Suggest revising to align with TID's Water Contract Article 33 (d) which requires the district to deliver water to all public lands within the district in equal priority as private lands."

Response: The CCP/EIS text has been revised to address the comment.

Comment# 87-1: KDD supports continued and uninterrupted deliveries to the LKNWR via the Ady Canal. To this end, KDD encourages the Service to promote equal priority within the Klamath Project when the Biological Opinion dictates delivery curtailments. Current administration of water under the Biological Opinion places the burden of the Endangered Species Act unfairly and inequitably on the shoulders of B- and C-designated contractors, and this inequity also unnecessarily impacts the Service. KDD strives to facilitate fairness within the Project and collaboration among Project water users and the Service.

Response: Comment noted.

F. <u>Water Delivery Feasibility</u>
Letter ID # 793-29, 846-83

Public Concern Statement: Two commenters ask the Service to explain how the agency intends to implement Stipulation No. 2 in light of declining water deliveries to the Refuges.

Comment# 793-29: The facts regarding recent water availability on Lower Klamath Refuge also raise doubt as to the Service's ability to implement Stipulation No. 2, "Flood seasonal wetlands to ensure sufficient balance of wetland and agricultural habitat during drought years."57 Service policy states, "stipulations must be detailed and specific,"58 therefore, the Service must explain how it intends to

implement this stipulation in light of declining water deliveries to the Refuge. There is a similar issue with Stipulation No. 2(b) in the TL Leaseland CD as discussed below under "Walking Wetlands."

Response: The referenced stipulation for Lower Klamath Refuge lease land farming has been revised to read: "Provide flooded wetlands and flood fallow agricultural fields to ensure a sufficient balance of foraging and resting habitats for waterfowl and other waterbirds, consistent with water rights, supply, and delivery priority." Water rights, supply, and delivery priority are important constraints regarding the feasibility of wetland and agricultural habitat management at both Lower Klamath and Tule Lake Refuges. See responses to comments 522-4 and 634-3. As detailed in these responses, irrigation water can not be used to flood seasonal or permanent wetlands (ACFFOD, issued March 28, 2014). At Lower Klamath Refuge, during drought, there may be agricultural habitat and not seasonal wetlands. However, we believe lease land farming is still compatible because, especially during drought, the grain and pasture fields provide some of the only food resources available to waterfowl on the Refuge. In addition, the Service believes that lease land and cooperatively farmed units are not precluded from flooding via pre-irrigation and flood fallow, which are common agricultural practices that are used on both Refuges and that can provide foraging and resting habitat for waterfowl and other waterbirds.

Comment# 846-83: The facts regarding recent water availability on Lower Klamath Refuge also raise doubt as to the Service's ability to implement Stipulation No. 2, "Flood seasonal wetlands to ensure sufficient balance of wetland and agricultural habitat during drought years."263 Service policy states, "stipulations must be detailed and specific,"264 therefore, the Service must explain how it intends to implement this stipulation in light of declining water deliveries to the Refuge. There is a similar issue with Stipulation No. 2(b) in the TL Leaseland CD as discussed below under "Walking Wetlands."

Response: See response to comment 793-29.

G. Water Quality - General

Letter ID # 221-12, 516-1, 622-36, 701-41, 734-10, 734-12, 734-13, 734-2, 734-23, 734-36, 734-9, 780-12, 780-6, 793-15, 793-20, 793-21, 793-30, 793-41, 793-48, 793-52, 793-53, 793-54, 793-55, 793-58, 793-59, 793-60, 793-61, 846-80, 846-84, 87-2, 906-19, 906-20, 906-26, 906-50

Public Concern Statement: Numerous respondents acknowledge the current poor condition of water quality in the Refuges and request that the Service consider measures to enhance water quality.

Comment# 221-12: Appendix G Compatibility Determinations. The determinations dealing with water quality for Tule Lake and Lower Klamath NWR need to be rewritten in a way that deals with the inferior water quality. From what I have read, BOR has said that water from agricultural return flows is adequate to fulfill any water right obligation. Experience with what we called once or twice used water (Class 2 or 3water) would eventually lead to salt and poor water conditions. These conditions, in combination with sedimentation from the present management practices utilized by the Service and BOR, places the these water conditions and the agricultural program in violation of the National Wildlife Refuge System Improvement Act and the Compatibility Policy and Appropriate Use Policy of the Fish and Wildlife Service. It does however, maintain the status quo. There are methods of mixing water to reduce salt build up, settling basins to let silt drop out of water to be pumped into the marsh and upstream BMPs for all lands upstream in the Lost River drainage. The status quo, which is what I am seeing this CCP lean toward, is just another way of watching the Tule Lake marsh become another filled wetland without a Section 404 Permit.

Response: We disagree. The Service is in compliance with the Improvement Act and Departmental and Service policies.

Comment# 516-1: It seems as though the Comprehensive Conservation Plan has been put on the back burner whilst sucking water table priority has been given over to farmers and frackers allowed to run wild. A side-issue of no less note is the idea that farmers are using "re-cycled" frack water - which contains way too many chemicals and radiation to be cleaned by municipal systems - to water our food crops. This is a freakish cycle and tantamount to poisoning what water there is left for us.

Response: Comment noted.

Comment# 622-36: Upper Klamath NWR: The Service should review the analysis conducted by the National Academy of Sciences (2002) related to restoration activities and the potential for water quality improvement on Upper Klamath Lake. The reason it is important to answer these questions is that the Service would be eliminating thousands of acres of shallow seasonal wetlands of significant importance to migratory wetland birds. This importance is magnified by the loss of thousands of acres of seasonal wetlands in the Lower Klamath NWR (as well as loss of wetlands that occurred in the early 1900's).

Response: Comment noted. While the National Academy of Sciences (2004) identifies several larger-scale lake water quality issues and potential strategies for water quality improvement (pages 126–128), refuge-specific actions are not detailed (National Research Council [2002, 2008] were also reviewed in light of this comment). Water quality improvements of Upper Klamath Lake are addressed through the Upper Klamath Lake TMDL implementation plan process (Boyd et al. 2002).

Comment# 701-41: Many bodies of water in the basin are experiencing increased nitrogen and phosphorous levels, eutrophication, and increasing acidity that is changing the community composition of most lakes from historical and locally distinct endemic populations to ones that share many of the same generalists taxa that can withstand the new and challenging environments (e.g. *Daphnia magna*) (Dileanis et al. 1997).

Response: Comment noted.

Comment# 734-10: The refuges, as the last remnants of the once extensive Klamath wetlands, should improve, not add to the impairment, of water quality. Therefore we request that alternatives for each refuge look at water quality management and benefits and how the refuge ecosystem can be utilized to improve water quality basin-wide.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4, TMDL process. Further, refer to the discussion of findings by Mayer (2005) within Section 5.2.1. Mayer (2005) found that, in general, wetlands improve water quality.

Comment# 734-12: Refuge managers should proactively advocate for water quality improvements, nutrient management, habitat restoration, and the phasing out of chemical use on, and above, the refuges. Nutrient pollution on, and above, refuge wetlands threaten the refuge's purpose along with the beneficial uses of the Lost and Klamath Rivers. Anaerobic environments caused by water quality impairments on and off refuge are largely to blame for avian botulism outbreaks and widespread nutrient pollution in the Klamath. Proactive control, and treatment of, nutrient impaired waters would benefit water quality on and

off refuges and should be addressed in this management plan. Where feasible and appropriate, refuge managers also should work with water quality interests to utilize refuge lands to recreate natural treatment wetlands and filtration. Water quality improvement and management for wildlife can be highly beneficial to all the purposes of the refuges.

Response: Comment noted.

Comment# 734-13: refuge managers should also support requiring NPDES permits for polluted water transfers into the Lost River basin and through Sheepy Ridge along with stringent WDR's and TMDL actions for receiving waters.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4 concerning the TMDL process.

Comment# 734-2: We are specifically concerned with the management of the Lower Klamath and Tule refuges, and with the fact that grazing and herbicide use, which are both already causing water quality issues within the Klamath basin, are proposed as continuing management tools. The fact is that the DEIS lacks a real analysis of the issues on these refuges, and is also deficient on proposals as to how to correct them.

Response: Comment noted.

Comment# 734-23: We support the following suggestion from the CA North Coast Regional Water Board that states, "By routing agricultural return flows from the private lands surrounding the refuge through these types of management units prior to discharge to the deep water habitat area, water quality for fish species should improve. Treating agricultural runoff has the added benefit of mitigating some of the nutrient loading from private lands and improving water quality as water enters the D plant, which pumps water to Lower Klamath Lake."

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4 concerning the TMDL process.

Comment# 734-36: the timing of refuge-related discharges should also be better coordinated so that they do not hurt water quality or fisheries downstream.

Response: Comment noted.

Comment# 734-9: We request the end of the practice of draining and discharging recently farmed wetlands during the period in the spring when the flows into receiving waters are dropping, as this adds polluted water directly into the Keno reservoir and Lake Ewauna. This practice is already causing significant water quality issues. They say the solution to pollution is dilution. Under this guidance discharges should be better planned and coordinated with high flows and water releases.

Response: See response to comment 701-4.

Comment# 780-12: Recommendation: In the Final EIS, consider impacts to water quality and

consistency with TMDLs in selecting the preferred alternative. Our review finds Alternative C may be environmentally preferable to Alternative B.

Response: Comment noted.

Comment# 780-6: Recommendation: Consider benefits to water quality in selecting the preferred alternative for the Upper Klamath Refuge.

Response: Comment noted.

Comment# 793-15: Convert seasonal wetlands to permanent wetlands Increasing the acreage of permanent wetlands has the potential to increase the water storage capacity of Lower Klamath Lake and Tule Lake, improve water quality, reduce large pollutant discharges in the spring, and reduce water use in the fall. Permanent wetlands have been shown to be more effective at retaining nutrients than seasonal wetlands since they are not subject to annual flushing. Annual flushing of the seasonal wetlands can export large nutrient and organic matter load downstream within a short time period. The annual drying also leads to the oxidization of organic material, which releases nutrients into the water column upon reflooding in the fall. In contrast, permanent wetlands promote long term storage of nutrients in soils and organic matter.

Response: Comment noted.

Comment# 793-20: The USFWS should consider how spring flushing of poor water quality from seasonal wetlands and farmed units affects water quality downstream and quantify the nutrient and organic matter loading from these events. The CCP should explore alternatives regarding the timing of refuge discharges in order to have the least impact on water quality and to reduce pollutant loading to downstream receiving waters.

Response: See response to comment 701-4.

Comment# 793-21: The Klamath implementation plan encourages the implementation of largescale nutrient and organic matter projects to quickly improve water quality in the Klamath River. Several demonstration treatment wetlands are scheduled to be constructed in the summer of 2016 in the Wood River Basin. USFWS should make use of the monitoring results and other outcomes from these demonstration projects to help evaluate the potential for constructing treatment wetlands in the California refuges.

Response: Comment noted.

Comment# 793-30: Both the Lower Klamath and Tule Lake Leaseland CDs include a discussion of water quality impacts from the agricultural leaseland program.59 Both note that, “[p]oor water quality on the Refuges is affected by water quality in Upper Klamath Lake (primary source) and the Refuges location at the terminus of the Klamath Project.” However, both concede, “[l]ease land farming will contribute to poor water quality at certain times of year with the runoff of nutrient laden water.” The Tule Lake Refuge Sumps 1(a) and 1(b) in particular are “highly eutrophic because of high concentrations of nutrients.” Despite these acknowledged impacts, the CDs do not include any concrete stipulations in order to address the water quality impacts of the leaseland program in order to make it compatible with refuge purposes. Instead, the Service attributes impacts primarily to off- refuge sources and appears to conclude that

impacts are therefore not attributable to the leaseland program.60 This assumption is incorrect, because EPA has already concluded that pollutant loading from agricultural lands within the Lower Klamath and Tule Lake NWRs must be reduced by 50% in order to meet state water quality standards in Lower Klamath and Tule Lakes. Thus, EPA assigned specific load allocations under the Clean Water Act to the Service, which requires these reductions in pollutant loading. Even if pollution from the Refuge Complex were only a minor impact and/or not the sole cause of the impact, the Service would not be authorized to ignore those impacts in preparing its CD. A use with little potential for impact on its own may contribute to more substantive cumulative impacts on refuge resources when conducted in conjunction with or preceding or following other uses, and when considered in conjunction with proposed or existing uses of lands and waters adjacent to the refuge.61 Poor water quality interferes with and detracts from proper waterfowl management. Thus, the Service must include stipulations related to water quality in order to make the leaseland program compatible with refuge purposes.

Response: We disagree with the commenter's assertion that the Service has ignored water quality impacts of lease land farming in preparing the Lease Land Compatibility Determinations for Lower Klamath and Tule Lake Refuges. The section on water quality impacts in each of these Compatibility Determinations specifically acknowledges that lease land farming may contribute to poor water quality at certain times of the year with runoff that may contain elevated concentrations of nutrients. In this section, the Service goes on to acknowledge the TMDL process that is underway and acknowledges that modifications to the farming program may be warranted to comply with the Agricultural Discharge Program currently under development by the California North Coast Water Quality Control Board. Further, Stipulation H is a commitment to include BMPs that are generated through the nutrient management plan that will be developed in concert with the Agricultural Discharge Program as part of lease land farming contracts.

When determining whether an existing or proposed use is a compatible refuge use (see 603 FW 2) the refuge manager is directed to "…use sound professional judgment to determine if a use will materially interfere with or detract from the fulfillment of the System mission or the purpose(s) of the refuge." The compatibility of an existing or proposed use must be considered in terms of the refuge purposes and the Refuge System mission. In this instance, the Service determined that the lease land program contributed to meeting the Refuge purposes and the overall Refuge System mission by providing a rich source of carbohydrates to support population objectives for waterfowl (dabbling ducks and geese) during the spring and fall migration.

The Service acknowledges that while the lease land program is critical in providing food resources for spring and fall migrating waterfowl, there are also impacts to other resources in allowing this use. In order to minimize these effects the Service has identified a number of stipulations in each of the CDs for lease land farming to ensure compatibility. As indicated above, one of these stipulations is focused on water quality. The California North Coast Water Quality Control Board is implementing an Agricultural Discharge program in the Klamath Basin. The purpose of the program is to reduce anthropogenic pollutants to waters of the State. When completed, this program will likely require a set of BMPs to ensure that the input of pollutants is minimized. Refuge staff expects to participate in the Technical Advisory Committee in developing the plan for the California portion of the Upper Klamath Basin. When completed, the Service will assess what modifications to the farming program might be warranted to be in compliance with the plan. USFWS will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. Linking Stipulation H to the completed Nutrient Management Plan will allow the Service to implement the appropriate BMPs as further information is developed. For example, increased power rates for Klamath Project irrigators have also prompted increased irrigation efficiencies and decreased agricultural return water. Danosky and Kaffka (2002) concluded that wetlands and farming practices in the southern portion of the Klamath Project result in net removal of nutrients diverted for irrigation on a yearly basis, and that recycling of agricultural runoff water for irrigation may further reduce the amount nutrients returned to the river more effectively

than implementing a TMDL program. Therefore, if current water use efficiencies continue, nutrient load reductions would also likely continue. See also response to comment 734-4 regarding the TMDL process.

Although improving or maintaining water quality is not a primary refuge purpose, the Service agrees that protecting water quality and compliance with the Clean Water Act is in the interests of providing the best habitat for waterfowl and other aquatic or semi-aquatic species. As noted in other responses, the Refuge currently and would continue to meet the requirement for proper waterfowl management under the Kuchel Act (see Appendix M), but is always striving to improve conditions for wildlife. The CCP/EIS (Appendix F, Goals, Objectives, and Strategies) includes activities that may improve water quality within alternative strategies. For example, two of the overarching objectives for Lower Klamath NWR are to "seek to secure and efficiently distribute water of sufficient quantity and quality to achieve habitat and population objectives" (Appendix F, page F-9 of draft CCP/EIS) and to "promote sustainable agricultural practices on leased land and cooperatively farmed units, consistent with principles of waterfowl management and energetic needs of waterfowl" (Appendix F, page F-10 of draft CCP/EIS). Some of the specific strategies to achieve these objectives common to all alternatives include: improving water conservation and efficiencies; identifying water quality issues and employing BMPs with the assistance of partners and other agencies; monitoring water quality of delivered water, pass through water, and spill water; and evaluate permit chemical applications according to Service and Department of the Interior policies, Refuge IPM Plan, and PUPs. Alternatives B, C, and D also seek to: pursue changes in the type, place of use, and period of use for Lower Klamath and Tule Lake water rights necessary to ensure sufficient water is available for refuge wetlands; explore methods where refuge wetlands can contribute to water quality improvements in the Upper Klamath Basin; and leverage more wetland habitat on private lands by expanding the Walking Wetlands program outside the Refuge. Alternatives C and D seek to expand the area of lease land and cooperatively farmed units that are managed organically, expand incentives such as lease extensions for farmers that manage fields organically, and use flood/fallow agricultural practice on fields with expiring contracts if needed to achieve habitat objectives. Similar objectives and strategies are presented for Tule Lake NWR (Appendix F, page F-31 of draft CCP/EIS).

Comment# 793-41: While cattle grazing may be a leading source of water pollution within the Klamath Basin, the draft CCP/EIS does not analyze this when contemplating its DC one of the least studied sources of nutrients. Impacts from grazing are often understated, reported as natural loads loads from sediments, or in some watersheds, even reported as human- caused nutrient pollution. Grazing as a water quality impairment within the refuges is directly addressed as part of the Klamath and Lost River TMDLs.

Response: We disagree that grazing directed by the Service for invasive species control or habitat enhancement is a major source of water pollution. Grazing is a strictly controlled activity on the Complex. For example, grazing at Upper Klamath is used to set back vegetative succession in order to enhance habitat and wildlife diversity. The standard practice of grazing decadent emergent marsh is allowed when the units are dry. The area grazed is at a lower elevation than Klamath Lake. Livestock are not allowed to graze in or drink water from the Lake or canals that drain into the Lake. Livestock would continue to be watered from seeps or springs within existing levees or from stock tanks within the levees that ranchers fill with water pumped from the Lake or canal. Regarding the TMDL, please see response to comment 734-4.

Comment# 793-48: Tule Lake and Lower Klamath Lake are currently not meeting water quality standards and are listed on the federal 303(d) list of impaired waters as impaired by nutrients, elevated pH, and low dissolved oxygen. The water quality objectives that serve as the threshold for determining impairment are the dissolved oxygen objectives of 5.0 mg/L, the pH objective of pH < 9 and the toxic substances objective that prohibits toxics substances at concentrations that cause toxicity, including

pesticides and ammonia nitrogen. Actions to improve water quality on the refuges that are part of the CCP should work toward achieving these water quality objectives in Tule Lake and Lower Klamath Lake.

Response: Comment noted.

Comment# 793-52: The Klamath Basin Monitoring Program (KBMP) is a coordinated basinwide monitoring program that provides information inputs to better adaptively manage the watershed stewardship process. The Regional Water Board will be working with KBMP to track progress towards meeting the Klamath and Lost River TMDLs. The USFWS should continue to participate in the KBMP to better leverage resource to monitor water quality changes on the refuges.

Response: Comment noted.

Comment# 793-53: The Regional Water Board is developing a discharge permit to address discharges of waste from agricultural lands in the Tule Lake Basin. The permit will require agricultural operators to implement water quality control measures or BMPs to reduce nutrient and organic matter in agricultural surface and subsurface runoff. The permit will also include monitoring and reporting to the Regional Water Board. Agricultural lease lands on the Tule Lake Wildlife Refuge are included in the scope of the permit program. Lessees and landowners will be required by the permit to implement management practices. Regional Water Board staff see an opportunity for the USFWS to coordinate implementation of management practices and monitoring on lease lands and we encourage the USFWS's continued participation in the development of the permit program. The agricultural community in the Tule Lake Basin is considering developing a third party program to comply with the upcoming permit on a group basis and to develop a group agricultural water quality management plan. The USFWS should look forward to coordinating with the third party group when it begins development of the group water quality plan to incorporate management practices on refuge lease lands. Operators on lease lands will be eligible to be covered through the third party program along with the private land operators.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 793-54: Measures to improve water quality in the CCP should be prioritized to quickly improve conditions at critical locations and time periods when and where water quality is at its worst or poses the greatest threat to the beneficial uses of the Lost and Klamath Rivers.

Response: Comment noted.

Comment# 793-55: Convert seasonal wetlands to permanent wetlands Increasing the acreage of permanent wetlands has the potential to increase the water storage capacity of Lower Klamath Lake and Tule Lake, improve water quality, reduce large pollutant discharges in the spring, and reduce water use in the fall. Permanent wetlands have been shown to be more effective at retaining nutrients than seasonal wetlands since they are not subject to annual flushing. Annual flushing of the seasonal wetlands can export large nutrient and organic matter load downstream within a short time period. The annual drying also leads to the oxidization of organic material, which releases nutrients into the water column upon reflooding in the fall. In contrast, permanent wetlands promote longterm storage of nutrients in soils and organic matter.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

Comment# 793-58: Create Additional Deep Water Habitat in Tule Lake Sedimentation in wetland areas has eliminated 90 percent of the water depth in emergent wetlands as well as open water areas of Tule Lake. Radiotagging of adult suckers in Tule Lake show that during the summer, when dissolved oxygen levels are at their lowers, there remains a small section of Tule Lake, termed the "donut hole', that maintains dissolved oxygen levels higher than the levels elsewhere in the lake and may be crucial to maintaining the sucker population. "Because many endemic fish species in the Tule Lake Basin are adapted to the naturally eutrophic water quality conditions, relatively small improvements in water quality may greatly increase the suitability of aquatic environments to these species." (Integrated Land Management Plan, 2000). The difference in water quality in the 'donut hole' indicates the importance of deep water habitat in Tule Lake in supporting federally endangered sucker species. Deeper water stays cooler and slows algal growth, which is currently responsible for the large diurnal swings in dissolved oxygen and pH. Deep water also provides cover for fish. The CCP should support the creation of additional deep water habitat to help increase the areas of acceptable dissolved oxygen in Tule Lake so that more of the lake supports the warm water fishery.

Response: The Service plans to explore habitat improvements to the sumps to improve wetland diversity and productivity, as included in the Preferred Alternative.

Comment# 793-59: Reroute Water to Increase Nutrient and Organic Matter Removal. The Integrated Land Management on Tule Lake National Wildlife Refuge developed by a working group in 2000 explores different configurations of the seasonal and permanent wetlands, agricultural lands, and deep water habitat acreages. One of the primary management strategies guiding the analysis of these different management unit configurations is to reduce nutrient loading to the deep water habitat areas of Tule Lake in order to improve water quality for the fish species that use this habitat. The plan utilizes the natural filtration properties of these habitats to treat agricultural tailwater and improve water quality in Tule Lake and in refuge outflows. For example, the area of the deep water 'donut hole' in Tule Lake has been identified as an important habitat for endangered suckers species that reside in Tule Lake, and in the workgroup document serves as a starting location for restoring deep water habitats. The USFWS CCP should look at ways to route water through the different management units to reduce nutrient and organic matter loading to this area of the lake. Agricultural lands and wetlands can be a nutrient sink during the summer irrigation season. By routing agricultural return flows from the private lands surrounding the refuge through these types of management units prior to discharge to the deep water habitat area, water quality for fish species should improve. Treating agricultural runoff has the added benefit of mitigating some of the nutrient loading from private lands and improving water quality as water enters the D plant, which pumps water to Lower Klamath Lake.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

Comment# 793-60: Improve Timing of Water Releases. The USFWS should consider how spring flushing of poor water quality from seasonal wetlands and farmed units affects water quality downstream and quantify the nutrient and organic matter loading from these events. The CCP should explore alternatives regarding the timing of refuge discharges in order to have the least impact on water quality and to reduce pollutant loading to downstream receiving waters.

Response: See response to comment 701-4.

Comment# 793-61: Create Treatment Wetlands. The Klamath implementation plan encourages the implementation of largescale nutrient and organic matter projects to quickly improve water quality in the

Klamath River. Several demonstration treatment wetlands are scheduled to be constructed in the summer of 2016 in the Wood River Basin. USFWS should make use of the monitoring results and other outcomes from these demonstration projects to help evaluate the potential for constructing treatment wetlands in the California refuges.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

Comment# 846-80: The Lower Klamath CD does not include any information on the amount of water the leaselands have received in recent years as a point of comparison. In contrast, the Tule Lake Leaseland CD only includes facts related to water deliveries on the leaselands and excludes any discussion of water deliveries for wetland habitat.243 Remarkably, the sections of the CDs discussing the anticipated impacts of the leaseland farming program do not include any discussion of impacts on water quantity.

Response: We disagree. On page 3 of the Compatibility Determination for Lease Lands on Lower Klamath, there is a discussion of water quantity on this Refuge. The Compatibility Determination notes the average decrease in water deliveries between 2010 and 2014. The Compatibility Determination is evaluating the compatibility of a particular use on a refuge, in this case lease land farming. The Compatibility Determination evaluated anticipated impacts of the use on a range of refuge resources, including habitat management. Also, see response to comment 634-3.

Comment# 846-84: the CDs do not include any concrete stipulations in order to address the water quality impacts of the leaseland program in order to make it compatible with refuge purposes. Instead, the Service attributes impacts primarily to off-refuge sources and appears to conclude that impacts are therefore not attributable to the leaseland program.269 As discussed in Section XI, this assumption is incorrect, because EPA has already concluded that pollutant loading from agricultural lands within the Lower Klamath and Tule Lake NWRs must be reduced by 50% in order to meet state water quality standards in Lower Klamath and Tule Lakes. Thus, EPA assigned specific load allocations under the Clean Water Act to the Service, which requires these reductions in pollutant loading. Even if pollution from the Refuge Complex were only a minor impact and/or not the sole cause of the impact, the Service would not be authorized to ignore those impacts in preparing its CD. A use with little potential for impact on its own may contribute to more substantive cumulative impacts on refuge resources when conducted in conjunction with or preceding or following other uses, and when considered in conjunction with proposed or existing uses of lands and waters adjacent to the refuge.270 Poor water quality interferes with and detracts from proper waterfowl management.271 Thus, the Service must include stipulations related to water quality in order to make the leaseland program compatible with refuge purposes.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

Comment# 87-2: KDD believes there are a number of measures the Service could investigate and undertake to enhance water quality in the LKWNR. The Draft CCP/EIS should identify and investigate certain options in more detail. Specifically, the Service should consider and analyze the potential to filter KDD drain water through its wetlands areas. Pending further analysis, so doing could potentially offset both water quality and water quantity concerns.

Response: Comment noted. Wetlands, specifically the Lower Klamath National Wildlife Refuge, have been shown to decrease nutrient loads (Mayer 2005). An in-depth analysis of incorporating broader

stakeholder facilities and operations for this option is beyond the scope of the current CCP/EIS.

Comment# 906-19: Despite acknowledging the currently degraded condition of water quality in the planning area, the Draft CCP/EIS then does not discuss the specific substantive requirements that apply to the Service's management of the Refuge Complex through Sections 303 and 313 of the Clean Water Act. Instead, the Draft CCP/EIS ignores those specific requirements and then discusses vague "long-term regulatory processes related to TMDLs descried in the Affected Environment * * *."408 The Draft CCP/EIS asserts that these processes "are currently being reconsidered and may result in overall reductions in pollutant loads."409 Because these discussions are supposedly "complex" and "may take substantial time to resolve," the Draft CCP/EIS concludes that "specific timelines and specific water quality improvements have not been formally defined at this stage, including the prescriptions for the Service to undertake on the refuge, but are part of a longer-term strategy to improve water quality." This same approach is carried through all alternatives for Lower Klamath and Tule Lake NWRs. This approach to managing water quality on the Klamath Refuge Complex is unlawful in numerous ways. The TMDL for the Lower Lost River was approved in 2008 and the MAA was to be completed by 2010. Under Section 313 of the Clean Water Act, the Service must demonstrate that management of Klamath Refuge Complex will comply with all "all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution."411 The Service does not have the discretion under the law to simply defer to some vague future planning effort that may or may not result in measurable improvements in water quality. The Service must demonstrate in approving the CCP for the Klamath Refuge Complex that management of the agricultural leaselands – including agricultural runoff and irrigation return flows – will comply with state water quality standards and load allocations. And the Service must also demonstrate that it has complied with its obligations under the Action Plan. The Draft CCP/EIS falls far short in this regard. The Service must demonstrate that the final CCP complies with all federal, state, and local water quality requirements.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 906-20: the Service must address whether pollutant loading within the Klamath Refuge Complex is causing or contributing to violations of water quality standards downstream in the Klamath River itself. All of the surface water that exits Tule Lake and Lower Klamath NWRs does so through the Klamath Straits Drain, which discharges into the Klamath River.412 The discharge from the Klamath Straits Drain are heavily impaired as a result of agricultural runoff and irrigation return flows from the NWRs.413 And those discharges from Klamath Straits Drain are causing and/or contributing to violations of state water quality standards in the main stem of the Klamath River downstream from where Klamath Straits Drain discharges into the Klamath River.414 Pollutant loading from agricultural and irrigation operations within the Klamath Refuge Complex therefore has a significant impact on water quality over a broad swath of the Klamath and Lost River Basins, and the Service has virtually ignored its substantive obligations under the Clean Water Act to ensure that its actions comply with all federal, state and local requirements relating to water quality.

Response: See response to comment 743-4 regarding the TMDL process.

Comment# 906-26: water inflows for the Lower Klamath and Tule Lake National Wildlife Refuges must be managed to meet CWA and refuge water quality standards. The Lower Klamath refuge receives water supply, in part, from D Plant pumping, which is supplied by runoff and irrigation return flows from Tule Lake. Similarly, Tule Lake Sumps 1A and 1B capture return flows during spring and summer irrigation seasons, while simultaneously providing wildlife habitat. The Draft CCP identifies the Tule Lake Sumps 1A and 1B as comprised with extensive periodic blooms of filamentous green algae. Algal blooms are

correlatively related to pH and dissolved oxygen content in a water body.419 Specifically, photosynthesis and respiration of aquatic plants and microbes are controlling factors of daily influx and depletions of "pH, DO, and dissolved inorganic carbon."420 Increasing temperatures and algae blooms affect water quality by lowering the water body's dissolved oxygen content, which may result in a violation of the TMDLs established for the refuge. Since the Tule Lake Sumps identified above are susceptible to variations in pH, DO and dissolved inorganic matter from excessive algal blooms, ongoing management and monitoring of water quality and point source fertilizer and pesticide pollution must be included in the Draft CCP.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4 regarding the TMDL process. Regarding fertilizer and pesticide application BMPs, see responses to comments 730-26, 730-29, and 793-12. Information regarding pesticide monitoring and detections is provided in Section 5.1.1, Environmental Contaminants. Additional information regarding pesticide monitoring and detections in 2007 and 2011 at Tule Lake Refuge has been added to Section 5.1.1, Environmental Contaminants.

Comment# 906-50: The Draft CCP/EIS is deficient because it does not contain any discussion – much less a "hard look" – at the direct, indirect, and cumulative effects of lease land agricultural, agricultural runoff, and irrigation return flows in downstream water quality in the Klamath River.

Response: We disagree that the EIS does not take the required "hard look" at impacts. In the Affected Environment section, baseline information on current conditions includes degradation caused by a history of agriculture and water management at the refuge as well as an assessment of the effect of warmer and drier climates over the past few years. The impacts of the No Action Alternative and the cumulative effects section include some of the changes over time and expected in the future as they are required to do. In addition, we have added more specific water quality data in sections of both these chapters (Affected Environment and Impacts) at the requests of commenters. We believe this is a reasonable approach given the programmatic nature of the CCP and the larger scale policy decisions that need to be made based in part on information in the EIS. In terms of specific impacts from specific practices in the Klamath Basin, this is what the future TMDL discussions will address (see response to comment 734-4).

H. <u>TMDLs and Nutrient Management</u>

Letter ID # 734-18, 734-21, 734-22, 734-3, 734-4, 734-6, 743-54, 793-11, 793-14, 793-16, 793-17, 793-31, 793-49, 793-50, 793-51, 793-56, 793-57, 793-63, 793-64, 846-85

Public Concern Statement: Respondents ask that the CCP/EIS characterize nutrient loads in the Refuges and establish plans, BMPs, and monitoring efforts that will meet TMDL allocations and improve water quality. In particular, one comments notes that the CCP/EIS should disclose Service obligations under the TMDL implementation plan and address how those obligations will be implemented as part of Refuge management. Comments also ask that the Service coordinate with Reclamation, TID, and the Regional Water Board to implement nutrient and organic matter reduction projects to meet and/or offset TMDL allocations.

Two commenters ask how the Service will manage pollutant reductions based on a nutrient management plan that has yet to be developed. It is also requested that the CCP/EIS clarify that the Service does not intend to establish a new process or program for nutrient management; the process of state water quality agencies will remain in effect.

Comment# 734-18: The California Lost River TMDL require a 50% reduction in nutrient and organic matter loading in the Lost River basin, including loading to the Tule Lake and Lower Klamath Lake Refuges. Loading from irrigated agriculture is one of the leading causes of sedimentation and nutrients within the Upper Klamath Lake and Lower Klamath Lakes areas and in Tule Lake, yet this document does not include a plan to control these discharges as they pertain to USFWS lands, nor does it disclose how refuge activities contribute to cumulative watershed effects in this area. This needs to be rectified in the FEIS or in a SEIS.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4 concerning the TMDL process.

Comment# 734-21: The North Coast Water Quality Control Boards (NCWQCB) has asked for the following from the USFWS and BOR. 1. Complete a water quality study based on best available science to characterize the seasonal and annual nutrient and organic matter loading through USBR's Klamath Project and refuges. The study should be completed in time to inform the development of a water quality management plan described in the following bullet. 2. Based on the results of the water quality study, develop a water quality management plan to meet and/or offset the Lower Lost River and Klamath River TMDL allocations. Refuge management planning cannot be complete without this analysis and thus we support the NCWQCB request.

Response: See response to comment 734-4, concerning the TMDL process.

Comment# 734-22: Soon this area will be home to migrating salmonids, which is a cold water beneficial use. If polluted water quality discharges, some of which come directly through the refuges, are not accounted for and reduced, then this area of the river will be a death zone for migrating salmonids. Furthermore salmonids will also be migrating into the Upper Klamath refuge, which also has poor water quality. Water quality and habitat improvements on refuges that can lead to TMDL compliance and benefit salmonids should be discussed in alternatives.

Response: See response to comment 734-4, concerning the TMDL process.

Comment# 734-3: We therefore request that alternatives be included in a Final EIS that mandates that the management of refuge wetlands serve the purposes of providing habitat for wildlife, improving water quality, and meeting TMDLs load limits for the Klamath and Lost Rivers.

Response: While providing habitat is part of the Kuchel Act and a purpose of the Refuges—and as such, alternatives appropriately discuss this—improving water quality is not required by the Kuchel Act and is not a purpose of the Refuges. A new section on how the purpose, need, and constraints, including those of the Kuchel Act, interact to determine feasible actions and alternatives has been added to the beginning of Chapter 4, Alternatives. As noted in response to other comments (see 734-35), NEPA uses the "tiering" process to allow agencies to evaluate options for actions that are "ripe" for decision-making. In this case, decisions on TMDLs and how to best improve water quality throughout the basin will require data, agency and interested party participation. Analyzing options or impacts of the specifics of water quality are not yet "ripe" because of this and so are not part of the CCP/EIS. The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4 regarding the TMDL process.

Comment# 734-4: We are also requesting that the Final EIS or a Supplemental EIS include an in-depth analysis of the Klamath and Lost River TMDLs, along with on-refuge and receiving water quality issues. This analysis should include and prioritize alternatives that will obtain TMDL allocations and improve water quality.

Response: The Service will explore TMDL and related water quality activities through the TMDL process once this stakeholder-driven implementation process has begun. North Coast Regional Water Quality Control Board (2010) identifies a process wherein Oregon, California, and the EPA through a Memorandum of Agreement (MOA) will work cooperatively to implement actions to achieve Lost River TMDL compliance in Oregon and California. This includes working "jointly with common implementation parties (e.g., USBR, U.S. Forest Service, USFWS, BLM, PacifiCorp, and the Klamath Water Users Association (KWUA)) to develop effective implementation plans" (Table 4-18, pages 4-12 to 4-18). One element of this cooperative work includes the development of "a Management Agency Agreement (MAA) between USBR, USFWS, TID, and the Regional Water Board that addresses the water quality impacts of the USBR's Klamath Project" (Table 4-18, pages 4-12 to 4-18). This MAA identifies several actions to meet and/or offset the Lower Lost River TMDL allocations, including, but not limited to:

- A water quality study to characterize seasonal and annual nutrient and organic matter loading through USBR's Klamath Project and Refuges;
- Development of a water quality management plan (WQMP) based on the aforementioned study (or studies) and schedule implementation;
- Coordinate implementation actions with other responsible parties within Reclamation's Klamath Project and refuges;
- Develop a monitoring and reporting program to evaluate effectiveness of management measures and track progress; and
- Periodically report to the Regional Water Board on actions taken to implement the TMDL (North Coast Regional Water Quality Control Board 2010).

While progress has been made on the MOA, the MAA is still under development. When this TMDL implementation process commences, the Service, as one of several involved entities, will participate in appropriate studies, development of the WQMP, and development of a monitoring and reporting framework; will coordinate on implementable actions; and will periodically report to the Regional Water Board as they related to refuge activities. The Service believes it would be inappropriate and inefficient to proceed on TMDL related water quality actions prior to the completion of the MAA because of the interconnected attributes of the Lost River, Reclamation, and Refuge systems. The time is not yet "ripe" for making these decisions.

Comment# 734-6: We find it troubling that TMDLs and water quality improvements are rarely discussed in this DEIS and that the alternatives do not include an analysis on how to achieve TMDLs or improve water quality. The TMDL issue is unfortunately dismissed out of hand because meetings and management action proposals regarding TMDLs are still ongoing; however, the relevant TMDLs and TMDL action plans have been approved by the EPA and states of California and Oregon, therefore a thorough discussion of TMDL actions and water quality improvement proposals is both appropriate and legally necessary in a Final EIS. The draining, farming and grazing of former wetlands is perhaps the largest source of nutrients in the basin. Many of these former wetlands lie within refuge boundaries and therefore these wildlife refuges are the perfect place to address reducing nutrient loading problems through such measures as managed wetlands, and to demand that there be no additional discharges to compound

already pervasive water quality problems.

Response: We disagree that the CCP/EIS is inadequate. The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

Comment# 743-54: The draft compatibility determination refers to a "nutrient management plan." As noted in comments above, it is not correct to state or assume a nutrient problem that is caused by lease land farming. However, TID recognizes that the North Coast Regional Water Quality Control Board is working on its agricultural discharges program; TID and growers are involved in that process and related efforts of the Oregon Department of Environmental Quality. TID recommends that the Service makes clear that the process of the state water quality agencies will be applicable, and the Service does not intend a new or different process or program.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 793-11: The draft CCP/EIS details water quality conditions in Chapter 5: Affected Environment, and then acknowledges the troubling water quality conditions again in section 6.2.3 Water Quality for Lower Klamath Refuge, under the Methodology for Assessing Effects – Lower Klamath Refuge heading when it states, "both of these sources are listed as impaired under the Klamath Lost River TMDLs." Neither the proposed actions listed under any of the proposed Alternatives nor the Best Management Practices (BMPs) listed in Appendix L adequately address this pressing issue. The lack of actionable mitigations or changes for management listed in the draft CCP/EIS is unacceptable, and presents a vague and inconclusive non-action for both the Lower Klamath Refuge and Tule Lake. For example, in section 6.4.3, Water Quality for Tule Lake, most of the discussion is present under Alternative A, and states, "Party because inflow water quality is poor and partly because of agricultural runoff and other activities related to refuge management, water quality at the refuge does not meet state standards, a significant impact that would continue if Alternative A were implemented." Then continues with, "While water quality is not likely to become significantly more degraded than is currently the case, it may improve as long term regulatory processes related to TMDLs … may result in overall reductions in pollutant loads. Such discussions include … are complex and geared to reducing specific water quality improvement have not been formally defined at this stage, including prescriptions for the service to undertake on the refuge, but are part of a longer-term strategy."

Response: See responses to comments 734-4 and 793-12.

Comment# 793-14: please include clear TMDL implementation plans in the final CCP/EIS and respond to this request from the North Coast Regional Water Quality Control Board comments, dated March 24, 2016, "The California implementation plan proposes the development of a Management Agency Agreement (MAA) between the USFWS, USBR, Tulelake Irrigation District (TID), and the Regional Board to address the water quality impacts of USBR's Klamath Project, which includes the refuges." Once the MAA convenes, it is critical for the Service to immediately begin implementation of the TMDLs related to the Lower Klamath and Tule Lake NWRs, including: 1. Complete a water quality study based on best available science to characterize the seasonal and annual nutrient and organic matter loading through USBR's Klamath Project and refuges. The study should be completed in time to inform the development of a water quality management plan described in the following bullet. 2. Based on the results of the water quality study, develop a water quality management plan to meet and/or offset the Lower Lost River and Klamath River TMDL allocations; 3. Include a schedule with interim milestones for meeting the TMDL allocations and targets; 4. Coordinate implementation actions with other

responsible parties discharging pollutants within USBR's Klamath Project and refuges; 5. Develop a monitoring and reporting program with the Regional Water Board to evaluate the effectiveness of management measures and track progress towards meeting the Lower Lost River and Klamath River TMDL allocations and targets; 6. Coordinate with the Klamath River water quality improvement tracking and accounting program in implementing offset projects; and 7. Periodically report to the Regional Water Board on actions taken to implement the TMDL and progress towards meeting the TMDL allocations and targets.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 793-16: In section 5.1.1 under Water Quality, the CCP states that runoff from agriculture has increased sediment and nutrient loading into Upper and Lower Klamath Lake. The TMDLs for the Lost River support this finding and identify runoff from irrigated agriculture as one of the sources of the impairment. While the CCP positively identifies agriculture as a source, it is not clear how the plan addresses agriculture's contributions on lease lands in the Klamath Refuges. The CCP list of BMPs in Appendix L does not include practices to control discharges from agricultural lands. Regional Water Board staff recommend the development and inclusion of a list of BMPs for agriculture in the CCP. The primary goal of BMPs should be to reduce nutrients and organic matter in tailwater to achieve the 50% load reductions needed to meet the Lost River TMDL in California. The Regional Water Board staff have developed a working document with input from the Stakeholder Advisory Group in the Tule Lake Basin that contains water quality conditions being considered as part of the upcoming agricultural lands discharge permit. Even though the specifics of the conditions may change prior to adoption of the permit by the Regional Water Board, the CCP should, at a minimum, address the different categories of water quality control that are included in the draft working document. Specifically, the CCP should include nutrient management planning and sediment and nutrient discharge control, which will likely be a requirement of the upcoming North Coast Regional Water Board program. Existing pesticide BMPs should be included as well.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 793-17: To be consistent with the actions included in the TMDL implementation plan, the CCP should include the development of nutrient budget analyses for refuge operations. The purpose of the analyses should be to evaluate existing or future actions to reduce nutrients and organic matter. The CCP should identify the correct scale of the analyses based on the boundaries of management units. For example, an analysis may quantify nutrient loading through individual refuge cells at different points in the refuge or may quantify input loads vs output loads through a given refuge as a whole. Regional Water Board suggest that separate analyses evaluate the flux of nutrients and sediment through the various types of management units such as seasonal and perennial wetlands and agricultural lands in the walking wetlands program.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

Comment# 793-31: The CDs also refer to the Agricultural Discharge program being implemented by the California North Coast Water Quality Control Board in the Klamath Basin aimed at reducing water pollution including through a Nutrient Management Plan.62 To the extent the Service relies on this forthcoming program to reduce adverse impacts from the leaseland program, what authority is there for the Service to defer stipulations to a later point in time? Without specifying how and when the pollutant reductions will take place, there is no factual basis for the Service to issue the CD and approve the

agricultural uses.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4 regarding the TMDL process. As described in the Compatibility Determinations, the Service is committed to developing the Nutrient Management Plan in concert with the Sate of California's Agricultural Discharge Program. The Service disagrees with the commenter's conclusion that the Service is deferring this stipulation to a later date. Rather, the Service is acknowledging the need to develop the Agricultural Discharge Program consistent with the State of California's program.

Comment# 793-49: The California Lost River TMDLs require a 50% reduction in nutrient and organic matter loading in the Lost River basin, including loading to the Tule Lake and Lower Klamath Lake Refuges. In addition, both Klamath TMDLs require substantial loading reductions at the Stateline where the Klamath River enters California. The CCP should describe the findings of the TMDL analyses and clarify how the Refuge CCP management measures contribute towards improving water quality and the restoration of State waters to achieve the reductions called for in the TMDL.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

Comment# 793-50: The California implementation plan proposes the development of a Management Agency Agreement (MAA) between the USFWS, USBR, Tulelake Irrigation District (TID), and the Regional Board to address the water quality impacts of USBR's Klamath Project, which includes the refuges. The TMDL implementation plan assigns collective responsibility to TID, USFWS and USBR to implement the following actions: 1. Complete a water quality study based on best available science to characterize the seasonal and annual nutrient and organic matter loading through USBR's Klamath Project and refuges. The study should be completed in time to inform the development of a water quality management plan described in the following bullet. 2. Based on the results of the water quality study, develop a water quality management plan to meet and/or offset the Lower Lost River and Klamath River TMDL allocations. 3. Include a schedule with interim milestones for meeting the TMDL allocations and targets; 4. Coordinate implementation actions with other responsible parties discharging pollutants within USBR's Klamath Project and refuges; 5. Develop a monitoring and reporting program with the Regional Water Board to evaluate the effectiveness of management measures and track progress towards meeting the Lower Lost River and Klamath River TMDL allocations and targets; 6. Coordinate with the Klamath River water quality improvement tracking and accounting program in implementing offset projects; and 7. Periodically report to the Regional Water Board on actions taken to implement the TMDL and progress towards meeting the TMDL allocations and targets. The CCP should recognize the USFWS obligations under the TMDL implementation plan and be more explicit about how the USFWS intends to implement the above measures as part of the refuge management.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 793-51: In 2012, the Regional Water Board proposed an updated framework for working together with the USBR and USFWS among others to develop joint adaptive management plans, support the Klamath Basin Monitoring Program (KBMP), develop and encourage implementation of engineered treatment options, and participate in the Klamath Tracking and Accounting Program (KTAP). Since the agreement was signed, the Regional Water Board has held a series of discussions with various entities in the Klamath Basin, including USBR and USFWS, regarding a broader initiative to promote watershed stewardship throughout the Klamath Basin. While the MAA is a product of the TMDL implementation

Plan, the Regional Water Board is proposing that the agreement be consistent with the approach and principles discussed during these watershed stewardship meetings. The Regional Water Board supports these efforts as consistent with the intent of the MAA required by the TMDL. Regional Water Board staff encourage the USFWS to continue to coordinate with other responsible parties in the Basin to implement nutrient and organic matter reduction projects to meet and/or offset TMDL allocations. The CCP should be coordinated with the USBR, TID and the Regional Water Board through the watershed stewardship initiative. For example, the nutrient analyses required by the TMDL implementation plans, should be developed in coordination with USBR.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 793-56: Include BMPs to Control Agricultural Runoff. In section 5.1.1 under Water Quality, the CCP states that runoff from agriculture has increased sediment and nutrient loading into Upper and Lower Klamath Lake. The TMDLs for the Lost River support this finding and identify runoff from irrigated agriculture as one of the sources of the impairment. While the CCP positively identifies agriculture as a source, it is not clear how the plan addresses agriculture's contributions on lease lands in the Klamath Refuges. The CCP list of BMPs in Appendix L does not include practices to control discharges from agricultural lands. Regional Water Board staff recommend the development and inclusion of a list of BMPs for agriculture in the CCP. The primary goal of BMPs should be to reduce nutrients and organic matter in tailwater to achieve the 50% load reductions needed to meet the Lost River TMDL in California. The Regional Water Board staff have developed a working document with input from the Stakeholder Advisory Group in the Tule Lake Basin that contains water quality conditions being considered as part of the upcoming agricultural lands discharge permit. Even though the specifics of the conditions may change prior to adoption of the permit by the Regional Water Board, the CCP should, at a minimum, address the different categories of water quality control that are included in the draft working document. Specifically, the CCP should include nutrient management planning and sediment and nutrient discharge control, which will likely be a requirement of the upcoming North Coast Regional Water Board program. Existing pesticide BMPs should be included as well.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4 regarding the TMDL process. Regarding pesticide BMPs, see responses to comments 730-26, 730-29, and 793-12.

Comment# 793-57: Develop Nutrient Analyses and Controls. To be consistent with the actions included in the TMDL implementation plan, the CCP should include the development of nutrient budget analyses for refuge operations. The purpose of the analyses should be to evaluate existing or future actions to reduce nutrients and organic matter. The CCP should identify the correct scale of the analyses based on the boundaries of management units. For example, an analysis may quantify nutrient loading through individual refuge cells at different points in the refuge or may quantify input loads vs output loads through a given refuge as a whole. Regional Water Board suggest that separate analyses evaluate the flux of nutrients and sediment through the various types of management units such as seasonal and perennial wetlands and agricultural lands in the walking wetlands program.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

Comment# 793-63: The USFWS should coordinate TMDL implementation with USBR and be able to include USBR projects as part of the CCP's TMDL implementation strategy. USBR projects such as constructing additional water delivery and drainage infrastructure or constructing and assessing treatment

wetlands could provide managers with more options for controlling water supply and quality on the refuges.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 793-64: Monitoring for compliance with load allocations should be conducted concurrent with monitoring for water quality trends at critical locations. Trend monitoring provides feedback on the effect of loading reductions on water quality conditions relevant to the biological needs of fish species. Priority should be placed on monitoring inputs that have the most impact on critical water quality conditions in time and space. Potential monitoring parameters could include temperature, dissolved oxygen, pH, chlorophyll a, organic matter, nutrients, and toxicity testing. Results should be compared to the water quality objectives established in the Basin Plan for the Lost River Basin. Recommendations for trend monitoring include monitoring of: 1. Water quality of discrete inputs to the refuge, such as the TID and lease land drain water that empties into Tule Lake. 2. The quality of waters being pumped off seasonal wetlands and farmed units in the Tule Lake Lower Klamath Lake Refuge and the effects of those discharges on receiving water downstream. 3. Ammonia, pH, and dissolved oxygen concentrations in Tule Lake and Lower Klamath Lake at select locations including in the Tule Lake 'donut hole'. This monitoring should be coordinated with monitoring of sucker populations in these areas.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

Comment# 846-85: The CDs also refer to the Agricultural Discharge program being implemented by the California North Coast Water Quality Control Board in the Klamath Basin aimed at reducing water pollution including through a Nutrient Management Plan.272 To the extent the Service relies on this forthcoming program to reduce adverse impacts from the leaseland program, what authority is there for the Service to defer stipulations to a later point in time? Without specifying how and when the pollutant reductions will take place, there is no factual basis for the Service to issue the CD and approve the agricultural uses.

Response: The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4.

I. <u>Baseline Data</u>
Letter ID # 906-42, 906-45, 906-40, 743-30

Public Concern Statement: Several individuals state that the CCP/EIS should be expanded to provide additional baseline information on the current makeup of habitat types, as well as updated data on water quality and quantity data. One respondent states that the Service should update references regarding farming practices and water quality impacts.

Comment# 743-30: Related, statements that farming will contribute to poor water quality at certain times of year due to "runoff of nutrient laden water" are incorrect or misleading. None of the information cited indicates that the lease land farming is the cause of any nutrient problems. Nutrients are very well-managed, and this practice is good business too because of the high cost of nutrient application. In fact, the sources cited in the Draft CCP/EIS (and draft compatibility determinations), even though reflecting no significant impacts, are themselves dated. Other historic sources that should also be considered include "Farming Practices and Water Quality in the Upper Klamath Basin; Final Report to the State Water

Resources Control Board, 205j program" (Kafka and Danosky April 16, 2002) and "Nutrient Loading of Surface Waters in the Upper Klamath Basin: Agricultural and Natural Sources" (K.A. Rykbost and B.A. Charlton). Today's management practices are far more conservative than those that prevailed at the time of the studies in those reports, meaning any impacts are even less.

Response: The CCP/EIS text has been revised to address the comment.

Comment# 906-40: The CCP/EIS does not include exact acreage of existing habitats, including wetland habitats. While FWS includes maps and averages, it is unclear exactly how much land is managed as wetland habitat and whether and how much this shifts based on water availability. Specific baseline information on the current makeup of habitat types is crucial for the agency to evaluate how proposed actions might affect waterfowl. Baseline data regarding habitat composition in 1964 is also required to meet FWS's obligations under the Kuchel Act to "preserve intact the necessary existing habitat."456 Therefore, we request that the Service also provide baseline information on habitat conditions in the 1960s. The Service must include in the CCP/EIS:

• Year-by-year acreage of leaselands and cooperatively farmed lands [ref. 5-42];

• Year-by-year acreage of walking wetlands [ref. 5-44];

• Year-by-year acreage for all habitat types on Lower Klamath Refuge, particularly wetlands, in addition to the map and estimated figures [ref. 5-57-61];

• Year-by-year acreage for all habitat types on Clear Lake Refuge, particularly wetlands, in addition to the map and estimated figures [ref. 5-93-96];

• Year-by-year acreage for all habitat types on Tule Lake Refuge, particularly wetlands, in addition to the estimated figures [ref. 5-111];

• Year-by-year acreage for all habitat types on Upper Klamath Refuge, particularly wetlands, in addition to the map and estimated figures [5-144-146]; and

• Year-by-year acreage for all habitat types on Bear Valley Refuge, in addition to the map and estimated figures [5-165-166].

Response: The CCP/EIS does have tables of estimated habitat acres under six different water delivery scenarios. These water scenarios represent two larger delivery options (current and KBRA or similar) as described in Chapter 4 with dry, median, and wet years under each of these options. See Figures 4.3, 4.5, 4.6, and 4.7, as well as Tables 6.1 through 6.4, for Lower Klamath NWR. The impacts to resources, including vegetation, habitat, and waterfowl, were determined in part using these acreages.

The information requested by the commenter related to year-by-year acreage for all habitat types since 1964 would not help in the kind of reasoned decision-making the Service is able to make at the programmatic level of the CCP, especially given current water management conditions. Water supply availability is currently determined by the 2013 BiOp. As explained in Section 1.6, the Service does not have jurisdiction over water levels at either Clear Lake or Upper Klamath Lake. Both Clear Lake and Upper Klamath Lakes are managed by Reclamation for Klamath Project purposes. The kind of annual acreages requested by the commenter would not be useful for decision makers or the public and would fall into the category of "encyclopedic" rather than useful analytic information leading to better decisions (see 40 CFR 1500.4 (b) and (f)).

The Service's interpretation of the Kuchel Act, including of the section cited by the commenter, is in Appendix M. The language cited by the commenter is part of a larger section that says "…to preserve intact the necessary existing habitat for migratory waterfowl in this vital area of the Pacific Flyway, and to prevent depredations of migratory waterfowl on agricultural crops in the Pacific Coast States." Based on the Kuchel Act language, congressional testimony, and Interior and Service reports, the Service identified the requirements of the Kuchel Act related to refuge management (see pages 15 and 16 of Appendix M). For example, rather than assuming the dictate is to keep acreages and conditions as they were in 1964, the Service believes the intent of the Act is to provide food and habitat that would prevent waterfowl crop depredation within the Upper Klamath Basin and delay the southward migration of waterfowl into agricultural areas along the Pacific Flyway in California.

Comment# 906-42: FWS has included very little data regarding water quality and quantity on the refuges. Water is crucial for proper waterfowl management.459 Baseline information on these topics is therefore essential. FWS must include in the CCP/EIS:

• CBOD data and dissolved oxygen for Lower Klamath [ref. 5-56] and Tule Lake [ref. 5-108] Refuges;

• Water quality surveys or data from refuges [ref. 5-9-10];

• Data re: causes of WQ issues [ref. 5-9, 55];

• Water quality and quantity data for Bear Valley Refuge [ref. 5-161];

• Year-by-year water delivery to Lower Klamath Refuge, including Area K leaselands [ref. 5-52];

• Year-by-year water quantity and release data for Clear Lake Refuge [ref. 5-91];

• Year-by-year water delivery to Tule Lake Refuge [ref. 5-108-109]; and

• Year-by-year water quantity data for the Upper Klamath Refuge marshes [ref. 5-142].

Response: Some data were added to the Affected Environment section of the CCP/EIS at the request of commenters. This includes flow data provided by Reclamation at the D-pump (from Tule Lake), Klamath Straits Drain at Headworks (near Stateline Road), Klamath Straits Drain at E-EE pumps (downstream of Area K leaselands), and Klamath Straits Drain at F-FF pumps (at Highway 97, near the Klamath River). Extensive and detailed baseline information in an EIS is discouraged; CEQ NEPA regulations state that EISs need to be "analytic rather than encyclopedic" (40 CFR 1500.4 (b)) and must emphasize information that is "useful to decisionmakers and the public and reduce emphasis on background information (40 CFR 1500.4 (f))." We believe the extent of background and baseline information in the EIS meets these requirements.

Comment# 906-45: The Service has relied upon stale population and water delivery data. We request that the agency considers and includes updated data on these subjects.

Response: We disagree. The waterfowl population data are the basis of the most recent North American Waterfowl Management Plan. The Pacific Flyway objectives and Continental objectives have not changed since the drafting of the Bioenergetics Report. See Chapter 7 in Appendix M. We do recognize that the model may not reflect the most recent population and water supply conditions. The Service included water delivery data up through 2015 for the water supply scenarios.

J. Big Pond Concerns
Letter ID # 743-77, 846-43, 853-4, 853-6, 780-3, 622-27, 622-28

Public Concern Statement: Some commenters express concern that there may not be sufficient water delivery to support the Big Pond option, and that the CCP/EIS fails to consider economic, water quality and wildlife impacts from construction and operation during low-water years. One commenter asks whether water pumped to Big Pond would otherwise have gone to other Refuge lands. Another states that the Service should consider moving the boundary to the north to take advantage of unit topography.

Comment# 622-27: Lower Klamath NWR: The current boundaries of the Big Pond as depicted in the draft CCP are incorrectly placed. The current depiction has the north boundary following the P Canal. This creates several problems. Making the P Canal the north boundary would require a huge rip-rapped levee to hold the water to a sufficient depth. This levee would be hugely expensive and the annual battle with erosion to the levee would be a constant factor, particularly with winds from the south. This boundary placement would also reduce the area where emergent marsh could be developed. 4. Move the boundary of the Big Pond to the north. This would incorporate Units 7a, 7b, 6b1, 6b2, 6c, 8a, and 8b and would take advantage of the gradual rise in the topography of these units. The existing levees on the north end of these units would be sufficient to hold and manage water levels. In addition, the gradual shallowing of the waters in these northerly units would mean natural creation of an extensive area of emergent marsh. The hydrograph of the Big Pond should be similar to the hydrograph of historic Lower Klamath Lake (raising water levels fall through spring). This proposal would create one of the largest continuous emergent marshes in the State of California.

Response: The Service acknowledges the challenges related to the configuration of the Big Pond in Alternative D. Our understanding is that the larger configuration was developed when more reliable winter and spring water supply was available. A smaller configuration evaluated in the draft CCP/EIS was developed based on the current water supply, when winter and spring water deliveries are more limited. As a result, the smaller configuration would result in more permanent wetlands, a primary goal of the alternative.

Comment# 622-28: Lower Klamath NWR: The Big Pond scenario is only a viable alternative for Lower Klamath NWR if adequate water supplies can be obtained during the January to April period. Filling the Big Pond would meet all habitat needs for spring, summer, and a portion of the fall. The area (approximately 13,000 acres) would be flooded in winter and spring to a maximum depth of 6-7 feet, gradually shallowing to the perimeter. Half of the depth and surface area of this marsh would remain for the fall migration. The continuous lowering of the water level through summer and early fall would be attractive to a host of shorebird and other water bird species including waterfowl. Periodic droughts would provide opportunities to set back marsh succession in areas that become dominated with extensive stands of emergent vegetation. The Big Pond would also reduce the annual O&M costs of maintaining levees and infrastructure across roughly 1/3 of the existing refuge. Personnel required to maintain the existing water infrastructure, including the control invasive weeds on the many miles of dikes, could then be re-directed to other resource projects.

Response: Comment noted.

Comment# 743-77: Page 4-28, final paragraph, through 4-30: The availability of water rights for the "Big Pond" is uncertain. Also, the project would require delivery contracts and substantial additional environmental impact evaluation.

Response: Comment noted.

Comment# 780-3: Alternative D is unique among the alternatives as it would dramatically alter the hydrologic regime of the Lower Klamath Refuge by removing water control structures and constructing a new levee in the southern portion of the refuge in order to create a "Big Pond" area encompassing approximately 9,000 acres. We support managing the Lower Klamath Refuge to more close!y mimic the natural flooding and drying cycles in the historic Lower Klamath Lake; however, we are concerned by the uncertainty regarding water delivery. Under the current water allocation system (2013 Biological Opinion), a high water year would result in an amount of permanent wetlands five times that of the other alternatives; however, in other water year types, the Big Pond Unit would essentially function as a spring seasonal wetland with little or no pennanent wetlands (page 6-39). Under Alternative D, if the Klamath Basin Restoration Agreement (KBRA) or a similar settlement were implemented, 15-30% less permanent wetland acreage would be expected under all water years (Table 6.4). Similarly, the area of seasonal wetland would be expected to be 18-24% less under all water years. The Draft EIS briefly discusses some water quality impacts that could arise from the reduction in wetlands and the construction of the big pond (page 6-20), including algae blooms, but defers an in-depth analysis to further NEPA review. Recommendation: When selecting a preferred alternative in the Final EIS, consider impacts to water quality under each water delivery scenario, and the capacity of wetlands to improve water quality. EPA believes that Alternative C may be the environmentally preferable altemative.

Response: The Service concurs and has identified Alternative C as the Preferred Alternative on the Lower Klamath Refuge.

Comment# 846-43: Alternative D is similar to Alternatives B and C with the main changes being the proposed “big pond” that would fill the lower 1/5 of the refuge (in a wet year) with 9,000 acres of water in early spring and would evaporate by approximately ½ (to 4,500 acres) in the late summer/fall. Permanent wetlands outside of the big pond would be converted to seasonal wetlands. While the “big pond” idea is intriguing, as it would supposedly mimic historic conditions, there are real problems with this alternative. First, given the current water delivery scenario (i.e. 2013 BiOp) the big pond would only fill 2 out of every 10 years, no other permanent marshes (other than the big pond) would exist anymore on the refuge (only seasonal marshes). Besides the obvious probability of the refuge being mostly dry in 8 out of 10 years, there are other serious implications. For example, would the chance of avian disease outbreaks increase as the big pond would shrink to 4,500 acres or smaller in many years? How would the bird assemblages that would use the big pond be affected (more opportunities for diving ducks with a deeper water body but less for dabblers)? There is no analysis of these potential wildlife implications in the CCP. Also, is there an estimated cost to the “big pond” alternative for construction as well as maintenance? If it is not something that can be funded in a reasonable time frame then it should not be considered. These questions need to be more thoroughly assessed and scrutinized. This alternative may become more viable once the Service reconsiders its deeply flawed water rights analysis and water supply scenarios, as discussed Section VI(A) of these comments. For example, the refuge could more effectively exercise its water rights in order to better supply the pond and other refuge lands with water diversions.

Response: We acknowledge the challenges in providing sufficient habitat through this alternative. This alternative was developed and analyzed in response to the public desire to include alternative that would mimic historic conditions on Lower Klamath Refuge. The Service disagrees that our water rights analysis and water supply scenarios are flawed. See response to comment 634-3 regarding the constraints in use of our water rights.

Comment# 853-4: Throughout the Plan there is detailed information on the “Big Pond” which would be

filled from excess water in the Tule Lake sumps. It sounds as if water that would be pumped into the "Big Pond" would be water that would otherwise have gone elsewhere on the Refuge, is this correct?

Response: Water to fill the "Big Pond" could come from three primary sources: D-Plant, Ady Canal, and drainage water from seasonal wetland, grain, and pasture units. This is water in winter, spring, and summer that would have otherwise been used in permanent wetlands elsewhere on the Refuge.

Comment# 853-6: the Plan stated that the pond would fill eight out of the 10 years if implemented under the KBRA and only two out of the 10 years if implemented under the 2013 joint Biological Opinion. Unless a plan is devised to reflect provisions as outlined under the KBRA, and these plans are implemented, is the idea of the "Big Pond" feasible?

Response: When the "Big Pond" concept was originally developed, significantly more water was available for delivery to the Refuge during winter and spring than is currently available. The purpose of the "Big Pond" would be to opportunistically take advantage of water delivered during this time period when it is available. One of the reasons why "Big Pond" is not included in the Preferred Alternative is the low reliability of winter/spring deliveries that would be critical to flooding this unit.

K. Walking Wetlands

Letter ID # 734-20, 743-45, 743-95, 743-96, 743-98, 743-99, 793-12, 793-32, 793-33, 793-34, 793-35, 793-74, 793-75, 793-76, 846-108, 846-86, 846-87, 846-88, 906-5, 906-6

Public Concern Statement: Per respondents, the CCP/EIS should evaluate the benefits and drawbacks of walking wetlands for water quality, water consumption and supply, noxious weeds, other land uses, energy demands, and pumping costs. It is also pointed out that the document is inconsistent in reporting acreage and may not have fully analyzed the extent of impacts. Concern is also expressed that walking wetlands occur off-Refuge and cannot adequately mitigate agricultural impacts since the Service has no control or authority over private farmlands. Commenters ask the Service to explain how it intends to implement Stipulation No. 2 for walking wetlands in light of declining water deliveries to the Refuges. Some comments state that walking wetlands should only be used as a temporary measure and that under KBRA, use of walking wetlands would penalize the Refuges by reducing water allocations.

Comment# 734-20: New alternatives should also discuss both the benefits and drawbacks of "walking wetlands." Water quality benefits that are claimed by refuge managers from "walking wetlands" have not been quantified. In fact many studies show that seasonal wetland draining from these lands can actually move nutrients into downstream systems. This is especially a concern in this case as nutrients and chemicals are applied to the land and these applications are not subject to permitting nor closely monitored. Quantification of environmental impacts from "walking wetlands" needs to happen if this program is to continue. We believe a study on this issue will show that many of the "walking wetlands" should be converted to permanent wetlands that are managed for the sake of water quality, and that the ones that continue to be "walking wetlands" may need to be drained at alternative times of the year.

Response: See Sections 3.3.1 and 3.3.1 in the CCP/EIS. These sections describe how available water is used to meet refuge purposes. Habitat management under each of the alternatives is developed to maximize biological resources using the available water supply.

Comment# 743-45: the walking wetlands program has resulted in noxious weeds on the banks of the dikes. The proposal to create more dispersed areas of walking wetlands would increase the total area and

acreage that is affected by these adverse conditions. These effects of the one-mile dispersion have not been identified, considered, or analyzed in the Draft CCP/EIS. There has also been no analysis of effects on total water consumption associated with this changed practice, or its potential effects on quantities of water in the Klamath River, Upper Klamath Lake, or LKNWR, or on other agricultural areas of the Klamath Project. There would also be need to consider the availability of adequate water rights to support it. There are also foreseeable new or increased energy demands and pumping costs, with no identification of who would be responsible. These effects must be identified and considered.

Response: It is unclear how interspersing walking wetlands within the lease lands of Tule Lake NWR would substantially increase noxious weeds on the banks of the dikes. Walking wetlands is a flood/fallow agricultural practice that requires no additional water rights. Water use will stay within the specified duty of the water right. Water rights are provided by the Service.

Comment# 743-95: Page 6-106, "Farming Programs": The first full paragraph states that under Alternative B, the Walking Wetlands program would increase up to 8,000 acres. This is dramatically greater than the figures stated elsewhere and the impacts have not been analyzed.

Response: See response to comment 743-96.

Comment# 743-96: Page 6-106, "Farming Programs": Section 6.4.2 of the Draft CCP/EIS concerns the environmental consequences of the proposed alternatives on hydrology. Yet, for Alternative B, which at least in this paragraph involves the conversion of 8,000 acres of agricultural lands to wetlands, there is no acknowledgement that more water would be required than what is needed for irrigated agriculture. The section merely estimates that shifting "lands into the Walking Wetland program may result in some changes in the timing of water use." Continually flooding an additional 8,000 acres (again, the number is not certain) of wetlands will require more water that the irrigated agricultural use of that acreage, and also result in other impacts discussed in TID's comments. The impacts to hydrology of such a shift must be discussed.

Response: The CCP/EIS has been revised to address this comment. The reference to 8,000 acres of walking wetlands in Section 6.4.2 was incorrect. The correct acreage is an average of 1,380 acres annually. This is within the range of the walking wetlands acreage since the program began, so no impacts on hydrology are anticipated.

Comment# 743-98: Page 6-111, "Land Management": This section states that on TLNWR the walking wetlands program would increase in acreage from 0 to 2,700 acres up to 8,000 acres. As discussed in the immediately preceding comment, this acreage is not consistent with other characterizations of Alternative B; it is also somewhat different than the description of acreages on page 6-106.

Response: The reference to 8,000 acres is incorrect. See response to comment 743-96.

Comment# 743-99: Page 6-115, "Farming Programs" and 6-120, "Beneficial Effects": The text in these paragraphs states that the acreage of walking wetlands would average 1,380 annually. This appears consistent with other descriptions of Alternative B that appear in the document, but does not appear consistent with the descriptions on pages 6-106 and 6-111.

Response: The CCP/EIS text has been corrected. See response to comment 743-96.

Comment# 793-12: The draft CCP/EIS details water quality conditions in Chapter 5: Affected Environment, and then acknowledges the troubling water quality conditions again in section 6.2.3 Water Quality for Lower Klamath Refuge, under the Methodology for Assessing Effects – Lower Klamath Refuge heading when it states, "both of these sources are listed as impaired under the Klamath Lost River TMDLs." Neither the proposed actions listed under any of the proposed Alternatives nor the Best Management Practices (BMPs) listed in Appendix L adequately address this pressing issue. The lack of actionable mitigations or changes for management listed in the draft CCP/EIS is unacceptable, and presents a vague and inconclusive non-action for both the Lower Klamath Refuge and Tule Lake. For example, in section 6.4.3, Water Quality for Tule Lake, most of the discussion is present under Alternative A, and states, "Party because inflow water quality is poor and partly because of agricultural runoff and other activities related to refuge management, water quality at the refuge does not meet state standards, a significant impact that would continue if Alternative A were implemented." Then continues with, "While water quality is not likely to become significantly more degraded than is currently the case, it may improve as long term regulatory processes related to TMDLs … may result in overall reductions in pollutant loads. Such discussions include … are complex and geared to reducing specific water quality improvement have not been formally defined at this stage, including prescriptions for the service to undertake on the refuge, but are part of a longer-term strategy."

Response: The Service works to ensure that refuge specific management minimizes effects to water quality to the extent feasible. The BMPs listed in Appendix L include a number of measures to minimize impacts to water quality from refuge management. These include practices such as prohibiting ground-disturbing activities, vehicles, and machinery in water bodies and within a 150-foot buffer zone around water bodies. In addition, implementation of the IPM approach and the BMPs required as part of the IPM Program are required to reduce impacts to refuge resources. BMPs related to the IPM Program typically focus on the application of pesticides. Specific BMPs for pesticide application are identified as part of the PUP approval process. The 2016 PUP Book (Service 2016a) lists all of the approved PUPs (including the BMPs required) for Federal Lease Lands at Lower Klamath and Tule Lake Refuges. The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. Studies such as those noted in the comment, if appropriate, may occur as an outcome of the TMDL implementation process (see response to comment 734-4 regarding the TMDL process).

Comment# 793-32: The Lower Klamath Refuge leaseland CD states that "walking wetlands" are used within Area K.65 However, elsewhere in the CCP the Service discusses "walking wetlands" on Lower Klamath as being carried out on off-refuge private croplands.66 In our observation, none of the proposed Alternatives on Lower Klamath Refuge include the walking wetlands program within the refuge boundaries.67 Nonetheless, the Service relies on the Walking Wetlands program to mitigate impacts of the leaseland farming program and includes walking wetlands as a stipulation in order to make the use compatible.

Response: The commenter is correct; walking wetlands have not been implemented on the Lower Klamath NWR refuge and would not be included on the refuge in the future. Text in the Lower Klamath CD has been modified.

Comment# 793-33: Later, in the section of the CD titled "Stipulations Necessary to Ensure Compatibility/Consistency" the Service states that in order for the leaseland farming program on Lower Klamath Refuge "to be consistent and compatible with the Kuchel Act, "All leased farm lands must be managed such that all agricultural fields are within one mile of wetland habitat." The short-cycle wetland rotation program termed "Walking Wetlands" or "Flood Fallow" will be used to implement this

stipulation. This flooding program has proven to provide diversified waterfowl habitat within the lease lands and has been an economically valuable agricultural practice to local farmers. There are several problems with the proposed stipulation. First, as discussed above, the factual record indicates that the "walking wetlands" program has never actually been applied to the leaselands within Lower Klamath Refuge and the CCP only proposes to use the program on off-refuge private lands. Thus, there is no support for the Service's conclusion that the impacts to soil quality from the leaseland farming program can be mitigated through the use of walking wetlands.70 Improved soil quality on off-refuge farm lands will not reduce the adverse impacts of the leaseland program on the refuge and refuge purposes. Second, the Service cannot rely on off-refuge practices in order to make a use compatible with refuge purposes. The Service's compatibility policy states, "[w]e will not allow compensatory mitigation to make a proposed refuge use compatible…If the proposed use cannot be made compatible with stipulations we cannot allow the use." Reliance on the "walking wetlands" program on off-refuge lands is compensatory mitigation. Moreover, the Service has no authority or control over off-refuge private farmlands; how can the Service ensure that this stipulation will actually be implemented? If no walking wetlands are provided for, and thereby the stipulation is not satisfied, will the Service "expeditiously terminate" or modify the leaseland farming program as is required by the Service's own policy?

Response: The stipulations within the Compatibility Determinations for the lease land farming program have been revised to remove the references to walking wetlands. Though off-Refuge walking wetlands provide important habitat for waterfowl and other waterbirds within the Upper Klamath Basin, the Service's Compatibility Determination is not dependent on their existence.

Comment# 793-34: The Tule Lake Leaseland Compatibility Determination also includes discussion of the "walking wetlands" program. In contrast to the "walking wetlands" program proposed on Lower Klamath Refuge, the Service has actually used the program within the boundaries of Tule Lake Refuge. However, the proposed alternatives for Tule Lake Refuge also include discussion of walking wetlands on off-refuge private lands in order to implement Stipulation No. 2(b) that "all agricultural fields are within one mile of wetland habitat."73 As discussed above, the Service may not rely on off-refuge compensatory mitigation to bring a use into compatibility. We request that the Service provide details and specifics about implementation of this stipulation on private lands.

Response: Please see the Stipulation section in the Compatibility Determination for Lease Land Farming on Tule Lake Refuge. Stipulation 2b specifically states that walking wetlands would be used on Tule Lake Refuge to increase the interspersion of wetlands and agriculture. The Service has not included off-Refuge walking wetlands as a condition of compatibility. See also responses to comments 846-87 and 693-12.

Comment# 793-35: There is a similar issue with respect to the Service's reliance on the "walking wetlands" program within the Tule Lake Refuge boundaries. As with Lower Klamath Refuge, the Service relies on walking wetlands to reduce impacts to soil resources and waterfowl habitat as a result of the leaseland farming program.75 However, data provided by the Service shows that in both 2014 and 2015, there were zero acres of walking wetlands flooded on Tule Lake Refuge.76 This is likely a result of severe drought conditions in the Klamath Basin in those years. The Service should not base its compatibility determination on stipulations that are not feasible under current conditions. How will the Service ensure that Stipulation No. 2(b) is implemented in light of recent and on-going drought conditions? If no walking wetlands are provided for in future years, and thereby the stipulation is not satisfied, will the Service "expeditiously terminate" or modify the leaseland farming program as is required by the Service's own policy?

Response: Walking wetlands are an important tool for providing valuable wetland habitat and for

reducing agricultural pests and improving soil health. However, water limitations and drought increase the importance of agricultural lands to waterfowl. During drought periods, wetland habitat is limited in the Klamath Basin; therefore, agricultural grains may be one of the only foraging resources available to waterfowl. Therefore, the inability to provide walking wetlands in drought conditions does not necessarily affect the Compatibility Determination. See also response to comment 846-87 regarding walking wetlands. See also responses to comments 693-7 and 693-12 regarding revised stipulations in the Compatibility Determinations. See also response to comment 793-29.

Comment# 793-74: Walking wetlands is a program that is currently being implemented to increase wetlands on the refuge leaselands and on private lands in the basin. The program is called "walking" wetlands because the wetlands that are created are temporary (generally only in existence for one or two years), and then the land is commercially farmed again, and new wetlands are then temporarily created on other land that was previously farmed, and so on. After land has temporarily been in wetlands it is more valuable for farming because there is less need for pesticides and fertilizer thereby reducing costs, and the crops grown may qualify as organic thereby bringing in greater revenue. And of course, when land is actually in wetlands the program provides great benefits to waterfowl, but no longer does when the land is farmed again. The program is being portrayed as a reason why commercial farming on the refuges is good for wildlife. Though it is certainly better to have some of the refuge leaselands in wetlands instead of all in farming, the fact remains that the value of the program to wildlife is not when the land is farmed, but when it is in wetlands. The program actually shows the enormous benefits that could be derived if commercial farming was actually eliminated from the refuge lands. In addition, it should be noted that there is no current requirement that any percentage of refuge leaselands must be in walking wetlands.

Response: Both agricultural crops and walking wetlands provide important energetic resources for waterbirds within the Refuge (see energetics information with TrueMet model, Appendix N). Wetland habitat is important for the life-cycle requirements of many waterbird species; however, the conversion of all Refuge lease lands is not consistent with the Kuchel Act and may be limited by both water limitations and state water law.

Comment# 793-75: Under the KBRA, if the USFWS is directed by Congress to sign it, the USFWS would be agreeing to penalize Lower Klamath NWR for any walking wetlands, by reducing the water allocation to Lower Klamath NWR wetlands by one-acre foot per acre of walking wetlands. Water will be withheld from Lower Klamath NWR at a rate of one- acre foot per acre of walking wetlands, regardless of how much water is applied to the walking wetlands, and regardless of whether it is more or less than would have been applied if the land was farmed. Lower Klamath NWR is even being penalized where private walking wetlands are created under the program to increase the value of farming on private lands. Though the private wetlands will provide some benefit to waterfowl, public wetlands on a national wildlife refuge would suffer, in order to temporarily create wetlands on private lands for the private landowners' benefit, all at taxpayer expense. This is not good public policy. It again makes a lot more sense to just phase out the existing commercial farming leases on the refuges, and restore those valuable refuge lands to their historic wetland condition.

Response: As KBRA was not implemented, the first section of this comment is moot. We disagree that leveraging the development of off-Refuge wetlands in consideration of cooperative farming on the Refuge penalizes wildlife habitat on Lower Klamath NWR. Seasonal and permanent wetlands are developed to the extent feasible based on water rights and water delivery. See responses to comments 634-3 and 704-9.

Comment# 793-76: As part of the CCP process the United States Fish and Wildlife Service should:

· Only use walking wetlands as a bridge management measure as historic lakebeds are restored to natural conditions and managed for migratory birds, fish and wildlife rather than for commercial farming.

· Not use walking wetlands as a justification for maintaining commercial farming on the refuges.

· Should not reduce water deliveries to LKNWR on account of walking wetlands.

· Should evaluate a demand reduction program to prevent the periodic draining of all Upper Klamath NWR wetlands.

Response: Comment noted.

Comment# 846-108: The LK leaseland CD states that "walking wetlands" are used within Area K.275 However, elsewhere in the CCP the Service discusses "walking wetlands" on Lower Klamath as being carried out on off-refuge private croplands.276 In fact, none of the proposed Alternatives on Lower Klamath Refuge include the walking wetlands program within the refuge boundaries.277 Thus, it is unclear whether the "walking wetlands" program has ever been used within the leaselands in Area K of the Lower Klamath Refuge.278 Nonetheless, the Service relies on the Walking Wetlands program to mitigate impacts of the leaseland farming program and includes walking wetlands as a stipulation in order to make the use compatible.

Response: Walking wetlands are not used within Area K. Flood/fallow, an agricultural practice, is used on the Refuge as an IPM tool to control quackgrass that also provides wetland habitat. Both the CCP/EIS and the Compatibility Determination for lease land farming on Lower Klamath Refuge have been revised accordingly.

Comment# 846-86: as discussed above, the factual record indicates that the "walking wetlands" program has never actually been applied to the leaselands within Lower Klamath Refuge and the CCP only proposes to use the program on off-refuge private lands. Thus, there is no support for the Service's conclusion that the impacts to soil quality from the leaseland farming program can be mitigated through the use of walking wetlands.281 Improved soil quality on off-refuge farm lands will not reduce the adverse impacts of the leaseland program on the refuge and refuge purposes. Second, the Service cannot rely on off-refuge practices in order to make a use compatible with refuge purposes. The Service's compatibility policy states, "[w]e will not allow compensatory mitigation to make a proposed refuge use compatible…If the proposed use cannot be made compatible with stipulations we cannot allow the use."282 Reliance on the "walking wetlands" program on off-refuge lands is compensatory mitigation. Moreover, the Service has no authority or control over off-refuge private farmlands; how can the Service ensure that this stipulation will actually be implemented? If no walking wetlands are provided for, and thereby the stipulation is not satisfied, will the Service "expeditiously terminate" or modify the leaseland farming program as is required by the Service's own policy?283 Similarly, how will the Service determine or ensure that "all leased farm lands [are] managed such that all agricultural fields are within one mile of wetland habitat"?284 This again seems to rely on compensatory mitigation or off-refuge conditions in order to find that the leaseland program is compatible with refuge purposes. The Kuchel Act requires that "all lands" within Lower Klamath Refuge be managed for the main purposes of "wildlife conservation" and "waterfowl management."285 There is no support in the Kuchel Act, the Refuge Act, or the Service's own policies for the idea that refuge purposes can be achieved, or that uses can be made compatible, through reliance on off-refuge habitats.

Response: See response to comment 846-87.

Comment# 846-87: The Tule Lake Leaseland Compatibility Determination also includes discussion of the "walking wetlands" program. In contrast to the "walking wetlands" program proposed on Lower Klamath Refuge, the Service has actually used the program within the boundaries of Tule Lake Refuge. However, the proposed alternatives for Tule Lake Refuge also include discussion of walking wetlands on off-refuge private lands in order to implement Stipulation No. 2(b) that "all agricultural fields are within one mile of wetland habitat."286 As discussed above, the Service may not rely on off-refuge compensatory mitigation to bring a use into compatibility. Moreover, the Service must provide details and specifics as to how it is going to implement this stipulation on private lands over which it has no control.

Response: The Compatibility Determination for lease lands on Tule Lake does not use off-Refuge walking wetlands to ensure all agricultural fields are within 1 mile of wetland habitat. As stated in Section 4.4.1 of the CCP/EIS (page 4-58 of the draft CCP/EIS), a portion of the lease lands would be managed as flood/fallow units. Off-Refuge walking wetlands would continue to be used in conjunction with the cooperative farming program under which farm lots on the Refuge would be awarded to growers based on their ability to provide wetlands on private lands outside the Refuge. The Service believes this type of management results in an overall increase of wetlands available to a variety of wildlife.

Comment# 846-88: There is a similar issue with respect to the Service's reliance on the "walking wetlands" program within the Tule Lake Refuge boundaries. As with Lower Klamath Refuge, the Service relies on walking wetlands to reduce impacts to soil resources and waterfowl habitat as a result of the leaseland farming program.288 However, data provided by the Service shows that in both 2014 and 2015, there were zero acres of walking wetlands flooded on Tule Lake Refuge.289 This is likely a result of severe drought conditions in the Klamath Basin in those years. The Service should not base its compatibility determination on stipulations that are not feasible under current conditions. How will the Service ensure that Stipulation No. 2(b) is implemented in light of recent and on-going drought conditions? If no walking wetlands are provided for in future years, and thereby the stipulation is not satisfied, will the Service "expeditiously terminate" or modify the leaseland farming program as is required by the Service's own policy?

Response: See response to comment 793-29.

Comment# 906-5: The Lower Klamath Co-Op CD discusses adverse impacts to soil resources and loss of organic matter and states that "rotating units between seasonal wetland and grain/hay helps maintain the organic matter component to refuge farm soils."310 However, as discussed above, and as indicated in Table 1 of the CD, Klamath agricultural lands have not been used for rotational flooding, or "walking wetlands."311 The Service cannot rely on off-refuge wetland habitat, or compensatory mitigation to make a use compatible with refuge purposes.

Response: The Service disagrees. The Service does not rely on off-Refuge wetland habitat to make this use compatible with Refuge purposes. We rotate units between seasonal wetland and grain/hay. Please see Figure 5.6 in the CCP/EIS, which shows the area of cooperative farming/seasonal wetland.

Comment# 906-6: Both the Tule Lake and Lower Klamath Co-Op CDs include the stipulation, "[w]hen managed with a matrix of seasonal and permanent wetlands, these cooperative agricultural lands provide [sic] contribute to overall habitat needs."313 As discussed above, Lower Klamath Refuge habitat lands have suffered in recent years from declining water deliveries.314 Tule Lake Refuge provides little viable wetland habitat and in recent drought years walking wetland acreage has been significantly reduced.315

The Service must be specific and detailed in how it will achieve this stipulation in light of current drought and water availability conditions in order to ensure the cooperative farming program is compatible with refuge purposes.

Response: See response to comment 793-35.

L. Riparian Areas
Letter ID # 793-22, 793-62

Public Concern Statement: One commenter states that the Service should evaluate the potential to restore the riparian corridor along the Lost River in California and Oregon.

Comment# 793-22: The USFWS CCP should plan to evaluate the potential to restore the riparian corridor along the Lost River in California and Oregon. Riparian vegetation can provide several water quality benefits, such as filtration pollutants, bank erosion control, and maintenance of cool water temperatures. It also can enhance channel structure to provide additional wildlife habitat. Improving water quality in the Lost River will have a positive effect on water quality in Tule Lake.

Response: The Service could consider this in future CCP revisions in areas where the Lost River crosses refuge property.

Comment# 793-62: Restore Lost River Riparian Corridor. The USFWS CCP should plan to evaluate the potential to restore the riparian corridor along the Lost River in California and Oregon. Riparian vegetation can provide several water quality benefits, such as filtration pollutants, bank erosion control, and maintenance of cool water temperatures. It also can enhance channel structure to provide additional wildlife habitat. Improving water quality in the Lost River will have a positive effect on water quality in Tule Lake.

Response: See response to comment 793-22.

M. Pumping Issues
Letter ID # 87-3, 622-21, 846-31, 853-5, 854-1

Public Concern Statement: It is requested that the CCP/EIS consider cost allocations associated with operation and management of E/EE and F/ FF pumping plants. Other comments state that the Service should address how costs to pump water to the Big Pond would be allocated or that the Service should not pay operation and management charges associated with D-plant water pumping. With regard to the D pumping plant, one entity further states that the CCP/EIS fails to disclose data on current or historical electrical power contracts or power supply prices for D Plant and mischaracterizes the effect of pumping costs on water supply to the Lower Klamath Refuge.

Comment# 622-21: Lower Klamath NWR: The Refuge should re-negotiate the current agreement with Reclamation over delivery of water through the P-Canal System on Lower Klamath NWR. The current agreement requires the refuge to pay for nearly all water used on the Refuge delivered from D-Plant. In a normal delivery year, this cost would typically exceed $1M.

Historically, the Refuge has not paid for water pumped from D-Plant to Lower Klamath NWR. This

arrangement was a result of a cooperative development by Refuge and Reclamation which was a product of the 1938 Lakisch Report. At that time, Tule Lake was experiencing a surplus of water, which during high water years, flooded crop lands and reduced the acreage of lands suitable for agriculture. On Lower Klamath, the opposite problem existed; the refuge was entirely dry and experienced extreme dust storms and uncontrollable, persistent peat fires. D-Plant was installed to alleviate both problems. Tule Lake would gain 17,000 acres of crop lands protected from flooding (mostly from existing wetlands) and Lower Klamath would re-flood thousands of acres of wetlands that had been dry for decades. The agricultural beneficiaries of D-Plant were to pay for the O&M costs of this project. Under this arrangement, water on the Tule Lake sumps was removed when threats of flooding existed- not necessarily when Lower Klamath NWR needed water; hence the O&M strategy where the primary beneficiaries paid put in place. In the 1990's, the Refuge purchased several properties on the east side of Lower Klamath NWR adjacent to the P-Canal. Prior to Federal ownership, private landowners had previously paid the O&M costs to Reclamation for delivery of water. Reclamation is now requesting the Service pay for all of the O&M costs for water being pumped by D-Plant. Unless the refuge is specifically requesting a special pumping of D-Plant, the refuge should continue to resist paying these O&M charges.

Response: Comment noted.

Comment# 846-31: The CCP mischaracterizes the impacts of D Plant pumping on Lower Klamath water supplies, resulting in a faulty analysis of the Refuge's water supply options. At one point the Draft CCP states: Compounding the water supply problems at the refuge is the fact that D Plant pumping of project return flows from Tule Lake Refuge to Lower Klamath Refuge also has declined significantly in recent years, following the expiration of a 50-year old contract in 2006 that supplied low cost power to the project irrigators (DOI and California Oregon Power Company 1956).However, the CCP also states: In recent years, increasing electrical costs and water efficiency in the Tulelake Irrigation District has reduced output from D Plant, especially during the irrigation season. Flexibility in operating D Plant and utilizing D Plant as a timely water supply source for Lower Klamath Refuge would be beneficial to this refuge. This is another example of the Draft CCP/EIS ignoring or misrepresenting issues impacting refuge water supply options. While it is clear that in recent years increased competition for water has reduced the overall volume of water available for supplying the Klamath Project, as well as Lower Klamath and Tule Lake, it is not clear that increased power costs have had any significant impact on the volume of water available to supply the refuges. Rather, it is clear that the U.S. Department of Interior and U.S. Bureau of Reclamation have responded to increased competition for water in the basin by – among other things – deliberately reducing refuge water supplies in likely violation of federal law. Starting in 2006, Klamath Project electrical power costs transitioned to parity with the costs of other agricultural power customers in the vicinity of the Klamath Project. There is nothing exceptional about the current pumping costs in this area.182 The Draft CCP/EIS fails to disclose any data on current or historical electrical power contracts or power supply prices for D Plant, which prevents the public from assessing these statements, a violation of NEPA. However, if it is true that increased costs at D Plant have had any impact on the overall amount of water available to Lower Klamath Refuge since 2006, it must also be true that there has been some recurring volume of available surplus water in the Lost River subbasin that could have been supplied to Lower Klamath via D Plant, but was foregone due to prohibitive pumping costs. Since the completion of D Plant in the 1940s, water pumped via D Plant has been surplus to the consumptive needs and safe storage capacity of the Lost River subbasin, and more recently, surplus to the water necessary to meet legally mandated minimum sump levels on Tule Lake Refuge. The Draft CCP acknowledges this, stating "excess water from the Tule Lake sumps" is a water supply for Lower Klamath Refuge.183 If surplus water has existed on these sumps, and could have been provided to Lower Klamath Refuge but for the rise in the cost of pumping, this volume of forgone water should be apparent in sump level data since 2006. If it exists, the CCP should present this data. Presumably, this supposed surplus of Tule Lake subbasin water arises in the lowest reaches of the Lost River system, below where it can be routed to the

Klamath River via the Lost River Diversion Channel for diversion to Lower Klamath at Ady Canal. This route to Lower Klamath is less costly than routing the water through D Plant. However, if the Service asserts that some or all of this foregone Lower Klamath water supply arises above the Lost River Diversion or within Upper Klamath Lake, the CCP should explain why this water was not diverted at the time to Lower Klamath via Ady Canal on the Klamath River. Additionally, the CCP should consider how to better anticipate this water supply and route it towards Ady Canal instead of allowing it to be wasted in the lower reaches of the Lost River subbasin.

Put another way, if the Service is aware that there is a regular supply of surplus water in the Klamath Project, the CCP should quantify this water and explore strategies to capture this water for refuge use at the lowest cost to taxpayers.

If it is true that "increasing… water efficiency in the Tulelake Irrigation District" has also resulted in reduced overall D Plant pumping, the CCP should present data supporting this assertion. If the CCP is correct regarding increased district efficiency, it is not clear why "[f]lexibility in operating D Plant" would increase Lower Klamath Refuge water supply from D Plant.185 Presumably, increased district efficiency has reduced the overall need for water diversions to the Tule Lake area and decreased excess runoff into the Tule Lake Refuge sumps.

In addition, this increasing efficiency would presumably reduce overall competition for water in the Upper Klamath Basin, and would therefore increase the volume of water potentially available for refuge use. Again, if the Service is aware of surplus water within the Klamath Project system, the CCP should consider ways to quantify and route that water to Lower Klamath Refuge at the lowest possible cost to taxpayers – most likely via Ady Canal.

The Draft CCP's mistaken analysis of the issues impacting D Plant water supplies for Lower Klamath Refuge contributes to the overall inaccuracy and inadequacy of the document's discussion and analysis of the Refuge's water supply, food production, and habitat options. The CCP's assertions regarding D Plant cost impacts on Lower Klamath's water supply lack factual basis and should be struck from the document.

Response: The Service disagrees that its statements on D Plant pumping reductions and the causes and impacts were not factual. The Service acknowledges that D Plant pumping has declined over the years for a number of reasons. In part, the declines are related to the increased costs of pumping, which increased substantially after 2006. Other possible factors for the reductions are increases in irrigation efficiency and increased subsurface losses as a result of declining groundwater heads and an increased vertical hydraulic gradient (Pischel and Gannett 2015). The increased subsurface losses, losses that are recharging the aquifer, are likely where some of the "excess water" referred to in the comment have ended up. The Service acknowledges that there may also be excess water in the Upper Klamath Lake as a result of reduced D Plant pumping. The historic diversions in the record included, on average, 86 thousand acre feet of D Plant pumping, which reached the Lower Klamath Refuge. Much of this water was used on the refuge to maintain and irrigate wetlands and farmed fields. Since 2006, D Plant has pumped, on average, just 22 taf annually. The fact that D Plant is pumping much less water and that the refuge is no longer consuming the volume of water that was historically supplied through D Plant means that historic diversions may overestimate current agricultural demand Reclamation is responsible for managing water supply within the Klamath Project and the Service will continue to work with Reclamation to address Refuge water needs consistent with it's adjudicated rights and within project priority. Please also see response to comment 522-4. .

Comment# 853-5: How would costs to pump water from Pumping Plant D to the "Big Pond" be

allocated, especially as pumping costs associated with Pumping Plant D have increased drastically since 2006. Would the Service help offset the costs incurred by Tulelake Irrigation District or other water users?

Response: D Plant pumping will continue as per TID's requirement under their rules and regulations, pursuant to contract No. 14-06-200-5954. Also see response to comment 846-31.

Comment# 854-1: These comments supplement those submitted by Clyde Snow & Sessions on behalf of Klamath Drainage District (KDD) on June 20, 2016. To clarify comments in paragraph 3, the pumping plants on the Straits Drain that lift the water to river level are E/EE and F/FF. KDD does not operate these plants; the Bureau of Reclamation operates them, and KDD pays a significant amount of the operation and maintenance (O&M) cost. The CCP/EIS does not adequately consider proportional benefits and cost allocations associated with O&M of these plants. The alternatives should quantify the refuge impacts as they relate to overall O&M and should allocate the fiscal burden appropriately.

Response: With regard to proportional share and cost allocations associated with operation and maintenance (O&M) of these plants, the text in the CCP/EIS has been revised to address this comment. The 1971 Rules and Regulations for Reclamation O&M of the Klamath Straits Drain Outlet and Ady Headworks address the cost allocations O&M and pumping of the plants.

Comment# 87-3: Historically, KDD drained its irrigation water south into California through the refuge. Only when the refuge began to receive water from Tulelake Irrigation District ("TID") did KDD need to construct the F and FF pumping plants. Refuge water is drained into the Klamath Straits Drain ("KSD") and is pumped into the Klamath River via the F and FF pumping plants. These facilities are operated by KDD and are subject to Project reserved works reimbursement. Because of changes in practices over the years (as well as significant storm events), KDD now finds itself pumping far more water than it was originally committed to pump and is paying a disproportionate share of the pumping cost. KDD is concerned the CCP/EIS alternatives (particularly Alternative D, but also including the No Action and other Alternatives) do not adequately consider cost allocations associated with operation and management of these pumping plants.

Response: Considering costs allocations of Straits drain pumping is outside the scope of the CCP/EIS.

N. <u>Groundwater</u>
Letter ID # 56-14, 56-60, 734-33, 743-89, 780-9, 793-10

Public Concern Statement: Several respondents ask that the CCP/EIS disclose projected groundwater use, changes in the water table, and impacts from groundwater pumping, as well as potential impacts to groundwater contamination from proposed actions.

Comment# 56-14: Please fully examine changes in aquifer levels over time and causes of stress and demands on the aquifer.

Response: It is unclear that halting the CCP/EIS until groundwater studies are completed would improve decision making for this programmatic document. Where appropriate (Preferred Alternative for Tule Lake NWR), the Preferred Alternative does include monitoring of various resources such as surface and groundwater levels to assess the effects of climate change on the Refuge. A detailed analysis of groundwater would be done at Tule Lake NWR under the Preferred Alternative in a future exploration of

the feasibility of using groundwater at the south end of the Refuge.

Comment# 56-60: Please provide full and detailed analysis of the status of ground and surface water, changes in water tables, effects of well pumping, etc.

Response: See response to comment 56-14.

Comment# 734-33: A final EIS should address the issues of groundwater contamination from refuge farming, chemical use and grazing, along with a Cumulative Impacts analysis to groundwater through the project area. On the California side of the border, it should also provide a plan to comply with California's new groundwater laws, which regulate nitrate and salt management for groundwater and address the issues of interconnected groundwater and surface water.

Response: The Service is not aware of any data on groundwater contamination; however, the mobility of chemicals is one factor considered in the pesticide use proposal process (see Appendix Q). "The Sustainable Groundwater Management Act (SGMA) directs the Department of Water Resources (DWR) to identify groundwater basins and subbasins in conditions of critical overdraft. Conditions of critical overdraft result from undesirable impacts which can include seawater intrusion, land subsidence, groundwater depletion, and/or chronic lowering of groundwater levels. DWR identified such basins in Bulletin-118, 1980 and included the same area with the revised basin boundaries in Bulletin 118, Update 2003. As defined in the SGMA, 'A basin is subject to critical overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts.'" "As required in the SGMA, all Bulletin 118 basins designated as high or medium priority and critically overdrafted shall be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans by January 31, 2020. All other high and medium priority basins must be managed under a groundwater sustainability plan by January 31, 2022" (http://www.water.ca.gov/groundwater/sgm/cod.cfm).

Two subbasins exist in the project area: Klamath River Valley – Tule Lake (1-2.02) and Klamath River Valley – Lower Klamath (1-2.01). Although listed as medium- and low-priority subbasins, respectively, by DWR (2016), these subbasins are not listed in Bulletin 118. Thus, the Tule Lake subbasin is scheduled for groundwater sustainability plan completion by January 31, 2022. The Service will participate, as appropriate, in the Tule Lake subbasin Sustainable Groundwater Management Act process.

Comment# 743-89: Page 5-109, ending paragraph at top of page: This paragraph includes the statement that "return flows have declined due to reduced project water supply for upstream agricultural lands and increased canal losses due to groundwater pumping." This statement is incomplete and inaccurate in some respects. The existence or volume of "return flow" depends on where it is measured, but if the reference is to inflow to Tule Lake, upstream water management, including efficiencies, are a factor, in addition to drought and limited project supplies. We are not aware of significant canal losses due to groundwater pumping. Again, please refer to other comments including section I.H above.

Response: See response to comment 743-87.

Comment# 780-9: Both of the action alternatives for TuleLake Refuge propose pumping groundwater for refuge use. The Draft EIS states that, depending on the amount of withdrawal, groundwater pumping may "require balancing groundwater withdrawal with aquifer input to minimize adverse effects to the aquifer" (page 6-106). Groundwater use would be analyzed in a subsequent NEPA document once specific details on the facilities and proposed usage are available. Recommendation: Include in the Final EIS a

preliminary analysis of projected groundwater use and impacts to inform the selection of the preferred alternative for the Tule Lake Refuge.

Response: No decision on whether to or the degree to which the Service would pump groundwater at Tule Lake Refuge would be made based on programmatic information in the CCP/EIS. The information in the CCP/EIS is provided in the spirit of full disclosure and discusses possible potentially important considerations such as balancing equilibrium and impacts of continuing regional post-2000 groundwater pumping rates. As noted by the commenter, this is an important issue to the Service, and the effects of using groundwater at the south end of the refuge will be analyzed in a subsequent, more site-specific plan and NEPA document.

Comment# 793-10: The draft CCP/EIS did not include adequate analysis or consideration of increased pumping of groundwater, which is which is known to be occurring at elevating levels as irrigation water has been curtailed due to consecutive years of drought near the Tule Lake NWR. A 2015 USGS study appropriately titled "Effects of Groundwater Pumping on Agricultural Drains in the Tule Lake Subbasin, Oregon and California," models significant decreases in water available due to groundwater extraction Please include adequate analysis on how increased groundwater pumping near Tule Lake NWR could affect future water availability in the final CCP/EIS.

Response: The commenter is correct in stating that the increased use of groundwater in the Tule Lake subbasin to make up for decreases in surface water allocation at the Refuge has shown decreasing availability over time. This is analyzed in the CCP in the Hydrology section (6.4.2) for impacts to Tule Lake, citing the reference cited by the commenter. Because the Service is pursuing renewed discussions of how to allocate surface water, the analysis of site-specific impacts of groundwater pumping and decisions on how to manage it is something that is not "ripe" for decision. As the CCP/EIS states, a subsequent plan and NEPA document to do so is anticipated. In addition to a more site-specific analysis, this subsequent plan will also propose facilities and proposed groundwater pumping management.

O. Refuge-Specific Water Objectives
Letter ID # 221-7, 221-8, 221-9, 221-10, 221-11

Public Concern Statement: For the Tule Lake NWR water, a variety of management and funding actions are proposed.

Comment# 221-10: The Service should assure funding for the marsh dredging action if the "water level manipulation" stated does not provide the desired results.

Response: The Service agrees that habitat diversity and heterogeneity is declining as a result of stabilized conditions within Sump 1A. Any attempts to address the issue would be multifaceted, as no one tool has the capability of addressing all issues that modification of the hydrology and sedimentation patterns has resulted in.

Comment# 221-11: My professional opinion is the "water level manipulation" approach for the Tule Lake marsh is just a way to kick the can down the road and is simply unrealistic given water quality, siltation, and pumping costs. There are just no examples where the problems being faced by this marsh have worked out well for the marsh or the migratory birds it is supposed to support. The Service needs to establish a strategy and lay the ground work for the actions it needs to rehabilitate the marsh to its 1960s

and 70s stature.

Response: Comment noted.

Comment# 221-7: Tule Lake NWR Goal 1, Objective 1.1 Water. In the strategies of this goal, the "Best Management Practices" (BMP) are to be employed. In Chapter 4, Alternative C, Wetland and Habitat Management and Objective 1.6 of this goal indicate a desire to manage the marsh for a better mix of aquatic vegetation through water level manipulation. If these BMPs are not proven and may fail for various reasons such as electrical cost to start "D" Plant pumps in order to manipulate water levels, or TID not doing as they say they will. (Note: Neither TID nor BOR have a track record that indicates their support of Refuge needs.) If the stated BMPs do not work what are the available options besides just kicking the can down the road?

Response: None of the BMPs in Appendix L would impede the Service's ability to implement any of the alternatives. The BMPs (Appendix L) focus on reducing environmental effects of refuge habitat management or future restoration projects, such as restricting the timing of construction-related activities to minimize wildlife disturbance or limiting when prescribed fires can occur.

Comment# 221-8: There should be a discussion of returning the marsh to its stature of the 1970s era. This would require taking out the Bicentennial Land Heritage Program project and as a friend that worked at the time for BOR said, "Dredging is always and option". Deepening the northeast comer of the 1A Sump would remove sediment and nutrients brought in by the various sources, primarily agriculture field runoff. But from other sources such as spring winds and runoff from throughout the Lost River drainage, all of it ending up in the historic Tule Lake Marsh. Deepening specific areas would also likely benefit the Lost River and short-nosed suckers by keeping water temperatures a little lower. Especially if the area between the north dike and the Lost River bridge is sufficiently deepened. It would function as a sediment trap for future sedimentation events. Another trap should be placed at or in the 1B Sump where the canal provides water to the sump in the southeast comer of the unit.

Response: The Service is exploring many possible options to remove sediment, and the topic will be addressed in future step-down (more detailed) planning.

Comment# 221-9: Another "Management Practice" which would help reduce the decline of the marsh would be to set up small settling basins along the "A" Dike where pumps presently take water from drainage ditches and pump it into the IA Sump. After material has settled out of the agricultural return flows, it could then be pumped into the marsh. These basins would be checked regularly by BOR as part of their management of the project. It was stated that BOR charges about $100 for project water. It would not be an encumbrance to raise this to $300 and pay for correcting the negative impacts the BOR project has on the Refuge. BOR could develop a monetary incentive to use no till or minimum till practices throughout the project.

Response: Comment noted. An in-depth analysis of incorporating broader stakeholder facilities and operations for this option is beyond the scope of the current CCP/EIS.

P. Biological Opinion and Water Availability

Letter ID # 522-10, 622-22, 622-9, 735-4, 748-28, 748-31, 748-34, 774-4, 778-8, 793-8, 793-9, 846-32, 846-33

Public Concern Statement: Commenters provided differing opinions on the impacts of the 2013 BiOp for the Klamath Project. Some commenters state that the BiOp severely limits water to the Lower Klamath NWR, while another commenter states that the BiOp allows for greater delivery of water to the Klamath Project, including the Lower Klamath NWR, than previous BiOps and that other characterizations do not consider a 2001 BiOp for threatened coho salmon that also influences water delivery. Comments on this topics also recommend that the Service be represented in future BiOps and agreements, evaluate the impacts of the BiOp on target species and whether there are opportunities to amend the BiOp, describe how the BiOp's water allocation regime affects Refuge water supplies, not rely on the BiOp as a basis for evaluating water supply options, and alter language to be consistent with Reclamation's understanding of requirements associated with operation of Clear Lake Dam under the 2013 BiOp.

Comment# 522-10: The current Biological Opinion has significantly impacted water deliveries, especially to Lower Klamath. We understand the Service's responsibilities and authorities related to threatened and endangered species. Yet we also believe that because of the profound impact the biological opinion is having on migratory birds, that a rigorous biological assessment of the outcomes of the Opinion is completed. Al l too often, sparse data and assumptions leads to management and policy actions which may not meet their stated objectives. After years of the Biological Opinion in force, what are the biological outcomes associated with the action towards target species? If populations aren't recovering, what are the known impediments and management actions to create recovery? Are there opportunities to amend the Biological Opinion to provide target species with ongoing benefits while also allowing fuller deliveries to the Refuges and enhancing the migratory bird objectives of the Refuges and the Service?

Response: The subjects raised in this comment are beyond the scope of the CCP/EIS.

Comment# 622-22: Lower Klamath NWR: The Refuge must be involved with all future ESA consultations involving Klamath Project Water supplies. The refuge was not involved in the most recent consultation, by direction of the Service, and was never allowed to sit at the table during formal negotiations between the Service, Project irrigators, Tribes and Reclamation. What emerged from those negotiations includes limited summer, fall, and winter water supplies for the refuge. The refuge was permitted to warn the Service through written comments that the Biological Opinion would leave Lower Klamath NWR severely short of water during critical periods. Under this Biological Opinion, the refuge is essentially dry despite a near normal water year and full deliveries to Project irrigators.

Response: Comment noted.

Comment# 622-9: The Refuge must be a party to future Klamath Project Biological Opinions (BO) as are the Tribes, irrigators, and FWS (Ecological Services). The current BO, in which the Refuge staff was not a party, has left the LK essentially dry in a normal water year.

Response: Comment noted.

Comment# 735-4: Endangered Species issues. Lower Klamath Refuge has gone dry in recent years, not because there was not sufficient water in the Klamath Project, but because the Klamath Project Biological Opinions (BO) for the listed suckers in Upper Klamath lake and the Coho salmon in the Klamath River,

were prime examples of single-species management. These BO's were developed by FWS Ecological Services in conjunction with the tribes, irrigators, and BOR. The refuges were not apart to these actions even though the determinations made under the BO's drastically affected the refuges and essentially left them dry even in a normal water year. This can be corrected by proper leadership within FWS at the Regional level. The nation’s oldest waterfowl refuge should not be precluded from actions that affect their management.

Response: Comment noted.

Comment# 748-28: 5.2.1 "The referenced text, as well as following text in this section, implies that the reason that LKNWR has received less water in during the drought of 2013-2015 as compared to 1992 and 1994, is due to ""unresolved questions about within-project priority"". This is an unfair characterization that doesn’t consider the fact that a second Biological Opinion was issued for the Klamath Project in 2001 for the protection of threatened coho salmon in the Klamath River. This additional Biological Opinion required the release of significant volumes of water that would have been historically available for delivery to LKNWR, and created the subsequent water delivery limitations. Without the Biological Opinion for Klamath River coho, there would significantly more water available for delivery to the Klamath Project and LKNWR, and Project water shortages (including LKNWR) would be infrequent." """"In the six drought years in the first half of the record, 1981-1997, the refuge received an average of 28,000 acre-feet of direct project diversions from the Ady Canal. Even after the federal ESA listings of the 1980s and 1990s put limitations on the availability of project water supply, in drought years 1992 and 1994, Lower Klamath Refuge still received 21,000 acre-feet and 42,000 acre-feet, respectively, of direct project diversions. The main effect of the federal ESA listings on the refuge water supply during drought years was on the D Plant return flows, which decreased substantially in 1992 and 1994, as can be seen (blue line in Figure 5.5)."" and ""More recent drought years associated with limited project water availability have seen substantial reductions in Ady Canal deliveries to Lower Klamath Refuge (red line on Figure 5.5), mainly due to unresolved questions about within-project priority. Compounding the water supply problems at the refuge is the fact that D Plant pumping of project return flows from Tule Lake Refuge to Lower Klamath Refuge also has declined significantly in recent years, following the expiration of a 50-year old contract in 2006 that supplied low cost power to the project irrigators (DOI and 6 California Oregon Power Company 1956). In contrast to the 1980s and 1990s, in the six drought years in the last half of the record (1998-2015), the refuge has been nearly dry, only receiving an average of 13,000 acre-feet from the Ady Canal, as contrasted with refuge water needs and historical deliveries, of over 100,000 acre-feet annually. In 2014, there were zero Ady Canal deliveries to Lower Klamath Refuge and in 2015, 19,000 acre-feet (through November 2015). In comparison, the irrigated lands on Tule Lake Refuge have received full deliveries in recent years (data not shown). The urgency of water issues at the refuge has been raised since the refuge is now essentially dry, a condition not observed since the 1930s."""" "The referenced text, as well as following text in this section, implies that the reason that LKNWR has received less water in during the drought of 2013-2015 as compared to 1992 and 1994, is due to ""unresolved questions about within-project priority"". This is an unfair characterization that doesn’t consider the fact that a second Biological Opinion was issued for the Klamath Project in 2001 for the protection of threatened coho salmon in the Klamath River. This additional Biological Opinion required the release of significant volumes of water that would have been historically available for delivery to LKNWR, and created the subsequent water delivery limitations. Without the Biological Opinion for Klamath River coho, there would significantly more water available for delivery to the Klamath Project and LKNWR, and Project water shortages (including LKNWR) would be infrequent."

Response: The main water supply problems for Lower Klamath NWR seem to have began in about 2010, when deliveries to the refuge have declined to levels much lower than observed in the historical record. The 2013 BiOp limited the quantity and timing of water deliveries to a degree not seen in previous BiOps

or observed in the historical record.

Comment# 748-31: 5.3.1 Reservoir operations are conducted in accordance with… """Releases from the lake for irrigation and other purposes cannot be made before April 15 or until 80% of the larval fish have returned to the reservoir from spawning habitat in tributaries flowing into the lake."""" "This is inconsistent with Reclamation's understanding of requirements associated with operation of Clear Lake Dam under the 2013 BiOp. This may have been how Clear Lake was operated under a previous biological opinion, but after the screen was installed (in 2003), and under the 2013 Biological Opinion, water can be released from the reservoir to satisfy downstream irrigation water rights regardless of larval fish escapement from Willow Creek. The April 15th date may have been agreed to in a previous BiOp because, on average, by that date the majority of sucker larvae would have drifted to the reservoir. As a general note: Reclamation and other federal agencies are not monitoring larval drift out of Willow Creek, so we really have no way of operating as stated in the CCP. USGS does monitor the adult spawning run, so we have a decent idea of when adults migrate up Willow Creek, but we haven't monitored larvae in that system for a number of years."

Response: The subject text in the comment was revised in the CCP/EIS.

Comment# 748-34: 6.2.2 Hydrology "Hydrology of the wetlands at the refuge is dependent on the Klamath Reclamation Project managed by the U.S. Bureau of Reclamation (Reclamation), which limits the ability of the Service to manage the wetlands for both spring and fall bird migrations. Water is not delivered during summer and fall to the wetlands, resulting in most wetlands drying up by fall. Area K is flooded during the fall for agricultural uses. Because of the restrictions of the Klamath Reclamation Project, the Service cannot manage the hydrology of the refuge to fully achieve its purpose (as a preserve and breeding ground for native birds). " "This statement implies that the 2013 Biological Opinion has resulted in significantly less water available for delivery. The Biological Opinion issued for the Klamath Project in 2001 for the protection of threatened coho salmon in the Klamath River, when combined with UKL requirements for suckers, was the Biological Opinion that resulted in significant Klamath Project water shortages. This statement also implies that the 2013 Biological Opinion is more restrictive to deliveries to LKNWR than previous Biological Opinions. This is not the case. The 2013 Biological Opinion allows for greater delivery of water to the Klamath Project, including LKNWR, than the previous Biological Opinions. Additionally, high power costs at D Pumping Plant and adjudication have increased the complexities of delivering waters to refuge lands in LKNWR. Since 2010, annual water shortages have not only affected refuge deliveries, but Klamath Project farms to include Area K. Also, fall flooding in Area K is a common historic practice recommend by the Service to provide for waterfowl purposes, but also serves as a pre-irrigation for the upcoming year. Furthermore, Reclamation closely coordinates with the Service regarding maximizing available water supplies for Refuge."

Response: See response to comment 748-28.

Comment# 774-4: The Refuge must be represented when agreements are negotiated that affect Refuge lands. The biological opinion on endangered fishes is an example; include Refuge personnel in future negotiations.

Response: Comment noted.

Comment# 778-8: Refuge staff should also be engaged in development of Klamath Basin Biological Opinions to ensure adequate consideration of the refuges' needs in future ESA actions.

Response: Comment noted.

Comment# 793-8: The CCP fails to adequately describe how the water allocation regime put forth in the U.S. Bureau of Reclamation's 2012 Biological Assessment for the Klamath Project (BA), and approved by the joint 2013 U.S. Fish and Wildlife Service/National Marine Fisheries Service Biological Opinion for the Klamath Project, severely (and arguably illegally) reduced Lower Klamath Refuge water supplies compared with previous allocation regimes and dramatically interferes with the refuge's goals for food production, habitat, and breeding birds. The BA's water allocation regime was intended to remain in effect until 2023, which partially overlaps with the time period of this CCP. However, this term may be cut short by re-initiation of consultation under the federal Endangered Species Act for reasons discussed below.

Response: This request is beyond the scope of the CCP/EIS.

Comment# 793-9: It is likely that the USBR must initiate consultation for Klamath Project operations in the near future. Recently, the Hoopa Valley Tribe filed a lawsuit over the severe negative impacts to salmon populations resulting from the BA's water allocation regime. The Karuk and Yurok Tribes, Klamath Riverkeeper and Pacific Coast Federation of Fishermen's Associations have also file 60-day notices of intent to sue under the federal Endangered Species Act. Earlier, National Marine Fisheries Service (NMFS) had signaled its intent to reconsider elements of the Biological Opinion relating to impacts to salmon populations that will require consultation under federal law. Given this reality, the CCP cannot and should not use the 2012 BA as a basis for long-term water supply options or proposed alternatives.

Response: See response to comment 846-33.

Comment# 846-32: The CCP fails to adequately describe how the water allocation regime put forth in the U.S. Bureau of Reclamation's 2012 Biological Assessment for the Klamath Project (BA), and approved by the joint 2013 U.S. Fish and Wildlife Service/National Marine Fisheries Service Biological Opinion for the Klamath Project, severely and unlawfully reduced Lower Klamath Refuge water supplies compared with previous allocation regimes and dramatically interferes with the refuge's goals for food production, habitat, and breeding birds.

Response: The Service believes that the description of existing conditions in Chapter 5 and the evaluation of habitat management under varying levels of water supply in Chapter 6 provide the appropriate impact assessment.

Comment# 846-33: It is likely that the USBR must initiate consultation for Klamath Project operations in the near future. Recently, the Hoopa Valley Tribe filed a lawsuit over the severe negative impacts to salmon populations resulting from the BA's water allocation regime. Other tribes and groups, such as the Pacific Coast Federation of Fishermen's Associations, have issued notices of intent to sue under the federal Endangered Species Act. Earlier, NMFS had signaled its intent to reconsider elements of the Biological Opinion relating to impacts to salmon populations that will require consultation under federal law. Given this reality, the CCP cannot and should not use the 2012 BA as a basis for long-term water supply options or proposed alternatives.

Response: The Service disagrees with this comment. Until a new BiOp is in place, the Service believes it is appropriate to assume that water deliveries to Lower Klamath Refuge would be consistent with provisions of the 2013 BiOp (Service 2013). To include the range of reasonable future water delivery

scenarios, the CCP/EIS also disclosed how water would be managed under KBRA (or similar agreement) (see Section 4.2.1). Chapter 6 of the CCP/EIS includes projections of available habitats under each alternative for both water delivery scenarios under dry, median, and wet years.

Q. KBRA
Letter ID # 522-8, 622-24, 622-8, 681-2, 704-8, 793-2, 846-55, 853-1, 906-47

Public Concern Statement: Comments on KBRA fall into two categories. Some commenters ask the Service to remain involved in future KBRA negotiations. However, others state that discussions of KBRA should not be included in the CCP/EIS since the Act has expired and it is not a feasible approach for addressing water supply.

Comment# 522-8: Continue to be involved with ongoing KBRA deliberations. The KBRA has been a robust, multi stakeholder process which bodes well in developing a path forward. Yet, greater detail is needed to define the delivery from BOR to the USFWS. Specific and detailed management agreements between the two agencies are an essential outcome to ensure adequate water deliveries.

Response: Comment noted.

Comment# 622-24: Lower Klamath NWR: In 2010, the Klamath Basin Restoration Agreement (KBRA) and the Klamath Hydroelectric Settlement Agreement (KHSA) were signed. In 2014, the Upper Klamath Basin Comprehensive Agreement (UKBCA) was signed. Members of the California and Oregon delegations introduced legislation in the past two Congresses to advance these agreements. To date, the U.S. Congress has not authorized them. The expiration of the KBRA last December caused uncertainty in moving forward with the KHSA and UKBCA. The amended KHSA and the 2016 Klamath Power and Facilities Agreement are piece- meal efforts which borrow from the original restoration agreement. These may help lead to resolution of the long-standing struggle for control of water. These agreements should also stipulate that Refuge purposes are equal in priority to all existing Project purposes and that Reclamation deliver water for Refuge purposes through Project infrastructure.

Response: This comment raises a topic that is beyond the scope of the CCP.

Comment# 622-8: Remain involved in future KBRA negotiations. If future legislation is developed, it must be more specific about the delivery mechanism between Reclamation and the Service than the language in the current KBRA. Simply conferring new fish, wildlife, and refuge purposes to the Klamath Project may not be specific enough to ensure timely delivery of adequate water supplies. Development of water delivery agreements between Reclamation and the Service must be part of any new agreement and cannot be left to the sole discretion of the Bureau of Reclamation.

Response: Comment noted.

Comment# 681-2: Operating under the provisions of the KBRA would alleviate much of the water supply related difficulties that have plagued the Lower Klamath NWR for the past several years .To continue to operate under the 2013 Biological Opinion would only be to the detriment of the migratory waterfowl and other birds whose welfare is the primary purpose for the existence of the refuges. It is imperative that the Fish and Wildlife Service (Service), Bureau of Reclamation (Bureau), Department of Agriculture, and NMFS all make every effort to ensure that the provisions of the KBRA with respect to a

water supply for the Lower Klamath NWR are implemented

Response: Comment noted.

Comment# 704-8: The discussions of the KBRA have little place in the CCP or its analysis. The KBRA has expired and the legislative action needed to implement it and the KBRA water plan are unlikely to occur. The Service has held off on developing a CCP for these refuges with the hope that the KBRA would pass, and thereby influence, if not direct, the agency's actions under the CCP. The KBRA sought to lock in commercial leaseland farming on refuge lands for 50 years by requiring non-federal parties to support this harmful program, and thereby give political cover to the Service for the program's continuation under the CCP. The KBRA should be ignored, the Service should make the needed determination that commercial leaseland farming is not a compatible use of these refuges, and should look at other means of securing adequate water supplies for the refuges.

Response: We disagree. Although the KBRA expired on January 1, 2016, without being implemented by Congress, the water management scenario it represents provides a model for parties negotiating alternative agreements to secure a firm water supply for the refuges in the future. We have revised the text in Section 4.2.1 to explain why KBRA represents a needed bookend for future water scenarios.

Comment# 793-2: As a participant in ongoing strategies to resolve water conflicts and crises in the Klamath Basin, we recognize the importance of adopting a "basin wide" management plan and agreement that can support the restoration of the full Klamath Basin while also recognizing reasonable irrigation interests. That said, we question the use and reliance of negotiated terms for the Klamath Refuge Complex included in the Klamath Basin Restoration Agreement (KBRA) within the No Action Alternative, because the plan is neither legal or actionable, and the its inclusion could cause changes to current management, making the "No Action" alternative non-compliant with NEPA requirements. While we note in the Scoping Summary found in Appendix J that commenters had requested you include KBRA numbers in the draft CCP/EIS, the agreement does not exist and has no force of law rendering it obsolete for future management decisions. And while we acknowledge that the Klamath Power Facility Agreement (KPFA), which was adopted on April 6, 2016, maintains commitments for signatories to identify a new water sharing agreement in the next year, the KBRA should not be included within the CCP.

Response: See response to comment 846-22.

Comment# 846-55: As with the alternatives considered for Lower Klamath Refuge, the action alternatives for Tule Lake Refuge (Alternatives B and C) are based largely on the bioenergetics report (Appendix N). For reasons we describe above it is inadequate to narrowly base the alternatives for a subset of waterfowl species focused on the migratory period. The Tule Lake Refuge alternatives similarly rely on water allocation scenarios under the 2013 BiOp and the KBRA or similar agreement. Because of the uncertainty surrounding the KBRA, or any other agreement, it is not a viable management alternative and should be eliminated from the CCP.

Response: Regarding the habitat characteristics that contribute to the basis of the alternatives, see response to comment 701-23. Regarding using the KBRA (or a similar agreement) to describe a range of water supply and flexibility, see response to comment 846-36.

Comment# 853-1: On page 4-22 (figure 4.5) of the Plan it states that "If (Klamath Basin Restoration Agreement) KBRA (or similar agreement) is not implemented, pursue changes in the type, place, and period of use for Lower Klamath and Tule Lake water rights to ensure sufficient water is available for

Refuge lands". Does this mean that year-round use was incorporated in the KBRA? The Plan should outline what year-round application would look like in terms of the need (or no need) for additional water demands. If additional water were needed, has a feasible approach been developed outside of the KBRA which also incorporates provisions of the Klamath Adjudication and the priority of the Refuge among other water users? This question could also apply to other similar situations outlined in the Plan.

Response: Yes, one of the changes referred to would be the extension of the season of use for the vested irrigation water rights to encompass the entire year, not just the March–October irrigation season. The vested irrigation water rights for the KDD, just north of the Refuge, are for the entire year, and winter irrigation is a common practice in both areas. The State of Oregon limited the Refuges' vested right to the irrigation season. The United States is contesting this in the Adjudication.

Comment# 906-47: FWS bases alternatives on a water delivery scenario similar to that proposed under the KBRA.471 However, the KBRA and associated legislation has failed to pass the U.S. Congress, and in fact expired in 2016.472 This agreement is not a relevant basis for decisionmaking. Additionally, FWS has failed to fully disclose recent water deliveries. It is unclear whether the proposals in the CCP/EIS are based upon the current drop in water availability. FWS must include current, rather than hypothetical or outdated, water delivery data as a basis for management plans.

Response: See responses to comments 846-32 and 846-36.

R. Agriculture and Water

Letter ID # 56-73, 56-92, 701-2, 701-3, 701-4, 743-101, 743-29, 793-26, 793-27, 846-107, 846-81, 906-59

Public Concern Statement: Respondents ask the Service to disclose impacts associated with using available water for agriculture and livestock grazing, as opposed to other Refuge purposes. Comments in this category also ask the Service to either 1) acknowledge agricultural runoff or irrigation return flows as a significant source of local impacts to water quality, or 2) provide introductory summaries clarifying that there are no significant impacts currently associated with chemical pest control on the agricultural lands or with agriculture effects on water quality.

Comment# 56-73: The Plan must fully disclose a sound scientific baseline of the degree and manner in which water is used and moved around the Refuge lands in association with livestock grazing activities.

Response: Water is not moved around the Refuge in association with grazing. Ranchers are required to use off-stream watering facilities (see Compatibility Determinations for grazing in Appendix G).

Comment# 56-92: There is much confusion over how wet areas will be. FWS acts like runoff never occurs, or in sub-irrigated areas there could not possibly be concerns with cattle impacts. Yet, FWS elsewhere describes: http://www.fws.gov/pacific/planning/draft/docs/OR/upperklamath/UKupdate1.pdf One concern for grazing in the Klamath Basin is it's contributing to the TMDL allowance within the river system. The proposed area for prescribed grazing within the Barnes-Agency tract is fenced from any adjoining waterway. Cattle will not be permitted tograze upon the levees. The ditches within the units have no direct connection to the adjacent canals or river. THEN where do they drain? Do they have an INDIRECT connection??? The area proposed for grazing has not had any pumped-storage water on it for over 12 years due to its higher elevation. It is unknown at this time if the BOR will continue with a pump-storage program but it is unlikely that these fields would ever contain water. However, if unanticipated

effects are realized, operations will be modified, redirected, or ceased if necessary to limit negative impacts. Full and detailed analysis of any pumped storage, dike system and other manipulation and limitation of eater flows must be provided. Mitigation is highly uncertain and greatly inadequate – protective levels of use, triggers such as soil compaction, ground moisture etc. are absent.

Response: See responses to comments 56-51, 56-56, and 663-9.

Comment# 701-2: Agricultural Runoff and Irrigation Return Flows From Agricultural Leaselands within Tule Lake and Lower Klamath Wildlife Refuges Are Contributing to Exceedances of Water Quality Standards in Tule and Lower Klamath Lakes: As will be discussed below, the Klamath River, the Lost River system, and the Klamath Straits Drain are all receiving inputs of nutrients, especially nitrogen, that are far above levels that meet water quality standards. The ultimate source of most of this excessive nutrient loading is the irrigation return water that drains into Tule Lake and into Lower Klamath Lake; the contaminated water in these lakes is then seasonally pumped into the Klamath Straits Drain and then into the Klamath River. Much of this agricultural input is due to over 20,000 acres of agricultural leaselands within the Tule Lake and Lower Klamath Lake Wildlife Refuges. The strong evidence for this conclusion is presented in detail in the USEPA Region 9 Lost River TMDL (2008). For the TMDL, the hydrologic system was divided into four segments: 1) the Lost River, which feeds into: 2) the Tule Lake refuge, where water is pumped into: 3) the Lower Klamath Lake refuge, which finally is pumped into: 4) the Klamath Straits Drain (and then on to the Klamath River). A key fact in the TMDL is that, exclusive of the up-stream input from the upper Lost River (which comprises nutrients already in the river above Segment 1), the largest allocated source of nutrients in each of the four segments is, by far, allocations from irrigation drainage loads. For example, in Segment 2 (Tule Lake Refuge), the allocated nitrogen load from agricultural irrigation returns is over 36 times higher than the next most significant load, which is the municipal sewage treatment plant for Tulelake, CA. For the Lost River Basin overall, the TMDLs assign a required 50% nutrient load reduction to agricultural irrigation loading. This means that agricultural drainage output of nutrients must be cut in half to comply with the TMDLs and thereby achieve the desired and mandated water quality goals. Clearly there is no feasible solution to the water quality problems of the lakes and of the Klamath Straits Drain (recipient of loads from the 4th, last, segment) without a massive reduction in loading from agricultural drainage. Leaselands within the USFWS refuge system units in 2015 comprised approximately 22,900 acres and are a major component of agricultural nutrient loading in the catchments leading to the Klamath Straits Drain.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 701-3: Agricultural Runoff and Irrigation Return Flows from Agricultural Leaselands within Tule Lake and Lower Klamath Wildlife Refuges Are Contributing to Exceedances Of Water Standards in the Klamath Straits Drain: The Klamath Straits Drain has significantly impaired water quality and is on Oregon's 303(d) list for ammonia and dissolved oxygen year-round, and chlorophyll a (indicating excessive algal growth) in summer www.deq.state.or.us/wq/wqfac/LostRivKlamathRivTMDLFactsheet.pdf). In the Klamath Straits Drain ammonia concentrations in 2008 were measured at levels ranging from 0.124 mg/L to 1.06 mg/L (USGS Klamath River Report, 2008). The highest levels measured are indicative of seriously degraded water quality and approach the US EPA chronic toxicity criterion for ammonia of 1.2 mg/L (US EPA website, Dec. 2009 Ammonia Criteria). The highest concentrations in the Klamath Straits Drain were measured in April, which coincides with significantly high pumping rates out of the drain into the River, ranging from 88 to 171 cfs (USBR Pump F & FF 2008 data). Nitrite plus nitrate concentrations in the drain ranged up to 0.668 mg/L, total phosphorus (P) concentrations ranged from 0.17 to 0.62 mg/L, and orthophosphate from 0.051 to 0.390 mg/L. The higher levels of all these parameters are indicative of seriously impaired water quality in the drain. Data collected in 2000 by the USBR (USBR 2000) presents a very similar

picture of the poor water quality in the Straits Drain. In that data set the annual average ammonia concentration was 0.71 mg/L with a maximum value of 2.47 mg/L, which is over twice the EPA chronic toxicity criterion value. Total-P averaged 0.45 mg/L with a maximum of 0.90 mg/L; nitrite plus nitrate concentrations average 0.78 mg/L with a maximum of 2.29 mg/L. A 2004 USFW report states: "One of the main water quality concerns in the Klamath Basin is the impact of the Klamath Straits Drain outflow on the Klamath River" (Mayer, USFW 2004; citing ODEQ fact sheet at www.deq.state.or.us/wq/wqfac/LostRivKlamathRivTMDLFactsheet.pdf). All of the above makes abundantly clear that the Klamath Straits Drain is severely polluted with nutrients. As documented in the previous section, the primary source of those nutrients, by far, is agricultural irrigation runoff or return water pumped into the Drain from Lower Klamath Lake, much of which stems from leaselands within the refuges.

Response: See response to comment 734-4 regarding the TMDL process.

Comment# 701-4: Discharges from the Klamath Straits Drain Contribute to Exceedances of Water Quality Standards in The Klamath River Downstream from Klamath Straits Drain: Given the severe water quality impairments the Klamath Straits Drain documented above, it logically follows that the large annual discharges from the Drain into the Klamath River have a major impact on water quality in the river. Using 2008 USGS river data, I observed that ammonia and total-P levels in the mainstem of the Klamath River rose dramatically in sampling stations below the Link River Dam in the vicinity of the Klamath Straits Drain. Averaged over the entire sampling season, ammonia concentrations at mainstem sites in the river increased significantly in the downstream direction: 0.108 mg/L at Link River, 0.495 mg/L at Miller Island, 0.560 mg/L at KRS12a. Because not all of these locations were sampled on the same dates, I also edited this data set to consider only data from samples that were collected within one day of each other, resulting in a consistent data set for 12 dates between 5/5/2008 and 10/21/2008. The trend noted above is equally strong. Ammonia concentrations increased from 0.062 mg/L at Link River to 0.444 mg/L at Miller Island, and 0.544 mg/L at KRS12a. In other words, the average upstream ammonia levels at Link River rise by 400% to 700% in sampling stations in the river downstream of the Klamath Straits Drain. For the same 12 sampling dates described above for the Klamath River samples, the ammonia levels in the Klamath Straits Drain ranged from 0.22 mg/L to 0.62 mg/L with an average value of 0.39 mg/L, which is about 400% to 600% above the River levels at Link River dam. Total-P levels in the drain for those dates range from 0.20 mg/L to 1.06 mg/L with an average value of 0.49 mg/L, or about 2.5 times greater than the average total-P level upstream at the dam. Note also that significant quantities of water were flowing through the mouth of the drain on all of these sampling dates. A review of the USBR 2008 pump operation data for pumps F and FF just above the mouth of the Drain indicate that for all the 12 sampling dates in the edited data set, the pumps were operating at flows ranging from 25 to 175 cfs with a mean flow for the entire data set of 75.4 cfs (equal to 48.1 million gallons per day). Since the average concentration of ammonia in the Drain in 2008 was 0.455 mg-N/L, the water discharge corresponds to a total ammonia discharge into the Klamath River of 221 pounds (101 kg) of ammonia each day over the course of 2008. The USGS report on water quality in the upper reach of the Klamath River from the previous year (2007) is very consistent with the situation in 2008. For example, ammonia concentrations averaged over the entire sampling season increased dramatically in the downstream direction from 0.089 mg/L at Link River to 0.413 mg/L at Miller Island, and 0.501 mg/L at KRS12a. Finally, a Biological Assessment prepared by the USBR in February 2001 specifically notes that the poor quality of the drain water has a significant impact on the River and the Keno Reservoir on the River downstream. To quote the report: "The major conclusions of the study include: 1) the KSD [Klamath Straits Drain] dominates the hydrology of the Keno Reservoir during dry year and in the spring months when Upper Klamath Lake is filling and the KSD is discharging [via the Klamath River] to the reservoir. The Drain can contribute between 20 and 100 percent of the inflow to Keno Dam, and; 2) because the KSD discharge can be such a large proportion of the [River] inflow at Keno, the quality of the Drain

water has significant effects on the reservoir water quality in the reach from the Drain to Keno." (BOR Biological Assessment, 2/13/01, p.79). As noted in the previous section, the main source of pollutant nutrients in the Klamath Straits Drain is agricultural drainage, hence the subsequent contamination of the Klamath River, in turn, is largely due to agricultural irrigation drainage, much of which drains from leaselands in the refuges.

Response: The CCP/EIS text has been revised to address the comment (Affected Environment, Section 5.2.1, Hydrology and Water Quality). Please see also Figure 5.3 and related text within Section 5.2.1, Hydrology, of the draft CCP/EIS.

Comment# 743-101: Pages 6-124 to 6-127, "Pesticide Application": TID's comments in section I.E, supra, apply equally to this section. After three pages of hypothesizing the possible effects of pesticides generally, the section concludes with the statement "[a]lthough pesticides have been used extensively in the farming program, there is no indication that this use has adversely affected wildlife on the refuge." The section should begin by noting there are no documented adverse impacts from pesticide use within TLNWR.

Response: Comment noted.

Comment# 743-29: At various locations, including the draft compatibility determinations, the Draft CCP/EIS discusses general environmental issues associated with lease land or cooperative farming, such as pesticides or water quality.13 TID believes that the structure of these sections obscures the fundamental point that there are no significant adverse impacts associated with chemical pest control on the agricultural lands or with agriculture effects on water quality. In each case, it would be very appropriate to provide introductory summaries clarifying that there are no significant impacts currently.

Response: It is appropriate to place conclusions regarding the intensity of an impact (e.g., significant, major, intermediate, etc.) at the end of a description of the impacts. There is no need to repeat such conclusions in the EIS, as this would add unnecessary bulk to the document. The contents of sections such as Affected Environment include short descriptions of a resource, as well as current conditions of the resource, e.g., baseline conditions. A thorough description of baseline conditions can include effects of past and present actions and contribute meaningfully to cumulative impacts. The CCP/EIS states in the Affected Environment that agricultural practices, along with natural sources within the basin, are generally thought to contribute to increased nutrient loading and water quality problems (e.g., elevated nutrient content in springs, irrigation runoff, and resulting increase in nutrient content and primary production in receiving waters) (Oregon Progress Board 2000; Rykbost and Charlton 2001; Snyder and Morace 1997). These impacts are assessed as "significant" in the Affected Environment chapter. However, as noted in the Environmental Consequences chapter (Chapter 6), compared with these current conditions, changes proposed in any of the alternatives would only have negligible or minor adverse or beneficial relative impacts. As Chapter 6 indicates, monitoring activities have failed to detect an acute problem with pesticides on the Refuge (see Draft Compatibility Determination, Lower Klamath National Wildlife Refuge, lease land farming program). Because chronic or sublethal levels can be difficult to detect, BMPs are implemented to minimize any such potential effects associated with application of pesticides (Appendix L).

Comment# 793-26: where Service owned (and controlled) water rights are delivered first to the leaselands, which provide "some but limited wildlife benefit," while little water is left available for refuge purposes, there is an indirect impact of the leaseland farming program that must be considered by the Service in determining whether the use is compatible/consistent with refuge purposes. The compatibility

policy also provides for consideration of the cumulative impacts of use "when considered in conjunction with proposed of existing uses of land and waters adjacent to the refuge."48 Thus, where the wetland sumps on Tule Lake Refuge no longer serves as valuable waterfowl habitat, the Service should consider the impact of using available water for agriculture rather than wetland habitat on the leaselands.

Response: See response to comment 634-3.

Comment# 793-27: Currently, available water resources are being provided to irrigate commercial crops, while little water is available for refuge wetland habitat. The Service must include consideration of this indirect impact of the leaseland program and determine whether continuation of the "present pattern" of leaseland farming is consistent with proper waterfowl management.

Response: See response to comment 634-3. The Service has developed alternatives consistent with applicable laws. The Service believes that both lease land and cooperative farming are compatible with Refuge purposes (see Appendix G).

Comment# 846-107: where Service owned (and controlled) water rights are delivered first to the leaselands, which provide "some but limited wildlife benefit," while little water is left available for refuge purposes, there is an indirect impact of the leaseland farming program that must be considered by the Service in determining whether the use is compatible/consistent with refuge purposes. The compatibility policy also provides for consideration of the cumulative impacts of use "when considered in conjunction with proposed or existing uses of land and waters adjacent to the refuge."250 Thus, where the wetland sumps on Tule Lake Refuge no longer serves as valuable waterfowl habitat, the Service should consider the impact of using available water for agriculture rather than wetland habitat on the leaselands.

Response: See responses to comments 704-9 and 634-3. The reduction or elimination of lease lands on the Refuge would result in an overall decrease of habitat for waterfowl and other waterbirds on the Refuge.

Comment# 846-81: The Service states it requires approximately 95,000 acre-feet of water in order to fully support Lower Klamath refuge habitats outside the leaselands.253 Currently, available water resources are being provided to irrigate commercial crops, while little water is available for refuge wetland habitat. Data from the Service shows that waterfowl use days at Lower Klamath Refuge have declined as water deliveries for wetland purposes have been drastically low in recent years.254 Tule Lake Refuge no longer provides the habitat for the robust waterfowl populations that it once supported.255 The Service must include consideration of this indirect impact of the leaseland program and determine whether continuation of the "present pattern" of leaseland farming is consistent with proper waterfowl management.

Response: The use of irrigation water on lease land has no effect on wetlands since it can only be used for agricultural irrigation. However, it should be noted that some agricultural practices use on both Refuges (pre-irrigation and flood fallow) provide wetland habitat values. See responses to comment 634-3.

Comment# 906-59: agricultural runoff and irrigation return flows are the major cause of water quality degradation in Tule and Lower Klamath Lakes. "For example, in Segment 2 (Tule Lake Refuge), the allocated nitrogen load from agricultural irrigation returns is over 36 times higher than the next most significant load, which is the municipal sewage treatment plant for Tulelake, CA."396 Dr. Fish also notes that the TMDL "assigns a required 50% nutrient load reduction to agricultural irrigation loading. * * *

Clearly there is no feasible solution to the water quality problems of the lakes and of Klamath Straits Drain * * * without a massive reduction in loading from agricultural drainage.

Response: See response to comment 734-4, concerning the TMDL process.

S. Miscellaneous
Letter ID # 438-1, 846-101

Public Concern Statement: One individual recommends that the Service screen water intakes and diversions and make Refuges appear more natural. Another comment addresses perceived Reclamation interference with the Lower Klamath Refuge water rights.

Comment# 431-8: Make the refuges more natural. All those ditches are ugly. Screen the water intake and diversions.

Response: Comment noted.

Comment# 846-101: We analyze issues surrounding the USBR's interference with Lower Klamath Refuge's approved water right claims below. a. USBR Acknowledges Some Refuge Water Rights Are Not Associated with the Klamath Project. USBR clearly states in annual operations and drought plans released since 2013 that the Refuges have rights connected to Project water rights for the leaselands and co-op lands, as well as separate non-Project related water rights for purposes of supporting wildlife habitat on refuge land in addition to the leaselands and co-op lands. From p. 7, Klamath Project 2014 Annual Operations Plan: The United States holds separate water rights in connection with LKNWR and TLNWR for irrigation and refuge purposes. Irrigation for agricultural purposes within the refuges, through leases and cooperative agreements with individual farmers, occurs under the water rights connected to the Project, with a priority date of May 19, 1905. The water rights for refuge purposes carry later priority dates. b. There is No Basis for USBR Denial of Refuges' Non-Project Related Water Rights under Warren Act. Since 2013, the USBR has stated that their rationale for denying water to refuge lands outside of the leaselands is based on their rules regarding delivery contract priority for Project water rights under authority provided by the Warren Act of 1911. For example, the Klamath Project 2014 Drought Plan states: Warren Act contracts include all contracts executed pursuant to the Warren Act (36 Stat. 925, 43 U.S.C. §§ 523-525), which provide for a supply of Project water that is secondary to the contractual rights of repayment contractors. Consistent with the Warren Act, deliveries under these contracts are subject to being curtailed if necessary when there is not an adequate supply for lands covered by repayment and settlement contracts.175 However, as noted above, USBR correctly acknowledges in their public planning documents released since 2013 that the water rights associated with the refuge lands outside the leaseland areas are not connected to Project water, but are separate, non-Project related water rights held by the United States. The Warren Act relates to water rights held by the USBR and does not apply to the Service's non-Project water rights for Lower Klamath and Tule Lake Refuges and therefore presents no bar for delivery of those Refuge rights. Given this reality, the following statement from the Klamath Project 2014 Annual Operations Plan is incorrect.

Other irrigated refuge lands outside TID and KDD, specifically LKNWR lands within the State of California, only receive Project water from UKL and the Klamath River when the supply is adequate to first satisfy the demands of Project contractors.176

In addition, under Oregon law, Lower Klamath Refuge cannot currently receive "Project water" (i.e. water from the Service's 1905 right) on lands served by its non-Project related water wildlife habitat water rights because these Refuge lands are not the designated place of use for these 1905 Klamath

Project water rights.177 Applying the Service's 1905 water rights to refuge areas outside the leaselands and co-op lands would require the Service to apply for a temporary transfer of the place of use of these water rights, pursuant to Oregon Senate Bill 206 (2015), which to date the Service has not done.

c. There are No Obstacles to Off-Season Refuge Diversions Under Oregon Water Law. The Lower Klamath Refuge lands served by non-Project related water rights are associated with rights junior to the Project rights, but for each of these rights (Claims 313, 315, 315 & 316 totaling approximately 113TAF), the designated time of use is January 1 to December 31.178 There has been ample opportunity each year since 2013 for Lower Klamath Refuge to divert some or all of the Service's rights to Klamath River water via the Klamath Project's Ady Canal when there has been no regulation of water rights under state law in the Klamath Basin. Since 2013, water rights calls and subsequent regulation of water rights in the Upper Klamath Basin has generally occurred between the months of May and October. Lower Klamath NWR is entitled to use Ady Canal for delivery of the Refuge's water supply.

The 2013 Klamath Project Biological Opinion specifically and unlawfully prohibits diversions to Lower Klamath Refuge wetlands between March 1 and May 31. In addition, the Biological Opinion may curtail the water available to refuge wetlands between June and November depending upon hydrological conditions, but does not interfere with diversions to Lower Klamath throughout the remainder of the calendar year. Despite this fact, the CCP states that the Refuge received no water deliveries via the Ady Canal in 2014 and 2015. The Bureau's refusal to allow the Service to use Ady Canal, which the Bureau controls, is the only barrier to the Service diverting at least some water to Lower Klamath Refuge under its non-Project related water rights each year.

d. USBR's Interference with Refuge Water Rights Violates Reclamation Act.

USBR's refusal to allow use of the Ady Canal for delivery of Lower Klamath Refuge water rights is a violation of the Sec 8. of the Reclamation Act of 1902, which states:

Nothing in this Act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of this Act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any State or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof: Provided, That the right to the use of water acquired under the provisions of this Act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right.179

e. USBR's Interference with Refuge Water Supplies is Counter to 1995 Solicitor's Opinion. As stated above, the 1995 Regional Solicitor's Opinion states: Reclamation has an obligation to ensure that the refuges receive adequate water to fulfill the federal reserved water rights (i.e. the amount of water necessary to fulfill the primary purposes of the refuges) when in priority and when water is available.

Response: The Service has been in discussions with Reclamation concerning the issue of within-project priority for Lower Klamath Refuge and is currently pursuing a determination of its within-project priority from the Secretary of the Interior. See also response to comment 522-4.

T. <u>Clean Water Act</u>
Letter ID # 221-1, 906-18

Public Concern Statement: It is suggested by two respondents that the CCP/EIS and management activities are not in compliance with the Clean Water Act.

Comment# 221-1: Appendix E, Applicable Laws and Executive Orders Clean Water Act and its relationship to the CCP. This Act applies to the KBNWR in their CCP requirements but there seems to be little observance by the Bureau of Reclamation (BOR) and their management activities. This law seems to be ignored because BOR provides water and the problems arising from the related agricultural activities are looked at as someone else's problem.

Response: This comment is outside the scope of the CCP/EIS.

Comment# 906-18: The Clean Water Act imposes substantive obligations on the Service in the management of the Klamath Refuge Complex. None of the Alternatives set forth in the Draft CCP/EIS comply with law.

Response: Comment noted.

U. <u>Sumps</u>
Letter ID # 622-15, 846-59, 846-91

Public Concern Statement: With regard to sumps, comments request disclosure in the CCP/EIS of where the water that would normally go to the sumps would be reallocated as sump levels would be reduced. One commenter also supports a seasonal water drawdown strategy for Sump 1A using a water management schedule similar to what is used during seasonal drawdowns of Sump 1B, while another requests that the Regional Solicitor's opinion concluding that the Kuchel Act allows the Service to modify the configuration of the Tule Lake sumps, notwithstanding Section 5 of the Kuchel Act, 16 U.S.C. § 695o, which states that "[t]he areas of sumps 1(a) and 1(b) . . . shall not be reduced by diking or by any other construction to less than the existing thirteen thousand acres."100... be included in the project record.

Comment# 622-15: Tule Lake NWR: The Refuge should continue to pursue a seasonal water drawdown strategy for Sump 1A using a water management schedule similar to what is used during seasonal drawdowns of Sump 1B.

Response: Comment noted.

Comment# 846-59: Tule Lake NWR Alt C. There is no discussion in the Draft CCP of where the water that would normally go to the sumps would be reallocated as sump levels would be reduced. This needs to be described.

Response: Section 4.4.4 of the CCP/EIS has been revised to address the comment. D-Plant pumps would be used to pump water from the sumps to Lower Klamath Refuge.

Comment# 846-91: The Regional Solicitor issued an opinion concluding that the Kuchel Act allows the Service to modify the configuration of the Tule Lake sumps, notwithstanding Section 5 of the Kuchel Act, 16 U.S.C. § 695o, which states that "[t]he areas of sumps 1(a) and 1(b) . . . shall not be reduced by diking or by any other construction to less than the existing thirteen thousand acres."100...We again request that this opinion be included in the project record.

The quotations and citations to the opinion have been identified in prior legal briefing regarding the

Kuchel Act.

Response: All references used to develop the CCP/EIS are included in Appendix B.

9. Biological Resources - General

A. General

Letter ID# 120-1, 122-1, 123-1, 132-1, 142-1, 155-1, 174-1, 174-4, 177-1, 181-1, 222-1, 254-1, 260-1, 30-2, 312-1, 317-1, 342-1, 369-1, 383-3, 403-1, 440-1, 443-3, 446-1, 465-1, 483-1, 505-1, 516-2, 516-3, 537-1, 55-1, 575-2, 631-1, 660-2, 672-1, 69-1, 701-45, 704-3, 73-1, 731-1, 754-1, 779-1, 793-66, 81-1, 84-1, 847-1, 857-1, 88-1, 886-1, 890-1, 903-1, 97-1

Public Concern Statement: Per many commenters, the region has undergone extensive changes over time, and the draft CCP/EIS should prioritize actions that protect Refuge biological resources such as plant or animal species, wetlands, soils, and the ecosystem as a whole.

Comment# 120-1: Wildlife refuges are intended to support wildlife, not farms or any other human uses. Recreation and other uses should only be allowed if they do not sacrifice wildlife habitat. REAL wildlife refuges are more necessary every day, as the remaining parts of our landscape where native plants and animals can thrive is continually whittled away for human use, with little regard to ecosystem services or the survival of other species. Please make the continued health and survival of native fish, wildlife, invertebrates and plants your number one priority, not farming!

Response: Comment noted.

Comment# 122-1: Restore wildlife habitats. Restore adequate water for wildlife to flourish, keep soils and plants unpoisoned. Wind down the agribusiness useages. Bird migratory pathways have been disrupted badly by wrong management of this region.

Response: Comment noted.

Comment# 123-1: It is yet another EGREGIOUS government policy that would favor water-greedy agribusiness over the use and promotion of wetlands for wildlife! It is not the business of the Fish and Wildlife Service to make it easier for corporate farmers to make a profit at the expense of public land and waterways! Do your job! ALL my relations! The migrating birds and indigenous plants and animals of these regions come FIRST!

Response: Comment noted.

Comment# 132-1: ,the dire need to reestablish reclamation goals and waterfowl preservation by CCP implementation for the sole benefit of wildlife is essential for the health of these habitats. For an example Lower Klamath National Wildlife Refuge suffered fm a case of Botulism due to lack of a proficient water supply. The concentrated water, concentrated the bird populations causing an epidemicbird deaths, the refuge was literally littered with dead waterfowl that had succumbed to the disease. But why should we really care? Wetlands filter the water within a watershed with the help of plants within the riparian zone. A loss of riparian habitat due to a inconsistent water regime effects the water quality, each time the water levels dropspeat is allowed to oxidize and decompose as oxygen is introduced to the half decayed plant

material that is trapping a vast sum of concentrated nutrients, some measurements made 20 feet below the surface read 30,000 micro Siemens per cm. Agriculture needs quality water for production to be successful, with secondary salinity issues becoming more apparent an emphasis on smart water management in arid regions is needed. Soil tests conducted on Lower Klamath soils showed an average soil saturation percentage of 250%. So every time the soil dries it takes two and a half times more water than soil present to saturate it again plus the needed water on top of that. The combination of a unregulated water regime and the walking wetlands that allow land to sit for three years recouping from agriculture simply to have them chopped and pulverized for planting. This practice limitsthe succession of plants for waterfowl habitat as well as macro invertebrates. No plants, no bugs, no birds. Come on folks do some research!

Response: Comment noted.

Comment# 142-1: Conservation plans for the refuges could help restore balance to the region and help reduce or eliminate this shameful practice of land leasing.

Response: Comment noted.

Comment# 155-1: The USFWS has patronized and catered to the agricultural interests in the Klamath Basin long enough. Over many years I have seen much favoritism from the federal government towards farms and ranches which receive government subsidies--at taxpayer expense. It is time that the basin be managed to protect and preserve the environment and not agriculture.

Response: See response to comment 643-1 regarding farming on the Refuge.

Comment# 174-1: The USFWS needs to make a priority on plants, wildlife, the environment, birds that migrate, and habitats. Wildlife refuges should be used as safe havens, not war zones.

Response: Comment noted.

Comment# 174-4: Also to have land restoration. The future of wildlife refuges and the environment are at stake. We can't stay by much longer.

Response: Comment noted.

Comment# 177-1: Note that when the above 4 requests are implemented and enacted, agribusiness will, out of necessity, find other ways to remain viable, it will just take more thought and some revisions in how things are done. Humans and business always take the path of least resistance, and in the U.S. if allowed to under the prevailing law, the path will always be the cheapest, most destructive and wasteful one. The hammer needs to be dropped, and we need to do things right, and consequently, business will find a new path... a more sustainable one.

Response: Comment noted.

Comment# 181-1: Please consider the impact that these decisions will have on migrating birds, as well as other flora and fauna that require Klamath Wildlife Refuge's wetlands. Wetlands are not only some of Earth's most important and diverse habitats, but also comprise those potentially most threatened by human activity. Without careful conservation and management of these environments within Klamath Wildlife

Refuge, birds on their migration routes will face emaciation, starvation, and death, as migration is strenuous even before adding human development and expansion to the equation. Extracting water from the refuge's wetlands is synonymous with endangering the wetlands' wildlife. Again, please consider these impacts so that current and future generations have the opportunity to enjoy our incredible diversity of flora and fauna.

Response: Comment noted.

Comment# 222-1: The Lower Klamath NWR was the first waterfowl refuge in the US. It deserves protection, both because it's the law and because it is an environmental gem. Some areas around the world are creating wetland sanctuaries for ecological benefits and to stave off the worst effects of rising sea levels. Let's restore the refuge we have in the Klamath and eliminate harm to wildlife and the plants they depend upon. It's past time to stop leaseland agribusiness in this precious refuge.

Response: Comment noted.

Comment# 254-1: Protecting this refuge will protect more and be a good example of good legislation that works.

Response: Comment noted.

Comment# 260-1: I know there are plenty people getting rich off of public lands. I don't like this at all. I especially do not think enough is done for wildlife and wild lands. We need both. We don't need agribusiness in wildlife refuges at the expense of wild life. All wildlife there, not just waterfowl or only fish, or mammals alone. An entire ecosystem for the benefit of what used to be there. Thank you for any landscape scale environmental efforts you have helped with. Lets get Klamath wildlife refuge to the jewel it can be again. Let's give back here to help mitigate so much we take from this planet. It is the only one we will EVER have.

Response: Comment noted.

Comment# 30-2: It's vitally important to maintaining a healthy, balanced environment which will support people and wildlife alike. The Fish and Wildlife Service was not established to serve the needs of agribusiness ! It's time to do the job, as it was intended, for the preservation of our environment.

Response: Comment noted.

Comment# 312-1: I would like to see the klamath basin federal wetlands protected for migratory birds, fish, wildlife and plants. Please phase out the lease of land to farming..."

Response: Comment noted.

Comment# 317-1: Industrial agribusiness is highly motivated to exert pressure on the USFW Service, and waits to reap the rewards of the agenda it pushes; but wildlife has no megaphone, no money, no knowledge of its own vulnerability or coming destruction; it has no political agenda, nor any financial gains to reap; it has not the physical ability to wheel or deal, to pressure you like industrial agribusiness does; There is no big player in wildlife preservation. As the human population increases, there is going to be increasing pressure on wild places and wildlife. Only by taking the long view now can we protect their

inherent worth, and defend them against the voracious tide of human predomination that is coming. Agribusiness will be pushing us to override the value of wild places and wildlife for what they frame as necessary economic measures, but long range economics sees the greater value that exists in the preservation and protection of these wild places and their wild inhabitants. There will be big gains for humanity if we can grit our teeth and protect what many seem extraneous to our economy at present- the conservation of diversity of species and diversity of habitat, including the protection of water, waterways and wetlands necessary to the well-being of species; the alternative is an eventual world of wastelands, industrial and agricultural pollution, pesticide-fouled waters, barren of life. If you have traveled, you have seen it already. We spread across the earth like a bacteria that removes all diversity, leaving only its own detritus.

Response: Comment noted.

Comment# 342-1: I would like to see the klamath basin federal wetlands protected for migratory birds, fish, wildlife and plants. Please phase out the lease of land to farming and restore these lands to the wetland habitats appropriate for wildlife.

Response: Comment noted.

Comment# 369-1: The Klamath Refuges wetlands must be kept "wet" for them to fulfill their all-important role as refuges for vital wildlife. What is vital for wildlife is, by extension, vital for us humans. The benefits to all derived from allowing the wetlands to perform their natural function far outweigh the benefits to the few from growing onions and potatoes.Do not allow the wetlands to go dry to provide water for agri-business. The migratory birds, fish, plants and other wildlife depend on the wetlands and are part of a much larger, complex system. The natural processes of the planet are a marvel of sophisticated engineering. The reality of climate change has demonstrated that our past interferences with the Earth's systems has not been wise. At this point, we must take every available chance to preserve every last still-functioning natural system we possibly can. The Klamath Refuges give us one opportunity to make the right decision. The right decision here is obvious. Do everything we can to support these vital wetlands.

Response: See Section 5.2.1 (Hydrology) regarding the water supply challenges faced by the Klamath Refuges (particularly Lower Klamath Refuge). See also response to comment 634-3.

Comment# 383-3: Only activities that don't harm (and preferably enhance) the refuge environment should be allowed.

Response: Comment noted.

Comment# 403-1: The basin has been poorly managed up to this point, and needs to be vastly remodeled to create a balanced system whereby the species that humans share the are with receive their fair share of what the basin has to offer, unlike under the current plan.

Response: Comment noted.

Comment# 440-1: Please make wetlands and wildlife restoration your first priority in water allocation. We do not need another Lake Okeechobee disaster here.

Response: Comment noted.

Comment# 443-3: The runoff and residue from the current land use during the dry season certainly is not helpful and in all likelihood contributes to the ill health of the Klamath ecosystem

Response: See response to comment 734-10.

Comment# 446-1: Please save this wildlife refuge! The world needs these wild places.

Response: Comment noted.

Comment# 465-1: Please focus on the future- for the children and the planet - and follow your mandate. We have already lost so much in these past decades that will never be replaced.

Response: Comment noted.

Comment# 483-1: The push from private and corporate interests is never ending. Taking just a bit, here and bit more there, but constant, ever present and unceasing. Taking more of our federal lands when we are not vigilant. Their purpose is mostly for profit, pursuing activity that harms our world and reduces it's ability to sustain life. The government, filled with individual politicians more interested in lining their pockets than being representative of their constituents, a large part of that pressure to hand over land to these special interests. I thank the Fish and Wildlife Service for the work you do, and urge you to resist that unceasing pressure. I have never been to the Klamath National Wildlife Refuges. I, however, benefit from it's presence as does every living, breathing being. It's at the borders of this refuge and all federally held lands that we must fight the temptations to compromise, to resist the urge to give way to the political and corporate pressure to surrender lands that are already too few. It was set aside with great foresight and consideration. As lands all over this world succumb to the push for profit and fall to the incredible urge to "develop," the will of the people and the original intent of the land must be protected.

Response: Comment noted. The specific purposes for which each Refuge was established are provided in CCP/EIS Chapter 1.

Comment# 505-1: Wildlife and wetlands must be given priority. If we are fortunate enough to have a choice in how we live our lives and how we secure our food and water and homes, then we must consider those who are effected by our choices. It is unconscionable to use water for industrial agriculture on refuge lands when we know the impact of that choice. These lands and the birds, fish, other wildlife, plants, and habitats cannot protect themselves against humans. Humans need to be the protectors. Once these places are destroyed, there's no getting them back.

Response: See response to comment 704-9.

Comment# 516-2: The refuges should not be used for thirsty crops. We need our ecosystems whole, as each part feeds the whole. The birds distribute seeds for greenery which protects the land, air and water by cleaning it. We can't keep up these unbalanced uses.

Response: Comment noted.

Comment# 516-3: Do you want to become desertified like the continent of Africa? That is not such a

leap. It happened in South America, too, when our beef industry went over there and cut down rainforest to graze cattle. W/in 3 years all that land was desert. We have to think in terms of like-attracts-like. If we waste the water on one- time uses, with chemical additives, the whole trophic cascade goes down the drain.

Response: Comment noted.

Comment# 537-1: You cannot honestly think we won't pay for the actions of destroying an entire ecosystem. Start thinking of the future before it is too late.

Response: Comment noted.

Comment# 55-1: In the interest of: - Preserving migrating and indigenous wildlife and flora; - Increasing the region's recreational and hunting tourism; - Increase regional economies by increasing tourism income; - Further enabling the unique but powerful land use management partnership, in the region, between the federal government, Tribes, local ranchers, and environmental groups; using this successfully as a model to be replicated elsewhere in the U.S. having regional land use agreement difficulties; - Increasing public education; - Locating and protecting cultural resources; - Protecting more natural resources; - Providing yet more wildlife or fauna to researchers and students please do increase the federally protected wild lands in southern central Oregon.

Response: Comment noted.

Comment# 575-2: In their draft Comprehensive Conservation Plan the U.S. Fish and Wildlife Service will have the ability to restore the water to life-giving wetlands or leave our grandchildren with onions. Agribusiness will continue to thrive until they have used up all the resources left to us by our foremothers. Our grandchildren, our future, will suffer the consequences. They will have no way to restore the life that is being drained out of our once thriving, interdependent and well-tuned system. This system supported people like us for eons. Those people knew that they must not deprive their children of life by depleting the land even thoughthey had never read a book. Nature taught them. Cause and effect taught them. Our future, our grandchildren, need all the help we can give them and we are still rich enough and smart enough to choose life for them.

Response: Comment noted.

Comment# 631-1: We have visited the Klamath wet lands yearly for many years to enjoy this natural habitat.We live in Kansas where in our history most all of the land was plowed up for farming.Only two major wetlands are still in existence Quivira and Cheyenne Bottoms. Both of these are managed well to insure that these extremely important wetlands thrive andsurvive. In Kansas we have a water problem due to the amount of irrigation for farming and ranching.So far no solutions to this have been adopted. I would hope that Oregon doesn't dry up also.We all should be more concerned about long term stewardship of our earth and its resources.

Response: Comment noted.

Comment# 660-2: It should also diligently monitor water rights and make sure that any water usage granted does not cause detriment for the refuge ecosystems. If rights can be granted without adversely affecting natural populations and habitat, by all means, grant them...but if not, the best interests of the

refuge MUST come first. Businesses can go elsewhere and still make a profit; wildlife doesn't have that option.

Response: Comment noted.

Comment# 672-1: Migratory birds, fish, wildlife, plants, and their habitats are more important than leasing land to agribusinesses. There are other places to grow food; but fragile wetlands are irreplaceable. Water rights owned by the U.S. Fish and Wildlife Service must be used for wildlife and wetlands. It is detrimental to the environment and contrary to the public interest for wetlands and wildlife areas to go dry while the USFWS allows full water deliveries to industrial agriculture on refuge lands.

Response: Comment noted.

Comment# 69-1: The Klamath refuges are critical habitat. With climate change & drought affecting this area the last thing wildlife should be competing with is Agribusiness. These leases should end & the the wetlands restored & maintained. US Fish & Wildlife owned water rights should support wildlife & wetlands, not business interests leasing public lands.

Response: The commenter is correct in that the boundaries of Upper Klamath and Clear Lake Refuges include portions of the designated critical habitat for federally listed species. Section 6.2.6 describes the effects of the management alternatives on these species and their habitat, which ranged from neutral to minor (see 6.1 for definitions of these terms). Regarding the feasibility of using irrigation water rights for wetlands, see response to comment 634-3.

Comment# 701-45: The Klamath Basin has undergone extensive changes over the past 150 years, with wetland drainage for agriculture, damming of rivers, and diversions of waterways contributing to the loss of over 65--90% of the historical wetlands of the region (Akins 1970; USFWS 2007). The biological diversity of the region has been affected by habitat fragmentation (wetland connectivity); water pollution (ecotoxicology), acidification, and eutrophication resulting from fertilizers and pesticides; water shortages and draining of wetlands; grazing pressure; invasive vegetation; and introduction of non--native exotic competitors and predators to aquatic systems bullfrog, brook trout, brown trout, fathead minnow, sunfish, largemouth bass, and crappie). The complete management of water resources has meant loss of beaver--mediated ecosystems, altering historical patterns of water flow, depth, and vegetation in the wetlands of the region (Eagles--Smith and Johnson 2012).

Response: Comment noted.

Comment# 704-3: he Fish and Wildlife Service should develop a CCP that: 1) Directs management for the primary purpose of conservation for migratory birds, other wildlife, and the ecosystems upon which they depend. A stress should be put on restoration and enhancement of wetland and riparian habitat with a goal of restoring the biological integrity, diversity, and environmental health of the refuges. For example, restoration plans for the restoration of historic Lower Klamath Lake and Tule Lake lakebeds within refuge boundaries should be developed. Strong consideration should be given to a more natural hydrological regime within the refuges.

Response: The purpose for which the Refuges were established are presented in Chapter 1 of the CCP/EIS. In addition to achieving refuge purposes and the Refuge System mission, Section 4(a)(4)(B) of the Refuge Improvement Act requires that the Service consider and protect the broad spectrum of native fish, wildlife, plant, and habitat resources found on a refuge (CCP/EIS Section 1.4.4 provides more

detail). Some constraints of the existing hydrologic regime of the Klamath basin are described in CCP/EIS Chapter 5.

Comment# 73-1: The implementation of conservation plans for these refuges provide an historic opportunity to reform their management, and to ensure the needs of bald eagles, tundra swans, sandhill cranes, and white pelicans take priority over the demands of highly subsidized agribusiness operations. More than 22,000 acres of National Wildlife Refuge lands in the Klamath are currently leased to private agribusiness, displacing wildlife, destroying wetlands, and wasting water. Conservation plans for the refuges should help restore balance to the region and help reduce or eliminate wasteful practices.

Response: Comment noted.

Comment# 731-1: The Mission of the US Fish and Wildlife Service (USFW), prominently displayed at the top of their website: "Work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people." There is no mention in the Mission of contributing to the bottom line of agribusiness, nor any mention of this in USFW Objectives/Functions. Continuing to allow this refuge go dry in order to support farmers at the expense of what USFW is chartered to protect is unconscionable and a disservice to the American people. How does letting this refuge go dry benefit the American people? The impact of past decisions in this refuge system are felt far afield. I live in Del Norte County, CA, where the Klamath River drains to the sea and site of continuing documented harm/massive die-offs to the Klamath fisheries, due to water manipulation upriver. In 2016, for the first time in the 54 years since the Yurok's Salmon Festival in Klamath, CA has been held, THERE WILL BE NO SALMON! This impacts our local economy as well, due to less sport fishing opportunity, less visitors, etc. Do down-stream interests matter less than up-stream interests? Do the American people have to entirely lose the native Klamath Salmon runs before the decision-makers wake up? Please stop leasing refuge land for ANY use that does not directly support the USFW stated mission.

Response: Comment noted.

Comment# 754-1: Please put the Klamath's (and its greater ecosystem) health above that of Agribusiness. Agribusiness gets too much help from government as it is.

Response: Comment noted.

Comment# 779-1: The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and the habitats within the United States for the benefit of present and future generations of Americans" (1997 Improvement Act). To support this mission, it is clear that water is necessary to support habitat for native plants and diverse species of mammals, birds, and fish. The Klamath basin has insufficient water resources to support all of the contending parties: wildlife and refuges, the Klamath tribes, and agriculture. In particular, diverting scarce water for agricultural use reduces that available to migratory birds and fish. In recent years water has been diverted from the wetlands to lands leased to agribusinesses. Up to 80% of the waterfowl on the Pacific Flyway depend on the Klamath basin National Wildlife Refuges for their survival. To the extent that management of the Refuges for the benefit of agriculture has contributed to the deaths of migratory birds and of fish, that management flies directly in the face of the legally designated mission of the Fish and Wildlife Service. The conservation plan must be a fish and wildlife conservation plan. It must prioritize water delivery for the primary mission of the Refuges and work aggressively to restore and improve conditions for native wildlife. Diverting water for agricultural uses and allowing the marshes to go dry when needed by

wildlife is incompatible with the goals of the Refuge Recreation Act of 1962, the 1997 Improvement Act, and with relevant Federal Regulations.

Response: See response to comment 634-3.

Comment# 793-66: As part of the CCP process the United States Fish and Wildlife Service should: · Provide for the conservation and restoration of migratory birds, fish, wildlife, plants and their habitats within the refuges. · Ensure that the biological integrity, diversity and environmental health of the refuges are maintained and restored. · Identify the distribution, migration patterns, and abundance of fish, wildlife, and plant populations and related habitats within the refuges.

Response: Comment noted.

Comment# 81-1: More jobs can be created for true restoration and without healthy wetland refuges to protect our water and wildlife, we truly risk losing wildlife species and the clean water we all depend upon.

Response: Comment noted.

Comment# 84-1: Please STOP placing the interests of agribusiness first before the resources and wildlife that you should be protecting in the Klamath Basin. Please do the right thing and make protection of the resources and wildlife your first priority when you develop the comprehensive plan for 5 of the Klamath Basin wildlife reguges.

Response: Comment noted.

Comment# 847-1: I have lived my entire life in the West and spent many seasons over many years enjoying the array of public lands that USFWS manages for the benefit of migratory birds, fish, wildlife, plants, and their habitats. That is your mission, which I as the public entrust you with, and your express priority must be to conserve and restore these values, and, consequently, to reduce or eliminate activities that harm these values. Front and center in your new CCP must be a commitment to put first use of all your water rights to native wildlife and wetlands, not to support agribusiness. In order to accomplish this, you will need to phase out the lease-land agribusiness program and develop strategies to return those lands to wetland ecology.

Response: Comment noted.

Comment# 857-1: I must emphatically add my voice to those who decry the ongoing management practice of prioritizing the use of water rights for leased agribusinesses over maintenance of healthy wetlands for wildlife, fish, birds and native plants. A NWR that favors business over wildlife by allowing crucial wetlands to dry out is hardly a refuge. The CCP should emphasize programs that restore wetlands and improve habitat conditions. The time has come to remove those business interests that now compete for water on 22,000 acres of refuge land and return to the USFWS mission to "Work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people."

Response: Comment noted.

Comment# 88-1: I strongly oppose the allowance of agribusiness and grazing on federal protected lands including National Wildlife Refuges like that in Tule Lake as well as Tolowa Dunes-Lake Earl. I have seen first hand how introduced crops and livestock are extremely destructive and reduce biodiversity as well as overall biomass, in turn diminishing these Federal lands ability to perform ecosystem services. These services include producing cleaner, more stable water sources, providing pollinators and pest predators as well as water, nutrients and soil stability for surrounding agriculture, and increased resilience to climate change and catastrophic weather events. I value these more than subsidizing agriculture that is dependent on pollution and destruction of biodiversity, which is not necessary to produce food or cash crops, as I know from personal experience doing so responsibly and sustainably.

Response: See response to comment 21-1.

Comment# 886-1: While water is import, no water diversion should be allowed which adversely affects wetlands or other water dependent eco-systems. Agribusiness has other options which, while they may be more expensive, do not have ecologically negative impacts. There are other ways to provide water to necessary activities.

Response: Comment noted.

Comment# 890-1: I have just read that in and/or around The Klamath National Wildlife Refuge that farming practices are a contributing factor to thousands of birds dying as a result of this wetland area drying out. I just read that up to 80%of the waterfowl on the Pacific Flyway depend upon this area for their survival during annual migrations. I may not have all of the solutions here, but I would rather have the ecosystem survive than insist on having potatoes and onions come from this area in particular. So much of North America has been destroyed. There is less that 10%of the state's old growth forest, with every decade native languages are becoming extinct because of western invasion, etc. Can we at least save this little sliver of land?

Response: Comment noted.

Comment# 903-1: Please send water to the Klamath National Wildlife Refuges. It up to us to take care of the animals and habitats, and diverting or withholding water is not an option any longer. Agro business doesn't care about the animals, the environment or even the people in these areas. Please send water, and continue in the future to send water to our wildlife refuges. I am a native Oregonian and have lived nearly all of my life in beautiful Klamath County, and I vote. Please hear my voice, and help those who don't have a voice to ask you for water.

Response: At Lower Klamath and Tule Lake Refuges, the acreage of Refuge lands flooded is highly dependent upon water deliveries controlled by the Klamath Reclamation Project. Clear Lake is managed by Reclamation for irrigation, flood control, and wildlife habitat. At Upper Klamath Lake, the water elevation of the wetland (marsh) throughout Upper Klamath Refuge is controlled by Reclamation through the Klamath Reclamation Project. As such, water deliveries (supply) to these Refuges are outside the Service’s control.

Comment# 97-1: The advance of farming into this area has been wrong and based upon NON science and land grab situations created by the U.S. Government without concerns for the continued existence of a balanced ecosystem.Stop support of agribusinesses and start thinking about wildlife, clean water, and clean air. These ancient wetlands are required by our aviary populations and native fishes, frogs, bugs,

etc. Too long has this area been subsidized by the people in the pursuit of money. Time to change and eliminate leases before the destruction is irreversible.

Response: See response to comment 21-1.

B. <u>Wildlife - General</u>

Letter ID # 100-2, 104-2, 107-1, 109-1, 1-1, 111-1, 11-3, 118-1, 124-1, 13-1, 139-1, 140-1, 14-1, 141-1, 144-1, 145-1, 15-1, 153-1, 154-1, 167-1, 169-1, 172-1, 176-1, 180-1, 182-1, 183-1, 184-1, 186-1, 190-1, 191-1, 196-1, 202-1, 204-1, 206-1, 209-1, 21-1, 215-1, 219-1, 220-1, 227-1, 228-1, 230-1, 23-1, 23-3, 233-1, 235-2, 236-1, 237-1, 239-1, 240-1, 244-1, 248-2, 25-1, 253-1, 255-1, 256-1, 265-1, 267-1, 268-1, 269-1, 269-2, 27-1, 271-1, 272-1, 273-1, 276-1, 28-1, 281-1, 284-1, 287-1, 293-1, 297-1, 299-1, 300-1, 30-1, 304-2, 3-1, 310-2, 315-1, 325-1, 33-1, 333-1, 335-1, 343-1, 348-1, 355-1, 356-1, 358-1, 361-1, 362-1, 363-1, 368-1, 373-1, 374-1, 375-1, 377-1, 378-1, 380-1, 382-1, 383-1, 385-1, 386-1, 388-1, 389-1, 390-1, 391-1, 394-1, 395-1, 395-2, 40-1, 404-1, 408-1, 410-1, 411-1, 412-1, 414-1, 416-1, 418-1, 420-1, 421-1, 426-1, 427-1, 429-1, 430-1, 431-2, 432-4, 433-1, 434-1, 437-1, 438-1, 441-2, 443-1, 444-1, 449-1, 451-1, 452-1, 453-1, 454-1, 456-1, 459-1, 46-1, 463-1, 469-1, 470-1, 472-1, 473-1, 474-1, 476-1, 479-1, 481-1, 485-1, 488-1, 49-1, 492-1, 495-1, 496-1, 497-1, 498-1, 501-1, 502-1, 504-1, 508-1, 511-1, 512-1, 517-1, 520-1, 52-1, 521-1, 522-13, 522-2, 524-1, 525-1, 526-1, 528-1, 530-1, 531-1, 533-1, 534-1, 535-1, 539-1, 540-1, 541-1, 542-1, 544-1, 547-1, 549-1, 551-1, 551-2, 553-1, 555-1, 559-1, 56-20, 562-1, 563-1, 564-1, 567-1, 568-1, 572-1, 575-1, 577-1, 579-1, 58-3, 584-1, 59-1, 593-1, 594-1, 597-1, 599-1, 600-1, 603-1, 604-1, 609-1, 6-1, 610-1, 61-1, 611-1, 615-1, 616-1, 617-1, 62-1, 621-1, 622-10, 624-3, 625-1, 627-1, 629-1, 630-1, 639-1, 64-1, 642-1, 650-1, 664-1, 665-1, 667-1, 692-1, 695-1, 699-1, 70-1, 706-1, 71-1, 716-1, 720-1, 720-3, 723-1, 725-1, 726-1, 728-1, 744-1, 749-1, 756-1, 758-1, 759-1, 769-1, 770-1, 772-1, 772-2, 778-1, 781-1, 789-1, 793-4, 800-1, 803-1, 809-1, 811-1, 827-1, 829-1, 832-1, 833-1, 835-1, 839-1, 840-1, 846-17, 848-1, 851-1, 852-1, 863-1, 864-1, 864-2, 866-1, 867-1, 869-1, 870-1, 871-1, 884-1, 885-1, 889-1, 893-1, 90-1, 905-5, 92-1, 94-1, 96-1, Form Letter 1-1, Form Letter 3-1, Form Letter 4-1

Public Concern Statement: More specifically, numerous individuals request that the draft CCP/EIS should prioritize the needs of wildlife species and habitat in the Refuges over other uses.

Comment# 1-1: We had no idea that any national wildlife refuge was being managed for agribusiness, let alone five of them. We appreciate the opportunity to provide comments, because a refuge should be just that -- "a place providing protection and shelter; a haven." (Webster's Dictionary.) When the number of waterfowl and other birds returning to the refuges drop to one-fifth of their historic levels, clearly they are no longer places of refuge!

Response: The purposes for which each of the five Refuges were established and are being managed are provided in Chapter 1, Section 1.6 of the CCP/EIS. Four of the 5 refuges are "…dedicated to wildlife conservation…for the major purpose of waterfowl management, but with full consideration to optimum agricultural use that is consistent therewith" (Kuchel Act, 16 USC 695l). Lower Klamath and Upper Klamath Refuges' purposes also include, among other purposes: "…for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (Migratory Bird Conservation Act, 16 USC 715d). The focus of the Refuge purposes for Bear Valley Refuge is different from the other Refuges.

Comment# 3-1: I want to keep this simple, put the needs of wildlife over farming.

Response: Comment noted.

Comment# 6-1: Please prioritize the wildlife and the wetlands over agribusiness uses. Conservation of migratory birds and other wildlife and their habitat should be the most important focus in the Klamath Basin's national wildlife refuges and we should make every effort to preserve these irreplaceable lands for the creatures that depend on them.

Response: Comment noted.

Comment# 11-3: This means using any refuge water rights for wildlife not farming and the refuge should elimiante all farming from refuge lands. Water in Oregon is owned by the people of Oregon. A water right is really a privilege. The Refuge should assert that the prime purpose of the refuge is to provide for wildlife, not private farming/ranching. All water in the refuge should go to the betterment of wildlife habitat.

Response: Comment noted.

Comment# 1001-1: In this plan, U.S. Fish and Wildlife Service must show that refuge activities are consistent with the purpose for which the refuge was established. There is no way that a straight-face argument can be made that refuge wetlands should be allowed to go dry so that 22,000 acres of leased refuge land can be irrigated for big agribusiness. It is outrageous and it needs to stop. Prioritize the conservation and restoration of migratory birds, fish, wildlife, plants, and their habitats within the refuges, and reduce or eliminate activities that harm these values.

Response: Comment noted.

Comment# 100-2: Whatever benefits bird use I favor, including a return to the original reason for the refuge, which was set aside for birds. Somehow the needs of wildlife have moved far down the list of priorities, and farming has become the most favored and rewarded activity.

Response: See response to comment 21-1.

Comment# 1003-1: Manage the Klamath Refuges for Wildlife, not Agribusiness!

Response: Comment noted.

Comment# 1004-1: Provide for the conservation and restoration of migratory birds, fish, wildlife, plants, and their habitats within the refuges.

Response: Comment noted.

Comment# 104-2: FWS has an obligation to prioritize wildlife.

Response: See response to comment 21-1.

Comment# 107-1: It is time to prioritize for wildlife and phase out the agricultural uses on the wildlife refuge in the Klamath basin. Wildlife is under increased pressure due to climate change and we have an opportunity to provide them with a rare safe haven.

Response: See response to comment 21-1.

Comment# 109-1: I can grow potatoes in my backyard. I can't grow ducks, fish and wildlife. Hence the need for wildlife refuges.

Response: See response to comment 21-1.

Comment# 111-1: In our management plans, I think it is our responsibility to prioritize wildlife-- which is irreplaceable-- over agriculture, which is not.

Response: See response to comment 21-1.

Comment# 118-1: Please stop leasing Klamath NWR land to agribusiness, and restore the water needed by the migrating birds, for which this NWR was originally intended, and also for the people who want to go and see the wildlife and beauty.

Response: See response to comment 21-1.

Comment# 124-1: We lived in the Klamath Basin for seven years and were very involved in environmental issues. We are extremely concerned about the fact that every year, due to agricultural interests, the lakes are drained low so the migrating waterbirds die in the thousands of avian botulism and avian cholera because of overcrowding. We heard from people working at the refuges that they had to scoop up thousands of dead birds in the lakes each year. The practice of 'walking wetlands,' which is really a system to allow agriculture in a refuge with the guise of cooperative natural and human beneficial activities, is appalling. The Klamath Basin still is the host for a multitude of bird species who migrate down the Pacific Flyway. Without sufficient habitat, these birds will die and many species will suffer. It's time to do something about this. These birds and lakes are not the property of Klamath Basin farmers or anyone else. They have the right to live and flourish. If you need a human benefit, tourists also flock to see these birds so there is a monetary benefit for the area. Please finally do something to correct this. We have been fighting for years to have something to prevent depleting these lakes of water and health. If there has been any good time, it is now.

Response: Comment noted.

Comment# 13-1: Check out your agency's title. It is "Fish and Wildlife" not potato grower!

Response: Comment noted.

Comment# 139-1: Stop using pesticides that sicken and kill birds and other animals on our national wildlife refuges. Stop catering to big agribusiness. Stop being such jerks.

Response: Comment noted.

Comment# 140-1: Please manage the lower Klamath NET for the prosperity of the wildlife.The waterfowl population has dropped significantly.Government management and monies shall be spent in establishing the land for wildlife prosperity and preservation.

Response: Comment noted.

Comment# 14-1: i write to urge your agency to please prioritize the needs of migratory birds, other wildlife, plants and wildlife habitat in the Klamath Basin, in the decisions you make for water use there. It is becoming clearer as the years pass that climate change and droughts are having disastrous impacts for the migrating birds who depend on the waters there for their yearly migrations. Too many birds and other wildlife species have suffered already, due to insufficient amounts of available water. Agribusiness should not, and by agreements cannot, continue to reap financial rewards on the backs of these disappearing animals.

Response: Comment noted.

Comment# 141-1: I'm writing to request that you change the way you manage the Klamath NWR to favor wildlife over agriculture. I hope you will use USFWS water rights for the enhancement of wetlands. The long term benefits of water for wetlands and migratory birds will outweigh other uses.

Response: Comment noted.

Comment# 144-1: Such a great time to reform Refuge management, and to ensure the needs of bald eagles, tundra swans, sandhill cranes, and white pelicans in the face of the damage due to demands of highly subsidized agribusiness operations. Please work towards the restoration of more than 22,000 acres of National Wildlife Refuge lands in the Klamath now largely leased to private agribusinessand the displacement of wildlife, destrruction of wetlands, and the overuse and wasteful use pof precious and scarce water. Conservation plans for the refuges could help restore balance to the region and help reduce loss of vital habitat and lives of the wild creatures that depend on our practices for their future. Where go the wild birds, there go us!

Response: Comment noted.

Comment# 145-1: In this era of species eradication, ecosystem degradation, and ever-increasing human interference with natural processes, it is essential to maintain what little wildlife habitat remains. Klamath Refuge must be managed for wildlife and NOT agriculture. It is a betrayal of the public trust to divert water from a refuge for the benefit of agriculture.

Response: Comment noted.

Comment# 15-1: Refuges are there for animals not for agriculture. We need to protect them from being misused.

Response: Comment noted.

Comment# 153-1: The fish and wildlife service should manage the upper and lower Klamath river basin as a wildlife refuge as it was originally intended not as a conduit for agribusiness.

Response: Comment noted.

Comment# 154-1: To let one of the oldest and most important wildlife (primarily waterfowl) resting and loafing areas go dry is wrong. It is clear the waterfowl protections of this important area has been reduced

dramatically over the past few years and can be best judged by the number of Fall waterfowl utilizing the area on their migration from North American locations to southern locations. It appears the environmental focus is on the fish habitat and little attention is placed on a balanced approach to the overall environment and of the humans that utilize the locations.

Response: Comment noted.

Comment# 167-1: I support the Klamath Wildlife Refuges be conserved in perpetuity for the specifice and exclusive purpose of fish, bird, and other wildlife enhancement. Thiese refuges are a crucial link in their survival. Their is adequate land for farming and our human commercial purposes,but ever- shrinking habitat for wildlife.

Response: Comment noted.

Comment# 169-1: Please prioritize and support the wildlife, particularly the birds, fish and the plant life within the refuge.

Response: Comment noted.

Comment# 172-1: This area is vital for wildlife. Agribusiness needs to get out and stay out.

Response: Comment noted.

Comment# 176-1: animals have a right of god live too and mother-nature takes care of her owne

Response: Comment noted.

Comment# 180-1: I wholeheartedly support the proposals of WATERWATCH and others who are wanting the water now going into agribusuiness in the Klamath Basin's Tulelake and Lower Klamath Wildlife Refuges, be properly given top priority for the Refuges and the wildlife (waterfowl, mammals, etc). The growing of potatoes and onions has no business being given a priority in the lands set aside as a Wildlife Refuge.

Response: Comment noted.

Comment# 182-1: Please Manage the Klamath Wildlife Refuge for the WILDLIFE!To do otherwise is totally unacceptable in this Democracy!

Response: Comment noted.

Comment# 183-1: The Klamath National Wildlife Refuge was established to preserve an ABSOLUTELY essential resting/refueling/nesting location for birds using the Pacific Flyway. Hundreds of thousands of birds used these - formerly - vast wetlands for millennia. Without sufficient water, the "refuge" is not a refuge but a desert with little food for the birds, and little shelter for the nests of those that traditionally have nested there. Agriculture is a recent arrival on this scene. Farmers were wrong-headedly subsidized by the government to move in. The result has been a disaster for the birds. The Refuge MUST give priority to allocating sufficient water to maintain healthy bird populations for the thousands of birds depending on it. They literally have no where else to go. The wetlands MUST be

managed with wildlife as the priority, as intended in the legislation creating the Refuge in the first place. The extent to which the wetlands have been allowed to diminish is shameful; they must be restored and managed, in perpetuity (as intended), for wildlife. All water allocations to the US Fish & Wildlife Service need to be first used to support wetlands for wildlife, rather than to benefit corporate agribusiness. The lend-lease program needs to be phased out, and the lands restored to their original purpose - providing essential habitat for the birds using the flyway. I have visited the Klamath Refuge several times - and as a long-time bird-watcher and the daughter of a native Oregonian (who grew up in the Blue Mountains and watched with despair as commercial logging dried up the creeks of her childhood), I believe this refuge is the heritage of us all. And should not be managed to short the birds and all of us who love and revere them.

Response: Comment noted.

Comment# 184-1: Keep agri-business out of this and all wildlife refuges! Protecting wildlife should be the priority for such places not $!

Response: Comment noted.

Comment# 186-1: Please prioritize wildlife over agriculture in the wildlife refuge.

Response: Comment noted.

Comment# 190-1: "This area is vital for wildlife. Agribusiness needs to get out and stay out." Yes, I agree with that statement 100 percent.

Response: Comment noted.

Comment# 191-1: Please manage the Klamath Refuges for Wildlife,needs of people & agriculture come second,business (including agribusiness) needs come last from public resources.This applies to all public & common areas.

Response: Comment noted.

Comment# 196-1: It is time for the Fish and WIldlife Service to manage the Lower Klamath and Tule Lake National Wildlife Refuges (NWRs) in a manner that helps protect and expand the use of the area by wildlife. For too long the USF&W Service has put far too much emphasis on the needs of agribusiness at the expense of wildlife. Please change your approach.

Response: Comment noted.

Comment# 202-1: Yes reform management of these refuges, and protect America's wildlife! We all need to hold on to what little we have left, as a Klamath Tribal member it holds a deep place in my heart that these lands and waterways are protected for all our relations which is ever important in this day and age...

Response: Comment noted.

Comment# 204-1: Please prioritize Wildlife over agriculture in the Wildlife Refuge.

Response: Comment noted.

Comment# 206-1: They are called wildlife refuge, they should be a refuge for wildlife not to line the pockets of humans.

Response: Comment noted.

Comment# 209-1: I have visited the klamath lakes area numerous times in the past 20 years, especially when i lived in southern oregon. This area has been given over to agribusiness FAR too much. When I was there a forest service personnel said this was no place for hunters. I remember going there to enjoy the birds and had to leave be because of all the gunshots whizzing by. The birds need this area more than hunters or farmers. The hunters and farmers have reaped and raped the water and lands too long with violence with violence towards humans and wildlife. pleasemake your decision for wildlife and the people who cherish wildlife and wildlands.

Response: Comment noted.

Comment# 21-1: The primary purpose of our national wildlife refuges is to maintain healthy habitats, habitat connectivity and protection for wildlife -- particularly migratory bird species -- on a scale that assures continued maintenance and support of the great major flyways of the United States. Agricultural activities permitted in and along the refuges are intended to support this purpose, as an adjunct to natural habitat and wildlife food sources. Any agricultural outputs for direct human use from these areas are intended to be secondary, incidental benefits -- and not as a windfall for agribusiness. Our national wildlife refuges are not truck farms, nor are they merely duck farms to support the hunting industry. They are preserves established to maintain diverse, healthy, and continuous resources that support the great wildlife flyways and migrations of this country. This requires that the refuges provide maximum support for migratory birds, fish, wildlife, plants, and their habitats, and reduce or eliminate activities -- including industrial-scale agriculture -- that harm these values.

Response: The National Wildlife Refuge System Administration Act directs that "...each refuge shall be managed to fulfill the mission of the System, as well as the specific purposes for which that refuge was established..." (16 USC §668dd(A)(3)(a)). The Service believes that the major purpose of the Kuchel Act is waterfowl management as indicated in the language of the Act (Sections 1, 2, 4, and 6), as well as the debate in Congress in formulating the legislation. While "proper waterfowl management" is the major purpose of the Act, there are additional secondary refuge purposes related to agriculture derived from the Kuchel Act. The Kuchel Act directs that the Secretary continue the "present pattern of leasing," maximize lease revenues in specifically identified areas of the refuges, and optimize agriculture, all "...consistent with proper waterfowl management..." The Service has determined that "proper waterfowl management" is defined as: "providing habitats sufficient to support waterfowl population objectives throughout the annual cycle while promoting the highest possible natural biological diversity of refuge habitats. A sufficient quantity and diversity of foraging resources should be provided that will meet the energy requirements and nutritional demands of all waterfowl species. Where feasible, natural foods should be given priority over agricultural crops." (Appendix M). The management alternatives for Lower Klamath and Tule Lake Refuges proposed in the CCP/EIS are consistent with this definition.

Comment# 215-1: It is imperative that National Wildlife Refuges, including the Klamath refuges, be managed for the benefit of wildlife. This includes the use of all available water for the purpose of supporting wildlife. There should be no use of the refuges for agriculture except as it is specifically designed to promote the well-being of wildlife and no decisions should be made that puts the well-being

of agricultural activities above the benefits to wildlife.

Response: Comment noted.

Comment# 219-1: We must make the critters that the Klamath Refuge Basin was created for our top priority. If local members of the agricultural community can assist in this endeavor all the better, but the habitat and the 433 species listed below must be the top priorityThe Klamath Basin Refuges consist of a variety of habitats, including freshwater marshes, open water, grassy meadows, coniferous forests, sagebrush and juniper grasslands, agricultural lands, and rocky cliffs and slopes. These habitats support diverse and abundant populations of resident and migratory wildlife, with 433 species having been observed on or near the Refuges. In addition, each year the Refuges serve as a migratory stopover for about three-quarters of the Pacific Flyway waterfowl, with peak fall concentrations of over 1 million birds.

Response: Comment noted.

Comment# 220-1: Please prioritize wildlife refuges for wildlife. While some agriculture should be allowed, the primary goal of the refuges should be to enhance and support wildlife by providing protected habitat.

Response: Comment noted.

Comment# 227-1: Please manage the Klamath Refuges for wildlife, nit agriubusiness. My family visited this beautiful, abundant place years ago, and it is very sad ti think that now onlyt one fifth of the biurds come there that used toi come. Please help brung recovery.

Response: Comment noted.

Comment# 228-1: You are managing a national wildlife refuge and while competing interests must be served, those interests most certainly do not include agriculture. A refuge should be managed to help wildlife especially as natural areas are being paved over to make way for progress.

Response: Comment noted.

Comment# 230-1: This land is national wildlife refuge land, not agricultural land. Refuges should be managed to help wildlife, especially as natural areas are increasingly being developed. We need to preserve what we can.

Response: Comment noted.

Comment# 23-1: I find it tragic that National Wildlife Refuges are managed more and more for the benefit of people and industry rather than for wildlife. Species are under great stress because of diminishing habitat and climate change, and National Wildlife Refuges should be places of sanctuary for wild flora and fauna. Please, USFWS, manage these important refuges for the conservation and restoration of wildlife and critical habitats, not for agribusiness.

Response: See response to comment 21-1.

Comment# 23-3: We must not let the natural world vanish because of relentless human encroachment and industry. Humans too need wildness. When it is gone we too will suffer. Bring the concept of "refuge" back into National Wildlife Refuges. Please! Manage for wildlife and critical habitats, not for industry.

Response: See response to comment 21-1.

Comment# 233-1: National Wildlife Refuges should be managed to protect birds and other wildlife.

Response: Comment noted.

Comment# 235-2: All land and water should be preserved for wildlife. Other arable land can be used by agriculture. If anything, more land and more water should be added to these areas for wildlife habitat.

Response: Comment noted.

Comment# 236-1: "Fish and Wildlife" does not include agro-business, pesticides, hunting, etc. Please stop the practice of allowing and prioritizing human land and wildlife abuse over protecting these areas set aside for the benefit of the animals and their needs.

Response: Comment noted.

Comment# 237-1: manage the klamath for the wildlife.

Response: Comment noted.

Comment# 239-1: Wildlife refuges were established for saving wildlife. The Klamath basin is vital for thousands of migrating water fowl, raptors and others. I urge you to pursue aggressive programs that put wildlife first. Don't let the wetlands go dry allowing the birds to die while giving water to big agribusiness for onions and potatoes. As a grandmother, I ask you to please save wildlife for my grandchildren's generation.

Response: Comment noted.

Comment# 240-1: Wildlife Refuges are for wildlife, not for big agribusiness. A majority of our land is given over to agriculture already. Enough is enough!

Response: Comment noted.

Comment# 244-1: I wholeheartedly support managing the Klamath Wildlife Refuge for WILDLIFE. Even hunting there should be eliminated. What is it a refuge from, if not from the selfish actions of people wanting to use the resources for their own gain?

Response: Comment noted.

Comment# 248-2: Returning the area to a year-round wetland habitat should be the number 1 concern for habitat management. Water should be available during the spring nesting season as well as the refuge

should be flooded BEFORE the birds start to arrive. With no water available to migrating waterfowl before the start of the duck season over the last several years, birds have started to bypass the area altogether. Additionally the outbreaks of avian botulism are increasing in intensity on the Tulelake side. Water is the key to mitigating these adverse affects.

Response: Comment noted.

Comment# 25-1: I support prioritizing the use of water and land for wildlife over agriculture.

Response: Comment noted.

Comment# 253-1: A Wildlife Refuge is a safe place for wildlife and that is it's main purpose. We have developed so much space that wildlife including birds and animals and sealife have little space left. Hasn't Agribusiness taken enough for themselves? They do not leave the land better but worse. Let the wildlife have their safe space, the Refuge is for them.

Response: Comment noted.

Comment# 255-1: Please take actions to protect the wildlife and health of the environment at Lower Klamath and Tule Lake National Wildlife Refuges. The number of birds visiting these areas has dropped to one-fifth their historic levels.

Response: Comment noted.

Comment# 256-1: This NWR should better balance the ecological integrity with agriculture. The later seems to dominate at the cost of wildlife habitat.

Response: Comment noted.

Comment# 265-1: Lower Klamath and Tule Lake National Wildlife Refuges should not be open to agribusiness. The area already suffers from a general lack of water and on-going conflicts for water interests. Delaying and deferring the Comprehensive Conservation Plans is not a management strategy. It's avoiding the inevitable. Let wildlife refuges be what they are meant to be. Don't let them be government handouts.

Response: Comment noted.

Comment# 267-1: Please stop such irresponsible farming practices now. Bird populations have been reduced dramatically already. Give them a space on our earth. Potatoes can be grown in a more appropriate area.

Response: Comment noted.

Comment# 268-1: This cannot be called a wildlife refuge if you are going to allow agribusinesses to thrive. Please allow wildlife to live there in peace without interference from these big businesses.

Response: Comment noted.

Comment# 269-1: he Klamath National Wildlife Refuge system is one of the most important bird habitats on the Pacific Flyway, and yet, current management lets it go dry every year while agribusiness is given water to grow potatoes and onions. A wildlife refuge should serve wildlife, not agriculture. Please, manage the refuges for wildlife, and stop sending water and leasing lands to outside interests.

Response: Comment noted.

Comment# 269-2: If we've learned anything, water shortages are going to get worse, not better. So please take care of our precious wild neighbors and ensure that they have Klamath as a safe haven. It's the very reason Roosevelt created our refuge system - to protect wildlife. I love this refuge, and I love the birds it's supposed to serve. Klamath needs refuge management to step up, and to restore this beautiful place as the incredible wildlife habitat it can be.

Response: Comment noted.

Comment# 27-1: I want this area kept in tact for wildlife...let's stop pushing wildlife into oblivion....

Response: Comment noted.

Comment# 271-1: Industrial agriculture has no place on public land. Public lands, including Klamath and Tule, should be managed for wildlife habitat exclusively.

Response: Comment noted.

Comment# 272-1: Please use the Tule and Klamath Lake/Marsh NWRs to protect migratory birds and native wildlife and NOT lease this public land to support agribusiness at the expense of wildlife and its shrinking habitat.

Response: Comment noted.

Comment# 273-1: The definition of refuge is a place of shelter from pursuit, danger, or trouble. Being that this is a wildlife refuge and the fact that agricultural industry has proven to cause harm, trouble and put in danger wildlife; it only stands to reason that agriculture has no business on, in or with that land.

Response: Comment noted.

Comment# 276-1: I would like the wildlife refuge to actually be a refuge for wildlife! Please do all that you can to make it so, including: stop diverting the water away for agriculture, stop spraying pesticides, and stop using decoys to scare off native wildlife!

Response: Comment noted.

Comment# 28-1: As an outdoors enthusiast born and raised in Oregon, an avid angler, a former resident of Klamath Falls, and a recreational user of the Klamath, and Tule Wildlife Refuges, I would like them preserved for their intended primary use, preserving wildlife. I lived in Klamath Falls during one of many periods when farmers, ranchers, and other stakeholders were vehemently disagreeing on the proper use of the Wildlife Preserves in the area. This continuing rancor should end! USFWS should once and for all

make preservation of wildlife and their habitat the primary and highest--if not the only--use of National Wildlife Refuges.

Response: Comment noted.

Comment# 281-1: I am writing today on behalf of wildlife. Please stop allowing agribusiness to take water and resources away from the wetlands and manage them for the wildlife, not agriculture.

Response: Comment noted.

Comment# 284-1: You must make wildlife the first priority in your actions. No more second place. These creatures and what little habitat they have left means much to the humanity of this world.

Response: Comment noted.

Comment# 287-1: Provide space for migratory birds and other wildlife. Farming destroys native habitat.

Response: Comment noted.

Comment# 293-1: Please leave the wildlife refuge for wildlife!

Response: Comment noted.

Comment# 297-1: This refuge was created for its habitat and wildlife not agriculture, lets keep it that way. I have family that farms in Klamath County and has for almost a century and I'm a Klamath Indian that were stewards of this land, habitat, and wildlife for thousands of years. This planet is in crisis and you want to add to it?

Response: Comment noted.

Comment# 299-1: This is a national wildlife refuge, not agricultural land. A refuge should be managed to help wildlife, especially as natural areas are increasingly being developed.

Response: Comment noted.

Comment# 300-1: Please focus on saving wildlife and not as usual on agribusiness.

Response: Comment noted.

Comment# 30-1: I consider it vitally important that the Fish and Wildlife Service prioritize the management of the land to serve wildlife needs ONLY.

Response: Comment noted.

Comment# 304-2: I have hunted in the Lower Klamath Refuge for a dozen years, and have yearly watched the degradation of this incredible national asset. Can this be reversed? Throughout the wording of your Mission Statement, there are sprinkled words like "paramount" and "major", and "agricultural

practices will compliment proper waterfowl management". Your Mission Statement is replete with such wording, seemingly making absolutely clear that the primary purpose of LK is for the benefit of the birds, and all other uses are to be of secondary importance. Yet other interests seemingly are given equal or even greater access to the available water. Last year, I bought my yearly pass to the Klamath Basins, but did not even go because I read that Lower Klamath was even dryer than 2014 and the birds had gone elsewhere. LK had essentially become a part of the Great High Desert. This is an epic tragedy. I am a waterfowl hunter, and I do want to return yearly to Lower Klamath. Under the present mode of apportionment of water resources, I see this great waterfowl asset diminishing to the vanishing point. Please do what you can for the birds.

Response: Comment noted.

Comment# 310-2: It goes without saying that migratory birds need the Klamath Refuges desperately in order to rest and refuel along the migratory pathways. But it sounds as if this is unimportant, and/or ignored by the Fish and Wildlife Service. These places are set aside for wildlife, not man. Man doesn't need to use these areas for their own private business that does not benefit wildlife or the public. These places are for the other denizens of the earth who don't have a voice in voting for how land is used. Keep the Klamath Refuges for the birds, fish, etc. Do not allow agribusiness and water wastage in the Klamath Refuges.

Response: Comment noted.

Comment# 315-1: Please prioritize water and land resources within the Klamath Reserve for wildlife not agribusiness.

Response: Comment noted.

Comment# 325-1: I believe the Klamath National Wildlife Refuges should be managed for birds and native habitat

Response: Comment noted.

Comment# 33-1: I was able to visit the Klamath Refuges last spring. I was amazed by the number of birds. However, I know what I saw is a far cry from the number that once visited these refuges before the Klamath Project. Because this is such an important part of the Pacific Flyway, and bird populations have dropped dramatically in recent decades, I urge the agency to end the practice of lease-land farming on the refuges and use the refuges' senior water rights to benefit of wildlife, not private business interests.

Response: Comment noted.

Comment# 333-1: This wildlife refuge started out as a refuge and should remain a refuge. It should not have its life's blood (water) drained out to suit the monetary goals of agribusiness.

Response: Comment noted.

Comment# 335-1: Me and my family going back 5 generations in California have hunted Tule Lake/Lower Klamath refuges. More important than my family heritage...the Refuges are a vital stop in the Pacific Flyway for all kinds of migratory birds and water for the refuges should be prioritized over other

local issues.

Response: Comment noted.

Comment# 343-1: I would much prefer to see more critters and land and wetlands protected on their behalf. 7.3 Billion humans are pushing out most wild species either directly or indirectly with food/agriculture, energy, housing and other resource extraction sprawl. If a LOT of habitat isn't saved, and better yet, connected with corridors for migration and genetic sharing, most wild species will go extinct - completely due to human sprawl. Once habitat is gone, it's almost always gone forever.

Response: Comment noted.

Comment# 348-1: A National Wildlife Refuge should be as the name suggests, a Refuge for Wildlife, and not a place where Agribusiness predominates, draining precious water off for irrigation and spraying the ground with Toxic pesticides.

Response: Comment noted.

Comment# 355-1: These are national wildlife refuges, not agricultural land. Refuge land should be managed to help wildlife, especially as natural areas are increasingly being developed.

Response: Comment noted.

Comment# 356-1: Please reconsider factors related to the conservation and the restoration of migratory birds, fish, wildlife, plants, and their habitats within the subject refuges by reducing or eliminating agribusiness' effects on these publicly owned important lands!

Response: Comment noted.

Comment# 358-1: Agribusiness's choice to use wasteful water practices, to increase profits, should not be paid for by the destruction of wildlife.

Response: Comment noted.

Comment# 361-1: all of our wildlife refuges are for our wildlife . NOT for some privately owned and run business. These places are for the wild animals and our future .

Response: Comment noted.

Comment# 362-1: Rename this from a Comprehensive Conservation Plan to a Concentration Camp Prescription. By dewatering these refuges and leasing the major portion of your land to farmers to plow and crop you concentrate wildlife, now refugees, into smaller areas. The refugees concentrate, because where else can they go? They concentrate as do their wastes. The sick refugees concentrate too. And we know what happens next. Avian botulism and avian cholera concentrate there as surely as the tractors till those fields that once provided refuge. The diseases spread as surely as there is less water for refugees because that water is growing potato chips and cattle feed elsewhere. The disease spreads as surely as the habitat the refugees once used is under crops. You know this is true, year after year. You hate this part of your job, but you know it will come each year, because you collaborate. You collaborate in the slaughter

as surely as if you were dropping cyanide into acid in this concentration camp for avian refugees. Refugees that each year are concentrated in your care. Refugees that each year are condemned to horrible deaths of dehydration from the inside out. Dehydration, like the lands that once gave them refuge. For 100 years the refugees lived despite our abuse. But as our climate changes, the waters are increasingly depleted. The Klamath Tribes have finally had their water rights recognized. They extend back in time immemorial. They were here first, or were they? The geese and ducks were here when the first nations formed on these wetlands. Are their rights recognized? Do we recognize that Birds Lives Matter? Ag interests declare rights codified in the Kuchel Act. Refuge staff take refuge themselves behind the Act. Here's a bit of that Act:"It is hereby declared to be the policy of the Congress to stabilize the ownership of the land...as well as the administration and management of the...Tule Lake [NWR], Lower Klamath {NWR], Upper Klamath [NWR], and Clear Lake [NWR], to preserve intact the necessary existing habitat for migratory waterfowl in the vital area of the Pacific flyway..."The Act goes on to declare these lands "are hereby dedicated to wildlife conservation. Such lands shall be administered by the [Secretary] for the major purpose of waterfowl management, but with full consideration to optimum agricultural use that is consistent therewith." The Kuchel Act sets some ag goals, but the law is UNAMBIGUOUS that refuges are DEDICATED to wildlife conservation with ag secondary. It is not CONSISTENT with waterfowl mgmt when every year tens of thousands of birds die! Wildlife and ecological science has moved on since 1956. The USFWS has an obligation to advance beyond the science and politics of 1956. Soon we of western science will document most of the knowledge indigenous peoples gained from time immemorial of living on these lands with our nonhuman companions. We have learned unambiguously that ecosystems are complex systems of intricate workings. Each component of the system is connected by lines of interaction to each other element. We can't jerk the land out of wetland and plow it and expect it to support more than a few elements of the indigenous ecosystem. We know this. Walking wetlands may be a suitable way to rotate crops for the benefit of the crops, but they are not consistent with the needs of the wetland or its waterfowl. The communities of wildlife are totally disrupted and destroyed. Is there a single staff member of the refuge that will argue that the agriculture leases benefits the waterfowl *more* than that land being dedicated to spreading out the waterfowl and their habitat? That such use is consistent with waterfowl management? If so, I'd argue that staff member should be quickly escorted back to science class before he or she does too much damage. The refuge staff must lead to protect these lands. Ron Cole tried to work the system for the sake of the refuges and I watched him cry with regret at the last Wingwatch

Response: Comment noted.

Comment# 363-1: These lands are set aside for a reason, as a REFUGE for the wildlife that we are required (luckily, or most of us simply wouldn't do it) to protect and preserve. Ask yourself, is that what I am doing here, or is it about protecting corporate interests? I think you know the answer. And so do we.

Response: Comment noted.

Comment# 368-1: The Klamath Lake wildlife refuge has a long history of assault by big agriculture who want to make a profit by poisoning wildlife. These refuges were designed to give migrant water fowl a place to stop and rest, not designed as places for agriculture. The Klamath Lake area is prone to periodic droughts and floods, but has been regulated so that in drought, the Klamath river suffers and in floods, is drained into nearby rivers. This makes a very artificial "regulation" of the refuge and wildlife is constantly at the mercy of human "regulators". Allow the refuge to return to what it was meant for--a place of refuge for water fowl. Get rid of the big polluters and their money-grubbing at the expense of anything that doesn't make them a profit.

Response: Comment noted.

Comment# 373-1: Please use your authority to improve the well being of fish and wildlife and not industrial farming.

Response: Comment noted.

Comment# 374-1: I urge you to prioritize wildlife conservation over agricultural uses in Oregon's National Wildlife Refuges. It is especially important in this time of rising temperatures and widespread drought to keep the full allocation ofwater available for wetlands, not irrigation. Migratory wildlife depends on these wetlands; that's why the areas weredesignated as Wildlife Refuges. Please concentrate on habitat restoration and eliminate agribusiness leasing.

Response: Comment noted.

Comment# 375-1: Please please prioritize water and land use to support and protect the wild life in the Klamath Reserve Basin. We need to protect the bald eagles, fish, and supporting wildlife in this basin to sustain natural resources. Please focus away from agribusiness and protect the natural order.

Response: Comment noted.

Comment# 377-1: I urge the USFWS to manage the Klamath Basin refuges for wildlife. The amount of land and water resources that have been prioritized for agribusiness over time is stunning. The Comprehensive Conservation Plans for these refuges is mandated by law, and the USFWS is responsible for protecting wildlife and habitat.

Response: Comment noted.

Comment# 378-1: Millions of ducks and geese have migrated to and through the Klamath National WildlifeRefuges of southern Oregon and northern California for thousands of years long beforethe white man came and introduced agriculture. 50-60 years ago, we couldmarvel at the millions of ducks and geese that flew overhead in Bonanza, Oregon.Bonanza is a small town in Klamath County, Oregon on the Lost River, a unique riverthat meanders across the desert of southern Oregon beginning in Clear Lake and endingin Tule Lake, California. The town was named Bonanza by early settlers who hadcrossed the Oregon Desert and found clear artesian springs flowing into the Lost River.It is distressing to hear farmers today complain of the drought and lack of water for crops.Many of the small farmers have been replaced by agribusiness. As a consequence, theyhave drilled deep wells throughout the area to irrigate their fields throughout the springand summer. Last year, I was shocked to hear that the springs in the Bonanza Big SpringsPark were completely dry. Despite the drought, it seems that the acreage dedicated toagriculture has increased rather decreased which makes little sense. Where there wasonce sagebrush and junipers, you now find fields of alfalfa, oats, and wheat. As thewetlands of southern Oregon and northern California become reduced, water fowlbecome more concentrated in smaller areas that leads to disease and death for wildlife.We need to protect the more than 500 Bald Eagles winter in the KNWR that feed onwaterfowl and fishWith the onset of global warming and climate change, the people of southern Oregondon't seem to realize that they don't get as much rain as they once did. They don't seemto realize that they need to share the water that they do get with wildlife.

Response: Comment noted.

Comment# 380-1: Klamath National Wildlife Refuge should follow any and all practices that preserve the conditions required for wildlife to thrive. Diverting water to agricultural uses does not support local and migrant wildlife that depend on this water and for the refuge to be preserved in its natural state. I am very distressed that over the last several years thousands of birds have died from lack of adequate water supply here.

Response: Comment noted.

Comment# 382-1: Please prioritize water rights for the Klamath Wildlife Refuges in Oregon. We want to see the purpose of the refuge be honored, to protect the ecosystem for wild animals.

Response: Comment noted.

Comment# 383-1: Klamath National Wildlife Refuge--the name alone should tell you what the priority here is-- wildlife. Yet, thousands of birds are dying because the water that is their refuge is being diverted to agribusiness. Each year millions of birds and 80% of the waterfowl on the Pacific Flyway depend on the Klamath National Wildlife Refuge for their survival during their annual migrations. But in recent years the wetlands have gone bone dry because of diversion of the water away from the refuges original purpose. This must stop!

Response: Comment noted.

Comment# 385-1: Preservation of wildlife and its habitats should be your priority. This is a major watering ground for many migratory birds and they don't have an alternative.

Response: Comment noted.

Comment# 386-1: It is imperative that we not destroy this habitat that wildlife is dependent upon. That this land and water are being leased to big agribusiness, resulting in disease and death for thousands of migratory birds is shortsighted and immoral. The lease-land agribusiness program needs to be phased out and the water restored to use to restore wetlands for wildlife on as short a time line as possible.

Response: Comment noted.

Comment# 388-1: When I travel through Oregon I make sure to stop at the Klamath National Wildlife Refuge to see the exhaustive quantity and diversity of birds. I'm concerned reductions in water would irrevocably damage waterfowl populations which serve birdwatchers, sportsmen, and the ecosystem at large.

Response: Comment noted.

Comment# 389-1: I would like to see the Klamath refuges managed to prioritize the needs of wildlife over the needs of agriculture. These lands were set aside because of their immense value to migratory birds and other wildlife, and management plans should reflect that.While there are untold millions of acres available for agriculture around the country, the Klamath refuges are unique.

Response: Comment noted.

Comment# 390-1: I urge you to return to the primary goals of wildlife refuges in your planning for the next 2 decades -- that is to preserve birds and wildlife. The secondary goal of improving the economy of nearby communities should not take precedence over the preservation of wildlife, as, in the long run, the ecosystem supporting the wildlife will be what allows the human communities to thrive for generations to come, not just in the short-term. It is scary and challenging in this era of climate change and prolonged drought. But please don't lose sight of the primary goal of wildlife refuges!

Response: Comment noted.

Comment# 391-1: Save the birds!

Response: Comment noted.

Comment# 394-1: Please do not ruin any more of our precious Earth. We need the animals that get displaced from ill-advised use, and all the varied habitat that must remain pristine and untouched in order for us to survive. This is OUR home - all creatures home. If you kill it, we all die.

Response: Comment noted.

Comment# 395-1: fter reading about what is happening at the the National Wildlife Refuges near Klamath Falls, I am appalled at the USFWS. Frankly, it is unacceptable that they would prioritize agriculture and business ventures over the health and lives of the animals that inhibit the refuges. Since these lands were established as National Wildlife Refuges, nothing should be done on those lands that would detriment the environment and ecosystems on said land. These wetland systems were here long before humans were even on the continent, and we have came in and destroyed near all of their territory. Yet still when we have the resources to help them on the small pockets of land we have given them as "refuges", the water they need is diverted to crops. This is extremely selfish and cruel, because all these animals want is survival and we are knowingly killing them to make a few extra bucks.

Response: Comment noted.

Comment# 395-2: It is federal law that no human activities should harm animals on National Wildlife Refuges. The USFWS is also forgetting the point of NWRs, which is to protect the wildlife inside them. If the animals inside these lands are dying because of lack of water in their habitat, then what is the point of labeling it a Wildlife Refuge? I understand the government would like to make a profit from crops in the Klamath area, and local farmers need to be able to irrigate their crops. It is understandable they would like to get their water from a local source. However, taking water from federal lands specifically created to protect wildlife, especially birds on the Pacific Flyway with few other landing spots, is positively wrong. The USFWS needs to clean up their act, in this and many other cases. I know they do their best to ensure that the flora and fauna of the United States is treated well and protected lands remain so, but in this case they have handled the problem at hand incorrectly. Protecting wildlife and their habitats should be the highest priority, and I am glad when a problem has been handled the wrong way there are people willing to take a stand and demand change.

Response: Comment noted.

Comment# 40-1: PLEASE pursue more allotment for " WATER FOR WILDLIFE!"

Response: Comment noted.

Comment# 404-1: As a tourist/birder in the Klamath Basin, I am extremely concerned about the lack of resources provided to the birds in the refuge. Every year, millions of birds, up to 80% of the waterfowl on the Pacific Flyway, depend on the Klamath National Wildlife Refuges for their survival as they make their annual migrations. However, in recent years, the wetlands on the refuges have gone bone dry, contributing to the deaths of thousands of birds while water has been used to grow onions and potatoes on refuge lands that are leased to agribusinesses. Farming is important, but so are birds! The Klamath Wildlife Refuge must be prioritized so that water can be restored to thewetlands. The Klamath Wildlife Refuge must be restored to its original purpose which is in support of birds and ensuringthat the refuge has water is absolutely necessary.

Response: Comment noted.

Comment# 408-1: I am shocked to hear that Fish and Wildlife is allowing crops to take precedence over the lives of migratory birds! In my opinion a "refuge" should be used as a refuge and not as a place to grow food for humans. The birds need the water in these wetlands for their survival! Please return these areas to their original purpose, and give the birds back their essential stopover.

Response: Comment noted.

Comment# 410-1: Birds dependent on the Pacific fly zone need the Klamath reserve water more than ever as California becomes dryer. Taking agriculture out of the reserve is one way the Fish and Wildlife Service can really make a difference. Please provide for the wildlife and the people who love them, and switch out the unfortunate mistake made when people were allowed to farm the reserve.The benefits - in keeping bird populations healthy - go to the millions of people up and down the zone

Response: Comment noted.

Comment# 411-1: Water allocations must be made to prioritize wildlife and habitat needs.

Response: Comment noted.

Comment# 412-1: The Klamath Refuge is one of the last remaining places on the Pacific Flyway not totally dry or totally contaminated. Every square foot of land and all the water should be habitat for migrating species and indigenous plants and animals.

Response: Comment noted.

Comment# 414-1: We are concerned with the increasing problems faced by wildlife.Wildlife refuges should be for wildlife, and agriculture must be done in a sustainable way. Manage our lands for wildlife, and not to fill the pockets of agribusiness. Restore wetlands, and use water rights for wildlife first. Partnerships with commercial interests should be for the benefit of wildlife, wild lands, and the American public, whom you are tasked with serving.

Response: Comment noted.

Comment# 416-1: The Klamath National Wildlife Refuge needs to be for the birds! It is time to phase

out the lease-land agribusiness program and restore the wetlands to improve conditions for native wildlife!

Response: Comment noted.

Comment# 418-1: I urge you to prioritize wildlife and wildlife habitat including water rights as the highest, if not, only goal of Malheur Wildlife Refuge. Quit subsiding farming and agribusiness at the expense of Native species.

Response: Comment noted.

Comment# 420-1: PLEASE grow onions somewhere else - these birds depend upon the wetlands to survive their migrations!

Response: Comment noted.

Comment# 421-1: Millions of ducks and geese have migrated to and through the Klamath National WildlifeRefuges of southern Oregon and northern California for thousands of years long beforethe white man came and introduced agriculture. As a young man 50-60 years ago, I usedto marvel at the millions of ducks and geese that flew overhead in Bonanza, Oregon.Bonanza is a small town in Klamath County, Oregon on the Lost River, a unique riverthat meanders across the desert of southern Oregon beginning in Clear Lake and endingin Tule Lake, California. The town was named Bonanza by early settlers who hadcrossed the Oregon Desert and found clear artesian springs flowing into the Lost River.For the past 50 years I have returned to Bonanza on Memorial Day weekend to visit withfriends and family as well as to enjoy the pure sweet water of these springs. It wasdistressing to hear farmers complain of the drought and lack of water for crops.Many of the small farmers have been replaced by agribusiness. As a consequence, theyhave drilled deep wells throughout the area to irrigate their fields throughout the springand summer. Last year, I was shocked to find the springs in the Bonanza Big SpringsPark to be completely dry. Despite the drought, it seems that the acreage dedicated toagriculture has increased rather decreased which makes little sense. Where there wasonce sagebrush and junipers, you now find fields of alfalfa, oats, and wheat. As thewetlands of southern Oregon and northern California become reduced, water fowlbecome more concentrated in smaller areas that leads to disease and death for wildlife.We need to protect the more than 500 Bald Eagles winter in the KNWR that feed onwaterfowl and fishWith the onset of global warming and climate change, the people of southern Oregondon't seem to realize that they don't get as much rain as they once did. They don't seemto realize that they need to share the water that they do get with wildlife.

Response: Comment noted.

Comment# 426-1: Millions of migratory birds, fish, and other native wildlife, as well as plants, depend on the Klamath refugesthey are among the most important in North America and they should be managed for wildlife habitat, not BigAg. The Klamath refuges once supported many millions of birds; tragically they have dwindled to perhaps 1/5 of their historic numbers.

Response: Comment noted.

Comment# 427-1: These refuges are public lands, established for the benefit of migrating birds.To divert water resources for private agribusiness at the expense of the birds is inappropriate, especially in light of climate change and drought.

Response: Comment noted.

Comment# 429-1: I urge you to use the available resources to support the health of wildlife on the refuge, not farming.

Response: Comment noted.

Comment# 430-1: I am writing to urge you to protect the critical habitat for birds, fish -- by restoring the plants and water that sustain them -- within all of the Klamath Refuges. As you know, bird populations are now at only 1/5th of prior historic levels, and as drought increases it is unconscionable to continue to lease precious water to agribusiness when the refuges were established for wildlife conservation. I request, as a taxpayer and an Oregonian, that you phase out land-leases for agriculture as swiftly as possible and restore the wetlands that migrating birds need to survive as our climate changes. Humans have other ways to economically survive, but birds are totally dependent upon the and open land / wetland habitat. Wildlife should be the FIRST priority for water and land use in our refuges! The Klamath refuges are vitally important to migrating birds and to local fish populations. Future generations should not lose the natural treasures of plants, birds, and fish based on short-sighted plans designed to provide profits for agribusiness. The new Comprehensive Conservation Plan should be aimed at conservation and restoration.

Response: Comment noted.

Comment# 431-2: Water should not be prioritized for low cost crops over endangered fish and migratory birds.

Response: Comment noted.

Comment# 432-4: These USFWS refuges were established to protect wildlife and fish...especially migratory birds. Managing these U.S. Government-owned lands in the way which provides the greatest benefit to wildlife and fish should be the land management priority for these lands.

Response: Comment noted.

Comment# 433-1: The wetlands of the Klamath basin are critical for the survival of migratory birds and home to fish and other species. These refuges are for wildlife that are facing ever shrinking habitat and don't have the luxury of going somewhere else. Agribusiness had no business there and can go somewhere else. Preserve the refuges, all of them, for the purpose for which they were intended.

Response: Comment noted.

Comment# 434-1: Having lived in the Pacific NW all my life of 69 years now, it is clear that the damages are amassing over time when refuges go begging for water, and for protection for the wildlife they are intended to preserve and support. I have been witness to arguements between intereseted parties, many attenpts to cooperate and collaborate, sometimes successfully, to serve all needs. That being said, the apriory design by law is for wildlife. Not businees, even when it supplies food for humans and their valued businesses and their cattle. With the water conditions we are currently experiencing after dry years and droght, including additional climate change predictions yet to occur, it is time to re-trench from agricultural and agribusiness uses in these last places of health and safety for wildlife and plant life there.

To allow wetlands and refuges to go dry to serve the population of people first is antithetical to what ultimately we rely upon: the wellbeing of places and the lives healthy habitat affords. Focusing on generating income directly from business served, or from the production of the agribusiness currently relying on these places is not sustainable, and is damaging to the ecosystems we all need to survive. We need to pursue programs that increase and protect the water. It must be secured for wildlife, and restoring wetlands and conditions for native wildlife.

Response: Comment noted.

Comment# 437-1: the USFWS should be using the Public Trust Doctrine which suggests that all water in Oregon as well as Califronia are a public resource. As such the agency should take control of the public's water and use it for wildlife, and use it to restore wetlands and improve conditions for native wildlife.

Response: Comment noted.

Comment# 438-1: Every year, millions of birds, up to 80% of the waterfowl on the Pacific Flyway, depend on the Klamath National Wildlife Refuges for their survival as they make their annual migrations. However, in recent years, the wetlands on the refugeshave gone bone dry, contributing to the deaths of thousands of birds while water has been used to grow onions andpotatoes on refuge lands that are leased to agribusinesses. We need to restore Klamath to its original purpose, supporting birds, and to ensure that the refuge's water goes to the refuge wetlands where it is most needed. There is no way that refuge wetlands should be allowed to go dry so that 22,000 acres of leased refuge land can be irrigated for big agribusiness. It is outrageous and it needs to stop.

Response: Comment noted.

Comment# 441-2: Wildlife refuges are for wildlife not farming. The highest priority should be given to conservation and restoration of migratory birds, fish, wildlife, plants, and their habitats within the refuges.

Response: Comment noted.

Comment# 443-1: In regard to the Klamath area wildlife and wetlands refuges, water use should be managed in such a way to maintain and restore these areas to healthy environments for waterfowl, migratory birds and indigenous species, animal and plant life. The current agribusiness use is harmful and counterproductive to the mission of refuge preservation. We as guardians and stewards of all life on Earth are beholden to act in the best interest of lower animals who have no voice but must suffer the consequences of our poor management. True, the changes needed to restore the natural balance will require careful and wise decisions made by qualified personnel and resources which are stretched thin. However, should things continue as they are, we will face yet another heart rending 'Silent Spring' situation. We are honor bound to keep the flyways open and functioning.

Response: Comment noted.

Comment# 444-1: Currently the Klamath refuges in southern Oregon are actually drying up in the summer. This is causing the un-necessary death of many birds including eagles, waterfowl, shorebirds, swans and most importantly to me, white pelicans. This drying up of the refuge is related to leasing out 22,000 acres to agribusiness and their active use of the water for their business. This is not consistent with the designated use of the Klamath wildlife refuges. These lands are to managed for the benefit of the birds

and animals that need this land and water.

Response: Comment noted.

Comment# 449-1: Preserving habitat for wildlife, especially birds, is very important to me. I have been down to Oregon and California many times to see birds at Klamath, Malheur, and Summer Lake. The white pelicans are a big draw for me. Bird populations have shrunk by 70% in the past 50 years. They need our help. Please continue to protect these birds, part of God's wonderful creation!

Response: Comment noted.

Comment# 451-1: Give the water to the wildlife wetlands over water hungry Vegetable growing leases. Wildlife is the key designation for this area.

Response: Comment noted.

Comment# 452-1: Please stop giving agribusiness water rights over wildlife that depend on these wetlands as breeding and foraging grounds on pacific flyway. As we enter into an era of warming temps and sprawl, water is becoming an issue not just for our convenience, but a life threatening reality for all kinds of wildlife. Please help turn wetlands in the Klamath basin back to healthy wetlands again not just for the animals but for future generations to enjoy.

Response: Comment noted.

Comment# 453-1: The Klamath Basin is a critical habitat for a large spectrum of migratory birds. Not carefully managing this refuge won't impact just this limited geographic area, but the entire pathway of these creatures. Please give this wildlife your highest priority!

Response: Comment noted.

Comment# 454-1: Refuge land and water that are leased for farming must be returned to the original purpose of managing the land and water for the benefit of wildlife. This land is a key component of the Western Flyway and it is indefensible that this land and water, owned by the federal government has been converted to farming while the wildlife goes wanting for water and space.

Response: Comment noted.

Comment# 456-1: As native Oregonians we never take the natural beauty and health of our state for granted. Although we live in Lincoln County we have many times vacationed in the Klamath Basin. Our children have grown up loving to learn the habits of the many bird species dependent on the wetlands that characterize the basin. It has served as an invaluable classroom for all of us. Isn't it time we phase out the leaseland farming that has been permitted there? Isn't it time to allow the Lower Klamath Lake and Tule Lake wetlands and riparian areas to at last regenerate? The science evidencing the time is now is incontrovertible. Our family prays the U.S. Fish and Wildlife Service will acknowledge these critical needs by enough ensuring that commercial activities on the refuge lands no longer does harm to wildlife. To quote an unknown, "We do not inherit the earth from our ancestors: we borrow it from our children". We ask that you please thoughtfully consider the children of our children and theirs together with "all

things great and small" as you craft this important plan.

Response: Comment noted.

Comment# 459-1: Please protect the Pacific Flyway and quit funneling water away from this necessary habitat. It is crucial for the existence of many species of birds!

Response: Comment noted.

Comment# 46-1: The Klamath National Wildlife Refuge is especially vital to birds traveling the Pacific Flyway. This refuge should be given top priority over agribusinesses when water is being allocated.

Response: Comment noted.

Comment# 463-1: Klamath Basin. This was the most amazing birding area I've ever seen. I was so impressed with how beautiful it was and untouched. I've never seen so many migrating birds. I went for Spring and Fall migration and it was worth the 10 hour drive. Please keep it protected!

Response: Comment noted.

Comment# 469-1: The United States has somehow come to a conclusion that the only animals worth supporting are those we eat or use for ourselves and that is on par with those who are working from the support of taxes to vote for the deaths of those animals who live and not serve humans and whose needs somehow interfere with humans. I am tired of the misplaced moves of the government on behalf of those who wish to use everything for themselves and themselves alone as well as corporate uses and in doing so kill, eliminate, sell, exploit. We seem to believe that we are the only species worth listening to and that we legitimately own everything in the country and with money we can purchase anything and anyone else. All this is to say that the environment is here for life not simply human life and to destroy any environment and any animals living in the environment for the reason of humans wanting either or both is in my mind unethical and plainly wrong.

Response: Comment noted.

Comment# 470-1: Klamath National Wildlife Refuge is home to thousands of migratory birds in spring and fall. I personally enjoy photographing and viewing these birds as does many other people. But there seems to be a big problem occuring at the refuge,lack of water has put these birds in danger of survival. The refuge was put there for birds and other wildlife to survive and live. The refuge was not meant for big agibusiness to exist. Lack of water for our wildlife means fewer birds on the refuge. More water on the refuge for our birds and wildlife should take priority over water for agibusiness.

Response: Comment noted.

Comment# 472-1: It seems outrageous to have to remind an organization that the role of the organization is to protect fish and wildlife, not assist corporations in turning a profit. It is imperative that you institute a plant at restores the Klamath basin to the wetland habitat it should be, and protect it from drying out again because it is supposed to be protected for the fish and wildlife who inhabit and migrate through this ecosystem. Water rights should not be yielded to agribusiness. It's disappointing that the government organization that is supposed to be fighting for the rights of plants and animals in our country is doing the

bare minimum for them and consistently making decisions to benefit corporations. This must stop.

Response: Comment noted.

Comment# 473-1: I am writing to express support for protecting water and wildlife in the Klamath National Wildlife Refuge. This refuge and the animal and plant species it supports are part of what makes Oregon special, and the refuge must be allowed enough water to support natural species populations.

Response: Comment noted.

Comment# 474-1: Please prioritize wildlife management over agriculture business interests in the Klamath Basin. This area is vital for migratory waterfowl and other riparian wildlife.

Response: Comment noted.

Comment# 476-1: Please reserve the Klamath area for birds and other wildlife; this area should not be used for the large, money grabbing farms that will destroy and valuable resource for the entire country

Response: Comment noted.

Comment# 479-1: For over 15 years, I have been leading birding trips to Lower Klamath Lake and Tule Lake Refuges. During this time I have seen deteriorating habitats for waterfowl! I am dismayed at the lack of water in the Refuges while at the same time Refuge water is being used to support agribusinesses on Refuge land!

Response: Comment noted.

Comment# 481-1: I am writing to express my opinion on the Klamath Refuge and the water rights for birds and wildlife.I would like to see water flowing through this area,the reason being is it's a refuge where birds and wildlife are supposed to thrive. Agribusiness has no right to just water grab,I am sure there is a balance to where there is enough to use for both to thrive. So please don't let this wonderful ecosystem die and give what birds and wildlife need--that is water. I would love to come visit this place and bird watch.

Response: Comment noted.

Comment# 485-1: As human beings we have tremendous power over the lives of every other animal on this planet. Yet, under our suzerainty, over the last few hundred years since we have really come into our own, one species after another has disappeared from the earth, never to be seen again. What does that say about us as a species? That we destroy, just because we can, that we destroy just to enhance our "bottom line" this year--with no regard for next year and for succeeding generations. There is still time to act responsibly and save the Klamath wetlands for the migratory wildlife that depend on it and depends on us.

Response: Comment noted.

Comment# 488-1: Please save the birds, they're oh so important, and need their natural habitat.

Response: Comment noted.

Comment# 49-1: The Klamath basin is a marvel for wildlife. Please give wildlife priority rather that industrial uses.

Response: Comment noted.

Comment# 492-1: The Klamath National Wildlife Refuge plays an extremely important part in supporting waterfowl of western North America. We established it to protect and support local and migratory wildlife. It was not created to support agribusiness, PERIOD. Leasing refuge land to grow agricultural crops and removing water from the refuge for this purpose at the expense of the habitats and creatures that depend on it is obscene. This is a refuge for wildlife, not onions. The U.S. Fish and Wildlife Service is PRIVILEGED to exist because of our precious wild lands and wildlife. It is not a broker to sell these riches to the highest bidder who can then literally suck the life out of them. Refuge land and water are for the refuge, not industrial agriculture. Activities in the Klamath must support the its habitats, migratory and local birds,and its plants and wildlife. Anything that negatively affects these things is inappropriate and must be minimized and eliminated. Agribusiness does not belong here. These lands and their inhabitants must be restored to healthy, natural conditions. THIS is your job, your stated mission- "Work with others to CONSERVE, PROTECT, and ENHANCE fish, wildlife, plants and their habitats for the continuing benefit of the American people". What has been done to the Klamath by those entrusted with its conservation, protection and enhancement is shameful and sickening. If you were hired to babysit, would you sell the children's blood so they become weak, sick and dying while under your watch? Conservation = preservation, protection, or restoration of the natural environment, natural ecosystems, vegetation, and wildlife. Refuge = Shelter and protect from danger or distress.

Response: Comment noted.

Comment# 495-1: The water that is available needs to go to the refuge to aid the migratory birds and other wildlife not agriculture.

Response: Comment noted.

Comment# 496-1: I went to all parts of the Refuge this spring, for the first time. The refuge is a treasure. The birdlife here was awesome, maintaining the wetlands is important to me because I want my grandchildren to see a pristine enviornment and have the Klamath continue to help bird populations, which are dwindling.

Response: Comment noted.

Comment# 497-1: KLAMATH WETLANDS ALWAYS WERE INTENDED TO SUPPORT BIRDS & ANIMALS WHO USE - and COUNT ON - the water and refuge that was EARMARKED for THEM, and established for their migratory & other support. What you are/have been doing to re-direct THEIR wetlands use to agribusiness' purpose is Dangerous, Inexcusable, and WRONG ! Please do the job you were established to do. If you cant, others will -- right after getting your deadwood out of the way. RESTORE the WETLANDS TO THEIR INTENDED/DESIGNATED USERS.

Response: Comment noted.

Comment# 498-1: In the end, it's pretty plain and simple. This area in the Klamath Basin has been designated a refuge area. The fact that agribusinesses have snuck in and started farming the land, because very little effort has been made to mitigate drought conditions that plague this area doesn't change the fact that it has been set aside for birds and other wildlife. A concerted effort needs to be made to help with getting water to this area so that it truly can be the refuge that it was supposed to be.

Response: Comment noted.

Comment# 501-1: Please, the birds of the Klamath Basin need water more than we need to grow potatoes.

Response: Comment noted.

Comment# 502-1: Keep Klamath for the birds, please!

Response: Comment noted.

Comment# 504-1: I have been to the Klamath Wildlife Refuge for the first time in the winter of 2009/2010. I went in the early morning hours, watched the sun rise and made some spectacular photos of thousands and thousands of birds and bald eagles hunting. Since then, I have been back nearly every winter and the number of birds have become less and less. every time I leave with a sad feeling and fear that this wonderful place might not be there at all anymore come the next year. No water, no birds.I am from Germany and in this over-populated country you do not find a place like Klamath Falls. Please do everything you can to save this place, you have such a treasure there and once it is gone, it cannot be brought back.

Response: Comment noted.

Comment# 508-1: I would like to urge you to restore the water rights to the Klamath and Tule Lake wildlife refuges (Klamath Basin Complex) for the survival of all the migrating and resident birds and other wildlife. I truly believe the current status of giving all the water to the agriculture concerns in this area is wrong! The refuges should be #1, or at least #2 on the list to receive water. I have never seen such a heart-wrenching sight as I did a few years ago when I made my annual fall trek over there to watch the waterfowl. The ponds, where they should be, were almost totally dry well after the migration begun They had just started running a stream of water in.Have you ever seen ducks trying to swim in brushes and underbrush, sitting in trees and trying to figure out what do to next? It was an awful sight!!! Birds were dying right there in what should have been water for them to rest and feed in. I've heard it's even worse now. I cannot (and have not gone) go back to my favorite place and watch that horror take place. You have the power to fix this now. Please, please let the birds and other wildlife dependent on water have their homes back before it is too late. The birds do not know what else to do as their routes are ingrained into their brains. Man should NOT interfere with this process, but support it instead.

Response: Comment noted.

Comment# 511-1: We need to restore Klamath to its original purpose, supporting birds, and to ensure that the refuge's water goes to the refuge wetlands where it is most needed. Up to 80% of the waterfowl on the Pacific Flyway, depend on the Klamath National Wildlife Refuges for their survival as they make

their annual migrations. Do the right thing!

Response: Comment noted.

Comment# 512-1: I think the highest priority for this area is to preserve it as wetland for migrating birds. Although I appreciate the other claims for the water, in particular that of agriculture, I believe it is essential to keep this area vital for the flcks of birds who depend on this water for their lives, particularly as they face increasing stress from climate change.

Response: Comment noted.

Comment# 517-1: Are you REALLY planning on murdering thousands of migratory birds? Again? How can you sleep at night? Give the Klamath Basin back its water for wildlife like it's supposed to have.

Response: Comment noted.

Comment# 520-1: Please get this extremely important habitat area restored, thousands of migrating waterfowl/birds utilize these areas!

Response: Comment noted.

Comment# 52-1: believe it's important to manage wildlife refuges for wildlife habitat as the primary use and not agribusiness.

Response: See response to comment 21-1.

Comment# 521-1: Please reserve water supplies for the wildlife.

Response: Comment noted.

Comment# 522-13: Having these refuges functioning at only marginal capacity is an unacceptable state for those of us concerned about populations of ducks, geese and other migratory birds in the Pacific Flyway. We believe it is wholly inconsistent to the founding purposes of the refuge and in conflict with the intrinsic contract between the Service and waterfowl hunters who provided the bulk of the resources to acquire the refuges. We acknowledge that the resolution of these issues will take time and the intertwined nature of complex issues makes this difficult work. But it is essential that this issue be raised to the highest of priorities amongst the leadership of the USFWS, BOR and DOl.

Response: Comment noted.

Comment# 522-2: Lower Klamath, Clear Lake, Tule Lake and Upper Klamath were all specifically acquired to be managed for the benefit of waterfowl as well as other migratory birds. As Congress authorized the Refuges for t his very specific purpose, and a s these Refuges were acquired using Migratory Bird Conservation Fund proceeds (primarily from the sale of duck stamps), we believe that these purposes should be absolutely affirmed in the CCP. While there are a number of other issues of concern both on the Refuges and impacting management of the Refuges, we believe this is an essential starting point.

Response: Comment noted.

Comment# 524-1: Allowing farmers to siphon water away from National Wildlife Refuges is bogus! These refuges have been strategically setup along specific flyways to facilitate the migrations of various bird and animal species for their use. Hindering this by allowing water to be removed from these refuges is extremely harmful to these many species that NEED these refuges to complete their annual cycles! My husband and I have spent many hours birding in the Klameth refuges in both Oregon and California over the years. It should be AGAINST THE LAW to allow farmers to continue to take this much needed water from the refuges as it will be extremely detrimental to the welfare of the animals and birds for which these refuges were created!

Response: Comment noted.

Comment# 525-1: We keep loosing wet lands and destroying habitat for our endangered species. Our birds perform an important function by eating insects, transferring pollen and depositing seeds. Our agriculture industry would fail without birds. Please return the marsh as it was before agricultural development.

Response: Comment noted.

Comment# 526-1: The Klamath National Wildlife Refuges were originally established--and must be managed--to support the 80% of waterfowl on the Pacific Flyway that depend upon them. When the refuge goes dry, thousands of bird die, and the refuge is going dry to support agribusiness that leases refuge land. Please establish programs that increase water for wildlife and restore these wetlands to their original purpose which is to sustain native wildlife. Some things lost can never recovered; this is too high a price to pay for leasing the land to agribusiness.

Response: Comment noted.

Comment# 528-1: I find it totally unacceptable that the US Fish and Wildlife Service allows the Klamath National Wildlife Refuge to dry up while allowing full water deliveries to agriculture on these lands during times when nearly 80% of Pacific Flyway waterfowl depend in this area for their survival during migration. These waterfowl, fish, plants are a vital part of the ecosystem here in the West so it is incumbent upon the USFWS to pursue programs to increase water and restore these wetlands so that native wildlife can survive and possibly even thrive. This is far more consistent with the original purpose of the refuge when it was established than allowing large agribusiness to use the 22,000 acres of leased refuge land to grow crops. These practices are harmful to wildlife so the USFWS should begin to phase out these agribusiness leases and increase water available to all wildlife that is so dependent on the Klamath Wetlands.

Response: Comment noted.

Comment# 530-1: The Klamath National Wildlife Refuges were established in 1908 in order to protect the waterfowl of the Pacific Flyway. 80% of migratory waterfowl of the Pacific Flyway use these refuges. They need to be restored and maintained for habitat.Climate change will affect wildlife enormously. USFWS needs to do its job.

Response: Comment noted.

Comment# 531-1: Birds, not profits. It's not the Klamath National Agribusiness Refuges. It's the Klamath National WILDLIFE Refuges, they should be managed for migrating waterfowl, not for potatoes and onions. The survival of 80% of the waterfowl on the Pacific Flyway depends on these refuges, and USFWS is letting these birds die to satisfy the thirst of industrial agriculture. Why is the USFWS allowing wetlands and wildlife areas to dry up, causing the death of thousands of wild creatures, while allowing full water deliveries to industrial agriculture on refuge lands?

Response: Comment noted.

Comment# 533-1: Protecting the Klamath National Wildlife Refuge for migratory birds and other wildlife is crucial. This area is a national treasure and must not be even more degraded by human commercial activities.

Response: Comment noted.

Comment# 534-1: The intent and purpose of the refuges is to manage them for the benefit of wildlife, not to promote agribusiness. It is well known that millions of birds depend on the availability of these refuges for their annual migration. The refuge's water must be directed to the wetlands for the health of the birds, fish, wildlife, plants and their habitats.

Response: Comment noted.

Comment# 535-1: The Klamath Basin Refuges are vital for west coast migratory birds and must be the first priority for USFW.

Response: Comment noted.

Comment# 539-1: In view of increasing drought conditions and less water available in the Klamath Basin I pray that you will be more concerned with wildlife and birds then onions and potatoes. Onions and potatoes can be grown elsewhere. Migrating birds have nowhere else to go. You have no obligation to help business be successful (farmers) and your whole purpose is to preserve and protect wild things. This should be a no brainer for you folks.

Response: Comment noted.

Comment# 540-1: Please protect our wildlife at Klamath!!!!!

Response: Comment noted.

Comment# 541-1: Water owned by the Fish and Wildlife Service should be used to support birds and Wildlife, not agribusiness in the Klamath Basin.

Response: Comment noted.

Comment# 542-1: I need to comment on the Klamath Wildlife Refuge and managing it for sustained bird life. There are so few places like this left in our country -- we need everyone of them to be managed for

wildlife and not for agri-business.

Response: Comment noted.

Comment# 544-1: I am writing on behalf of the birds at Klamath Wetlands. The purpose of the wetlands is to provide for and protect migratory birds and any who choose to remain. The purpose is NOT to supply agribusiness with water that does not belong to them. I ask that you immediately cancel any leases/permission for any agribusiness to use whatever little precious water remains. Birds deserve priority, not profits. i respectfully request that you restore the wetlands so that their original purpose of providing a stopover for migratory birds is again respected.

Response: Comment noted.

Comment# 547-1: Please understand that the Klamouth National Wildlife Refuge was created for the preservation of wildlife, not for the benefit of agricultural business. Farmers and everyone should understand that vast numbers of birds are required and necessary in order to maintain the health of our environment and our land. Destroying their habitat is destroying the health of our world.Please consider a major educational campaign for all members of FWS and for big agricultural business owners so they can understand that they need birds to maintain their own businesses and the health of their agricultural land. Education may be the only way to open their eyes.

Response: Comment noted.

Comment# 549-1: Please protect Klamath water for fish and wildlife. Agribusines is important but not the priority where it endangers wild areas.

Response: Comment noted.

Comment# 551-1: I am concerned that the plan benefits large agricultural operations at the expense of birds and other wildlife. The Klamath refuge is a critical component of the Pacific flyway, serving migrating birds who rely on water in this area for survival as they head south or north to their nesting or overwintering sites. The refuge was created to support these birds, and priority must be given to this purpose, not to commercial purposes unrelated to conservation. I know that land management in the Klamath region has been a controversial issue for years, as demands exceed water supply. But the refuge was established to benefit wildlife, and that must remain the principal purpose of the plan. The water rights owned by US Fish and Wildlife must be used for wildlife and wetlands first, to ensure sufficient food and shelter for birds and other animals.

Response: Comment noted.

Comment# 551-2: It is not acceptable to use these water rights to benefit agribusiness over wildlife. To the extent the Service leases land to these businesses, it should phase them out and restore the lands for use in wildlife management.

Response: Comment noted.

Comment# 553-1: This refuge is not there to support the growing of crops, but to maintain wetlands for wildlife. Do not allow that to change. It is a jewel in Oregon and every Oregonian should be proud of it

and help to maintain it.

Response: Comment noted.

Comment# 555-1: I would like to comment on your current policies regarding the treatment of fish, birds and other wildlife that use the Klamath Basin. I don't understand what is going on. It seems that your focus has gotten skewed by politics, money, greed, corruption or something other than your job to protect and keep those lands for their original purpose. You might feel you are making strides in the right direction but if you look at the long term result of your actions then you should be able to see that what you are doing now does not make sense for the future. People will come and go. Power struggles will come and go. We will come and go. What is needed is some thoughtful look to the future and what we will be leaving for those who come after us. The water belongs to the wildlife and plants, not to agribusiness. We are smart enough to figure this out. Destroying this area won't help in the long run. Get some backbone and snap out of your stupor. It isn't about you. It is about preserving a special area for the right reason and for what it is meant for.

Response: Comment noted.

Comment# 559-1: You know that preserving the wetlands is essential for the survival of birds in migration. There is enough agriculture in this state without draining the wetlands and leasing lands to giant agricultural companies. Please do what you know in your hearts is the right thing to do.

Response: Comment noted.

Comment# 56-20: As part of the Plan Process, full and complete Restoration for Wildlife must be mandated on this and all other areas of the Refuge.

Response: Comment noted.

Comment# 562-1: Birds should not be ignored and left to die.

Response: Comment noted.

Comment# 563-1: Please vote for water for wildlife. We have to share our resources with the bird populations that use the klamath basin as a home and a flyway. We have to rebuild the wetlands and make smart enviromental decisions instead of ignoring the damage.

Response: Comment noted.

Comment# 564-1: Please prioritize wildlife over agriculture in the use of Klamath Refuge Water resources.

Response: Comment noted.

Comment# 567-1: Please protect the Klamath wetlands. The vast majority of Pacific Northwest indigenous wildlife rely on this region, most to make their migrations successful. I am fed up with greedy corporations, including the agri-business, being allowed to have a negative impact on our environment in order to line their own pockets. If we continue to destroy the earth we all are dependent on, there will be

no opportunities for future generations to survive much less thrive. I hope the legacy we leave our future generations does not leave them to believe we cared more about maintaining wealth for a few individuals rather than care for them.

Response: Comment noted.

Comment# 568-1: As the daughter of a rural central Oregon rancher, I have watched a battle for resources between farmers and wildlife my whole life. I have watched short-term gains for ranchers at the expense of long-term survivability of habitat for wildlife happen over and over again. Please don't let this happen in the amazing Klamath refuge, which was setup so that habitat and wildlife populations would be conserved. Water is so critical for habitat, and the USFWS has been entrusted with water rights, not to ensure that agricultural businesses have enough to get through the year, but to ensure that critical wildlife habitats can survive year after year. We cannot be shortsighted on this resource.Please honor the true purpose of the refuge and conserve the existing habitat and restore that which has been unfortunately destroyed within refuge lands. Migratory birds, fish, wildlife and plants depends on this land, and they are a part of every Oregonian's heritage.Please prioritize water rights for wildlife and habitat, not for agribusiness.Please seek out ways in which water resources can be increased for wildlife and wetlands. Don't let this land be destroyed for short-term gains, I want my children and their children to be able to enjoy and be proud of this amazing and wonderful part of Oregon.

Response: Comment noted.

Comment# 572-1: Please do not allow klamath river basin agribusiness to continue to drain water resources away from wildlife refuge and habitat for birds in the area. Many birds are dying and that is not the purpose of wildlife refuge water use.

Response: Comment noted.

Comment# 575-1: This is a refuge for wildlife. We are all a part of the web of life, the ecosystem. We and the land and the creatures are dependent on each other for life. Our grandchildren will be a part of the ecosystem we leave them. Those children are the people who deserve a world as healthy and diverse as ours as been. For them we must protect wildlife. Generations before us have created wildlife refuges because they cared about their future. Their future is us. Their future is our present. If our present to our grandchildren deprives them of the benefits we have had, we have no future.

Response: Comment noted.

Comment# 577-1: As an Oregonian who grew up in the Klamath Basin, I can't believe our government would allow a critical wildlife refuge to go dry. We need a healthy bird population much more than the crops taking the refuge's water.

Response: Comment noted.

Comment# 579-1: I think the original purpose for the wetlands was for wildlife and birds in particular. There is no way that allowing 22 K acres to go dry will help to achieve that purpose. Please manage the lands as wetlands first and all other uses should be secondary.

Response: Comment noted.

Comment# 58-3: Do you know that bird and wildlife watching brings in more money to the state of Oregon that golf courses? A healthy wildliferefuge system in SE Oregon is important for the economy of this part of the state. Our nations is losing riparian areas and wetlands at an alarming rate. These refuges must be conserved and restored for wildlife only.

Response: Comment noted.

Comment# 584-1: I ask that you take action to protect the Klamath Basin on behalf of the millions of birds who use it for survival and who cannot speak for themselves. It is our duty to protect it for wildlife survival and not for agriculture. As a citizen of Oregon, a member of Oregon's Audubon Society and the National Audubon Society I feel compelled to ask you to do what is right and protect the fish and wildlife of this area for our generations and generations to come.

Response: Comment noted.

Comment# 59-1: Wildlife Refuges are for the benefit of wildlife not for the benefit of agribusiness. Using pesticides on the land and draining the wetlands are a detriment to the very wildlife you are in charge of protecting. Please stop this destruction of public land for the benefit of business. Please rehabilitate the wetlands for the benefit of wildlife.

Response: See response to comment 21-1.

Comment# 593-1: 1) Any land leased to agricultural interests can only supply an infinitesimal fraction of our food needs. 2) The land taken away from wildlife preservation affects a major portion of the avian population of western USA. 3) Despite theoretical arguments, decades, even a couple of centuries, of experience demonstrate that migrating waterfowl and other birds are a NON-renewable resource.

Response: Comment noted.

Comment# 594-1: The Klamath Wildlife refuge was created to protect the thousands of migratory and local bird populations from decimation, I am outraged that an agency called Fish and Wildlife Service is proposing instead to give priority and lease these lands and the water to mega farmers to grow potatoes while not even assuring that the wetlands remain viable for birds. The leasing of these lands and use of the water for irrigation of cash crop must stop. It is a total disService to the refuge and a mockery of the word refuge to let it continue. These policies must be changed and the water and wetlands restored to their primary purpose of Service to Fish and Wildlife, especially the migratory birds that are so dependent on a safe refuge with ample food source.

Response: Comment noted.

Comment# 597-1: Thousands of birds migrate through the Klamath Wildlife Refuge every year. They need the wetlands that are now dry because of Agribusinesses that are taking the water from the wetlands to grow crops such as potatoes and onions. This is not right! They are causing the death of hundreds of migrating birds due to the lack of water. This wildlife refuge needs to be returned to its prior state of wetness as soon as possible. I trust that the Fish and Wildlife Service will be able to do this. Agriculture should not be able to destroy a wildlife refuge that has been there for many years.Please note that this area is a Refuge...the word should be central to the condition of the land under the supervision of the Fish and

Wildlife Service.

Response: Comment noted.

Comment# 599-1: Please discontinue the leasing of Klamath Basin NWR land to agribusiness and prioritize refuse water and land use as intended to support and protect wildlife. Nearly 80% of migratory birds along the Pacific Flyway make use of the area, and without water and wetlands they will be severely impacted. The refuse system was not set up to support for profit businesses nor to support itself by other than federal funds. Wildlife protection should be its principle concern.

Response: Comment noted.

Comment# 600-1: The Klamath Wildlife refuge was created to protect the thousands of migratory and local bird populations from decimation, I am outraged that an agency called Fish and Wildlife Service is proposing instead to give priority and lease these lands and the water to mega farmers to grow potatoes while not even assuring that the wetlands remain viable for birds. The leasing of these lands and use of the water for irrigation of cash crop must stop. It is a total disService to the refuge and a mockery of the word refuge to let it continue. These policies must be changed and the water and wetlands restored to their primary purpose of Service to Fish and Wildlife, especially the migratory birds that are so dependent on a safe refuge with ample food source.

Response: Comment noted.

Comment# 603-1: Please help the birds. They aren't the ones causing climate change, we are. Please give them priority for water. If the onion farmers don't have enough water, they should go farm somewhere else.

Response: Comment noted.

Comment# 604-1: We want the Klamath National Wildlife Refuge managed for wildlife, especially birds. We do not need more corporate agribusiness.

Response: Comment noted.

Comment# 609-1: Believe it or not, wildlife preservation is more important to the continuation of life on the planet than is big agriculture production that also poisons the land!

Response: Comment noted.

Comment# 610-1: Please manage the Klamath National Wildlife Refuges for birds and other wildlife. It makes no sense that water from the wetlands is being used to irrigate agriculture on the refuge to the extent that the wetlands are no longer wet. The land AND the water must be managed so that the wildlife refuges can fulfill their purpose--to provide suitable habitat for the thousands of birds that need the wetlands on their annual migrations.

Response: Comment noted.

Comment# 61-1: I strongly encourage you to prioritize maximization of wildlife populations over

agribusiness in a national wildlife refuge. I am startled that business has assumed ownership of over 20,000 acres of what is supposed to be a wildlife refuge. This must be done now. We don't really get second chances when influencing the wild.

Response: Comment noted.

Comment# 611-1: The Klamath Wildlife refuge was created to protect the thousands of migratory and local bird populations from decimation, I am outraged that an agency called Fish and Wildlife Service is proposing instead to give priority and lease these lands and the water to mega farmers to grow potatoes while not even assuring that the wetlands remain viable for birds. The leasing of these lands and use of the water for irrigation of cash crop must stop. It is a total disService to the refuge and a mockery of the word refuge to let it continue. These policies must be changed and the water and wetlands restored to their primary purpose of Service to Fish and Wildlife, especially the migratory birds that are so dependent on a safe refuge with ample food source.

Response: Comment noted.

Comment# 615-1: The Malheur and Klamath basin areas are ur-historically bird resting places on migration. My daughter's family is headed there today. We support the migratory birds and oppose using their water for agri-business.

Response: Comment noted.

Comment# 616-1: I am writing to urge that water in the Klamath Basin be managed with priority given to conservation and restoration of migratory bird populations and their habitats. By any accounting, these animals were first users of these resources, and their survival both as individuals and as species depends on human recognition of their right. Honor the needs that moved Finley & Roosevelt to create the refuge a century ago.

Response: Comment noted.

Comment# 617-1: I do not want my children to grow up in a time and place where nature and wildlife seem to have little value. Please restore and preserve this important natural area.

Response: Comment noted.

Comment# 62-1: We must protect migrating birds! They have not place else to go and are suffering.

Response: Comment noted.

Comment# 621-1: What with global warming causing changes to the planet, it is vital that we must preserve the birds and animals that cannot keep up with the fast changes. I believe that allowing agribusiness that uses too much water drawdown is contrary to the original intended use of the Klamath protected areas. Please note that I will be watching and if possible voting to keep the Klamath refuges prioritized for the birds and other animals that need our care. I do not need nor want potatoes and other crops to be grown there.

Response: Comment noted.

Comment# 622-10: It is imperative that the Service does the best job possible for wildlife under the existing legal framework and policies. There are many management actions that can be implemented under existing law to greatly improve the ability of the refuges to support wildlife, and we strongly encourage the Service to aggressively pursue those actions.

Response: Comment noted.

Comment# 624-3: to say that 'providing the proper habitat doesn't mean that the proper wildlife will be present' is true, but irrelevant. A statement like that makes the reader even more suspicious that there is too much being considered by the planners. Wildlife is #1. Sorry for all the political pressure, but it isn't the animals' fault.

Response: Comment noted.

Comment# 625-1: Please restore the wetlands of the Klamath Basin National Wildlife Refuge to its original purpose, which was to sustain wildlife, and birds, in particular. The world has plenty of onions.

Response: Comment noted.

Comment# 627-1: I was appalled reading the CCP. The more I read, the more dismayed I became. These are supposed to be refuges for wildlife.Instead they appear to be sanctuaries for potatoes and bales of hay. "The Refuge Administration Act, as amended, clearly establishes wildlife conservation as the core NWRS mission." What happened to that idea? Clearly it has been derailed in favorof agriculture.

Response: Comment noted.

Comment# 629-1: Please be true to your mission and purpose. Using Klamath Refuge water to grow crops at the expense of birdsis not your mission. Potatoes and onions can be grown anywhere anytime but the birds will not come back if thereisn't enough water. If you cannot be true to to your mission of stewarding a refuge for migratory birds then please have the decency to change the name to Klamath National Potatoe and Onion Refuge so those of us who have contributed money in the past to help protect this kind of sensitive area won't be confused about where the money's going.

Response: Comment noted.

Comment# 630-1: The Klamath National Wildlife Refuge is essential to a huge percentage of migrating birds, who depend on water and food found there, to complete their travels to summer and winter habitats. Leasing land to farmers and allowing the Refuge to dry out, means that thousands of birds are dying. Once they are gone, they're gone and we are losing species every year that will never come back. Water rights owned by the U.S. Fish and Wildlife service should serve wildlife and citizens, first, last and always. Much of what supports clean industries like tourism and attracts people and businesses to Oregon, is clean water, wildlife and natural lands. When a huge and critical resource like Klamath deteriorates, it damages these uses of our state--short term farming can never replace the wildness that can be lost. We don't want to increase wasteland in our state. Many other states have done so, to the detriment of many species. Klamath and other natural lands in Oregon are the very last refuge for many species. Please, please, don't lease out Klamath! Restore, protect and preserve the water needs and rights of creatures that

can't speak for themselves.

Response: Comment noted.

Comment# 639-1: I encourage the FWS to do everything in it's power to protect the Klamath refuges for the use of wildlife, not agricultural crops.These refuges must have the water that is needed to support wildlife!

Response: Comment noted.

Comment# 64-1: I am a landowner on Upper Klamath Marsh. The wetlands should be dedicated to wildlife. It is critical habitat for Oregon Spotted Frogs. Historically there were Upland Sandpipers and Yellow Rails. Much has been lost, or degraded, due to livestock grazing. The Upper Klamath Marsh is depauperate and diminished due to overgrazing. Just look at the waterbird numbers please.

Response: There is no designated critical habitat for Oregon spotted frog on Upper Klamath Refuge, however critical habitat is designated adjacent to refuge lands and refuge programs do consider the needs of this species in all planning efforts. Refuge staff recognize the significance of this wetland area to a broad diversity of waterbird species and will address future restoration and management options in a Habitat Management Plan (HMP). Klamath Marsh Refuge is not included in this CCP/EIS. A separate CCP planning process was completed for the Klamath Marsh Refuge in 2010.

Comment# 642-1: I urge the comprehensive conservation plan to put the birds first and restore the Klamath basin habitats to allow migratory birds and other wildlife to thrive. This also includes eliminating activities that put these natural systems at risk. Please phase out agribusinesses that compromise these natural lands by taking away the water it needs. The rights to the water by US Fish and Wildlife should go to these habitats and wildlife and not support agribusiness. These natural habitats should not go dry by stealing the water to go to others. Please do whatever is necessary to restore the wetlands and improve the conditions so our wildlife can thrive.

Response: Comment noted.

Comment# 650-1: As an Oregon voter I support using water rights for birds and wildlife first and foremost in the Klamath Basin. I stand with the Audubon Society on this vital matter.

Response: Comment noted.

Comment# 664-1: The wetlands are first and foremost a wildlife refuge set aside for the preservation of this nations precious commodity. Do not use the water to line the pockets of agribusinesses which will just suck the basin dry, pack up and leave.

Response: Comment noted.

Comment# 665-1: We visited this area many years ago and were amazed at the numbers and diversity of bird species that we saw. It is disturbing to hear that the populations are 1/5 of the historic levels and that the land has been allowed to be leased for agri-business. There are other areas that would be better suited to agri-business. Return the Klamath Wildlife Refuges to a protected area to help maintain wildlife

species and protect this important migratory flyway location.

Response: Comment noted.

Comment# 667-1: Please preserve Klamath National Wildlife Refuge for the wildlife and NOT use the water for agribusiness. It is a vitally important area for many migratory bird species, as well as other wildlife. The wetlands need preserving for the benefit of wildlife. Please do not allow commercial agricultural interests to steal from this irreplaceable natural area.

Response: Comment noted.

Comment# 692-1: Klamath NWF must never allow wetlands to dry up. It was originally established to protect migratory birds at a key stop on the Pacific flyway and that must remain its top priority. Water should not be siphoned off for agriculture.

Response: Comment noted.

Comment# 695-1: The Klamath Wildlife Refuge is necessary for migratory birds and other life forms. Please consider this when making your decision regarding the future of this sacred ground. There are plenty of areas for agribusiness other than stealing the water from this precious resource

Response: Comment noted.

Comment# 699-1: When I heard that comments were being solicited for the Comprehensive Conservation Plan of the Klamath National Wildlife Refuge wetlands I wanted to make sure to add my thoughts. My wife and I routinely travel to these wildlife refuges to enjoy birding and watching other wildlife. At least once per year we spend a weekend or more in the Klamath Falls area spending money at hotels, restaurants, etc. while we are on trips wildlife viewing at the refuges. It is my hope that the Fish and Wildlife Service (FWS) prioritize wildlife, and wildlife habitat in this comprehensive plan. Since water is crucial to providing good quality habitat, I urge FWS to use all their water rights towards the wetlands that birds and wildlife depend on. While the agricultural uses on FWS refuge land can also benefit some waterfowl species, in years where water is scarce, water should be prioritized for wetlands, not agricultural uses.

Response: Comment noted.

Comment# 70-1: As time goes on the current extreme species extinction rate will adversely affect humanity more and more powerfully and detrimentally, severely limiting earth's genetic legacy and the great beauty which is diversity.Our management goal needs to be to allow as many species to pass through this current devastating bottleneck as possible. I know it's difficult to make this kind of prioritization over more food for humans, or a comfortable living standard or profits for some of us, but the responsible position is to make this hard call, for our sons daughters and their descendants. And of course it should go without saying that these species we are extinguishing do have the right to live, and we are all they have as advocates and protectors. Please make the long call, and not the usual short call.

Response: Comment noted.

Comment# 706-1: We cannot withstand more drought and more demise of wildlife any longer, and

Oregonians cannot and will not stand to let the USFWS decimate our ecosystems and the wildlife that depend on it. I want to voice my support for the comments submitted by the Audubon Society of Portland who has invested thousands of hours into the conservation of the irreplaceable wetland habitats of the Klamath Refuge Complex over many decades.

Response: Comment noted.

Comment# 71-1: The Wildlife Refuge should be used for the conservation of wildlife and the lease-land agribusiness program should be phased out.

Response: Comment noted.

Comment# 716-1: Please use water in the Klamath basin to support critical migratory habitat for birds at the Klamath Wildlife Refuge. Our wildlife species are getting hit hard from all sides, and losing so much of their important habitat, without which they cannot survive. If their habitat is gone for just one year along these important migratory corridors it can have significant implications on entire species!

Response: Comment noted.

Comment# 720-1: The Klamath refuges provide invaluable habitat to fish and wildlife in the West and must be protected from financial interests. Allowing habitat that supports millions of animals to run dry is unacceptable. Refuge lands must be supported through the full allocation of water rights for the wetlands and species that depend on it over agricultural enterprises. We cannot let private financial interests take priority over the species that depend on this habitat. For more than 100 years this country has recognized the refuges of the Klamath basin as protected wildlife habitat.

Response: Comment noted.

Comment# 720-3: It must reduce irrigated agriculture on the refuges and allocate full water rights each year to support fish and wildlife habitat.

Response: Comment noted.

Comment# 723-1: Please, please, please restore and conserve the Klamath National Wildlife Refuge for all native and migrating birds.

Response: Comment noted.

Comment# 725-1: The Klamath National Wildlife Refuges are to be prized for their native flora and fauna and the premier feature of being part of the Pacific Flyway for millions of migrating birds. The effects of giving full water rights to the 22,000 acres of leasedrefuge to farmers for their crops is unacceptable as it has dried up the wetlands and thousands of birds are dying. This dire loss of wetlands affects every aspect of our flora and fauna including our wild fish populations. The refuges were put up for protection a hundred years ago to foster and preserve what was an important and unique area, for generations to come. These refuges should be at the top of our lists as worthy of preservation for a green and healthful state for all Oregonians. In a world in which our natural areas and wildlife populations are being invaded by human interference for monetary gain, we are losing what we rely upon for inspiration, for wonder, for that which is ineffable. There are many creative solutions to the phasing out of the

agribusinesses that do not belong on public land refuges, but we must have the will and determination to begin the phase-out and take steps to restore water rights to the wetlands.

Response: Comment noted.

Comment# 726-1: As stated in the Draft CCP/EIS, waterfowl will continue to be the primary focus of both Lower Klamath and TuleLake NWR's, regardless of the management alternative chosen. Lower Klamath NWR was established in 1908 as the Nation's first waterfowl refuge. Therefore, DU fully endorses the continued management emphasis on waterfowl. We also recognize the importance of the refuges to other wetland-dependent birds, as well as endemic fish and wildlife, and the need to meet the habitat requirements of these non-waterfowl species.

Response: Comment noted.

Comment# 728-1: The Klamath refuge must be managed for the benefit of birds and other wildlife, exclusively.

Response: Comment noted.

Comment# 744-1: The Klamath refuge was established to promote wildlife in the area. Agribusiness destroys wildlife. In an era of drought and shortage these two are mutually exclusive. Restore the Klamath Basin to its original purpose.

Response: Comment noted.

Comment# 749-1: The USFWS is tasked with protecting declining populations of migratory birds. There is no scientific justification for allowing wetlands to go dry. This is a violation of the MBTA, ESA, and other laws protecting wildlife, including consistency with the federal purpose for which the refuge was established- for the benefit of waterfowl, wading birds, and other migratory birds.

Response: Comment noted.

Comment# 756-1: The purpose of the Refuge is to protect the birds, not to use the water to make money for agribusiness. This misuse must stop.

Response: Comment noted.

Comment# 758-1: Nothing could be more important than restoring the Klamath to its original purpose. Namely, supporting wildlife. And that's why the refuge's water should go to the wetlands where it is most needed.

Response: Comment noted.

Comment# 759-1: The waterfowl on the Pacific Flyway, depend on the Klamath National Wildlife Refuges for their survival during their migrations; as a result it is imperative that the wildlife refuge have sufficient water levels to sustain these birds as they pass through the area. All too often consideration for the waterfowl comes in a poor second to the clambering of corporate farmers whose real motivation is, pure and simple, greed. These are the same farmers who complain about governmental regulations, yet

expect all the same for the government to provide water for them to the detriment of the environment, in this case wild birds. Please keep the waterfowl in mind and do not let the Klamath refuges run dry.

Response: Comment noted.

Comment# 769-1: Please restore wetlands and quit favoring agr-business on government lands. Wildlife first.

Response: Comment noted.

Comment# 770-1: Wildlife is under pressure from all sides; humans have alternative places to grow their crops, but the birds do NOT have alternative wetlands. Wildlife needs should come FIRST in any water allocation - they have no other possibility. This is an extremely important migratory stopover, breeding ground, and wintering ground for thousands of birds. People are way more adaptable. Please put the birds' needs first.

Response: Comment noted.

Comment# 772-1: Refuge wetlands must be maintained with sufficient water to support the birds that they were created to protect before allowing any water to be provided for agribusiness or other non-wildlife uses.

Response: Comment noted.

Comment# 772-2: To assure that the needs of the wildlife are truly being met, the plan must go beyond providing the needed water and prioritizing their approaches for the conservation and restoration of the migratory birds, fish and other wildlife, as well as the plants that support their habitats. In carrying out the plan, the Klamath refuges also must take into consideration ways to reduce or eliminate activities that harm these priorities. Our Klamath Refuges are among the most important wildlife refuges in North America. It is time that this fact was recognized. The Klamath Refuges once supported some of the largest waterfowl concentrations in North America, but today those populations are at one-fifth of their historic levels. Our best defense against the new stresses brought on by climate change is to dedicate our refuge management to putting the wildlife first. Human agribusiness can go elsewhere, but the wildlife need the Klamath Basin.

Response: Comment noted.

Comment# 778-1: The draft plan highlights the purposes for which each of the five refuges have been established. Although the specifics vary among them, it is clear throughout that migratory birds, including waterfowl, colonial nesting water birds and other native migratory birds are consistent priorities. Endangered species and conservation of fish, wildlife and plants are also important. Taken together, these resources must be given top priority in the CCP. Even where the Kuchel Act provides supplemental guidance it is clear that such uses as agriculture are to be “consistent with proper waterfowl management.”

Response: Comment noted.

Comment# 781-1: Please consider rethinking the use of the Klamath basin and wetlands as an irrigation

source for farmers. It needs to retain its original purpose as a refuge for birds and other creatures. This leasing has led to the deaths of thousands of birds-those birds(if given a chance to live) could help feed on the insects that harm farmers' crops, instead of using harmful pesticides and insecticides. The use of pesticides and insecticides leading to another set of problems. Although farmers and the food they produce are very important, it is much more important to the planet that the refuge's water goes to the refuge wetlands where it is most needed.

Response: Comment noted.

Comment# 789-1: As a US citizen I strongly oppose allowing any of our valuable natural areas to die because of business interests. Please save the water that keeps our wetlands like the Klamath National Wildlife Refuge for the REFUGE and the WILDLIFE first and foremost. Stop prioritizing businesses over wild resources. We risk losing entire species that depend on the Refuge for migration and nesting habitat.

Response: Comment noted.

Comment# 793-4: we urge you to press forward with management decisions that truly benefit fish and wildlife for long term recovery and to avoid concluding that commercial agricultural operations within Refuges boundaries are either unavoidable or necessary to complete NWRS goals and objectives. We also remind you that, according to USFWS, water diverted for irrigation in the Upper Klamath Basin contributed significantly to disastrous conditions in the Klamath River that resulted in the death of approximately 60,000 adult Klamath salmon in 2002.15

Response: Comment noted.

Comment# 800-1: Please restore the water to the refuge's primary purpose. As much as we need food crops, it is wrong to take water from the refuge for agriculture/crops. The refuge is a much needed core area for wildlife. We are dependent on wildlife. Get all farming out of the refuge unless you are growing feed for the migrating birds, as is sometimes done in well-run refuges. Stop all non-wildlife support activity in the refuge that interferes with the meaning and intent of a refuge. Stop leasing farmlands and robbing wildlife of its waters!!!

Response: Comment noted.

Comment# 803-1: Regarding the management of the Lower Klamath and Tule Lake NWR I would encourage the restoration and maintenance of wetland habitats for the large bird populations that utilize the area during the year. This should be the number one priority of the USWFS. Efforts should be made to phase out agricultural activities on the refuges if possible. Water should and must be available for wetland habitats and native wildlife. This area is very important to many migratory birds. Habitat is shrinking elsewhere so it is the responsibility of the USFWS to make every effort possible to reverse this trend in places where it is possible. The Klamath Basin is one such place!

Response: Comment noted.

Comment# 809-1: Wetlands on the refuges are vital for the survival of birds migrating through the Pacific Flyway and necessary to maintain a healthy habitat for native fish, animals and plants. Irrigated crops can be grown in many other areas for the benefit of a few. The Klamath National Wildlife Refuge is

a unique environment that must be preserved for the benefit of all.

Response: Comment noted.

Comment# 811-1: Please move the "pecking order" back to the birds that your land was originally put aside for.

Response: Comment noted.

Comment# 827-1: I believe that agriculture and wildlife can co-exist, but within the boundaries of the Refuge system, protection of wildlife and the ecosystem on which it depends is the primary concern.

Response: Comment noted.

Comment# 829-1: Regarding the Klamath NWR draft CCP, the US Fish and Wildlife Service as the legal steward must face the fact that it is allowing one of the key national wildlife refuges on the Pacific Flyway to go continually go dry at the peril of migratory birds, resident birds, native fish, native wildlife in general, native plants and the overall ecosystem in order to benefit agribusiness. This draft plan provides the opportunity for USFWS to chart a new direction and correct decades of mismanagement. Foremost, restore Klamath to its original purpose, supporting birds, and ensure that the refuge's water goes to the refuge wetlands where it is most needed. Doing this will in turn benefit the whole ecosystem. Phase out the lease-land program and restore the refuge wetlands for wildlife. Use all water rights owned by USFWS for wildlife and wetlands first. Restore the splendor and overall avian and ecological vitality of the Klamath National Wildlife Refuges that once supported some of the largest waterfowl concentrations in North America and inspired President Theodore Roosevelt to establish the Klamath Refuge.

Response: Comment noted.

Comment# 832-1: I recently had the opportunity to head down to Klamath Falls and see the refuges and water situation for myself. I was amazed at the desiccated, barren wildlife refuge on the south side of CA route 161, with by lush fields and grazing cows on the north. It does not take a botanist to clearly see water being taken from the refuge and given to agribusiness. This is a refuge, a place for wildlife to go when they have no other. We have already painted them into a corner by destroying their habitat, now we are destroying all that is left. I am disgusted at the condition of the "refuge"- a refuge with no water is no refuge at all. It may already be too late to restore the wetlands by restoring the water that was taken from them, but we must try.

Response: Comment noted.

Comment# 833-1: The USFW service MUST manage the Klamath water it controls in a way that better protects birds and other wildlife that depend on wetland habitat in the refuge. When the USFW starves the wetlands of water that would naturally flow into the refuge areas, it is NOT doing its job to protect birds that live or migrate through the refuge.

Response: Comment noted.

Comment# 835-1: Please maintain the land and water preserves for wildlife. No gain for agriculture is

worth harming our birds and natural areas.

Response: Comment noted.

Comment# 839-1: I would like to voice my rejection of the Fish and Wildlife Agency to divert water to agribusiness in the Klamath basin from the water basins on the refugee land. After visiting the area this spring and viewing thousands of birds lingering and resting in the refugee ponds, I am appalled at the prospect that they would not have enough water in future years to stop coming to this pristine flyway. Please rethink your priorities about fair distribution of the water available to the Klamath Basin and prioritize the birds and wildlife you were created to protect. This is most important now with climate change and the prospect of more drought years.

Response: Comment noted.

Comment# 840-1: I am writing to you in hopes of persuading you to restore and enhance the natural habitat at Klamath National Wildlife Refuges. As you know 80% of waterfowl on the Pacific Flyway depend on it for their survival during migration. When it dries up due to water being diverted to support agribusiness, many of these birds die. It is criminal to use water rights owned by the U.S. Fish and Wildlife Service for agribusiness instead of on the wetlands. Please stop this now and start to phase out the lease-land agribusiness program. It is a bird refuge and you need to concentrate on it being just that.

Response: Comment noted.

Comment# 846-17: The Service must live up to its vision for Lower Klamath Refuge to "…be an actively managed refuge with an abundance of productive and functional wetlands... support a majority of Pacific Flyway migrants during annual spring and fall migrations; as well as provide habitat for the more than 400 species that use this refuge throughout the year"142 and for Tule Lake Refuge to be a "…managed refuge with productive and functional wetlands."143 The only way to achieve this vision is to reprioritize water deliveries in the Refuges for the priority use of wildlife conservation for all wildlife species. At the same time lease land agriculture must be reduced or phased out and a viable system of fully restored wetlands should take its place. There is a unique opportunity to restore an important part of this landscape's heritage, which would help to conserve the tremendous biodiversity of the Klamath Refuge Complex. A fully functional system of refuges in the Klamath Basin would greatly benefit wetland-dependent species, including species of conservation concern like the Yellow Rail (which may otherwise end up on the list of threatened or endangered species) and spotted frog. These restoration efforts could also help to greatly improve water quality, groundwater retention, and air quality. Just as importantly, restoration of the Klamath Refuge Complex would help secure ecosystem service benefits for the human population and provide much needed environmental resiliency as this region is becoming more and more constrained by drought and related climate change impacts.144 Because of the international importance of these Refuges for migratory waterfowl, shorebirds, and other waterbirds, the urgency of this situation should be a top priority for the National Wildlife Refuge System, the Service, and for the Department of the Interior.

Response: Comment noted.

Comment# 848-1: I have been working as a volunteer to educate people about and to protect wetlands and marshes and resting places for wildlife in California, Nevada and now in Oregon. A volunteer, age 80, still trying to educate regarding wildlife habitat and applaud others who do. Please pay attention to the Comprehensive Conservation Plan for the Klamath Basin and note it's to keep water and plants and

wetlands for migratory tundra swans and pelicans and those wonderful noisy Sandhill Cranes and nesting Avocets and Blackneck Stilts. It is not to protect waters for agribusiness and agrichemicals to make more money. I know you will do your job and I thank you for protecting the waters of the Klamath Refuges for our wildlife.

Response: Comment noted.

Comment# 851-1: Please prioritize the use of water to support wildlife and bird habitat at Klamath wildlife refuge.

Response: Comment noted.

Comment# 852-1: Please provide top priority and full protection of all the birds that depend on the refuge.

Response: Comment noted.

Comment# 863-1: I am, familiar, with the Klammath Falls Basin area and, am aware that it is an important, "Flyway," to many of our avian species.

Response: Comment noted.

Comment# 864-1: We believe a strong comprehensive conservation plan must be adopted given that the waterfowl that have historically visited the Upper Klamath, Bear Valley, Tule Lake, Clear Lake, and Lower Klamath national wildlife refuges have been devastated by a commercial farmland leasing program. This program has choked the wetlands of water, allowed the use of toxic chemicals, and permitted the destruction of baby and adult birds in their nests each spring due to farming practices.

Response: Comment noted.

Comment# 864-2: Fish and Wildlife Service (USFWS) has failed to develop a CCP for the aforementioned areas, with well-documented negative consequences for tens of thousands of mallards, snow geese, ibis and pelicans, among other species, who use this area during their spring and fall migrations. Central Oregon LandWatch stands with WaterWatch in supporting a Comprehensive Conservation Plan for these refuges that prioritizes the needs of birds over agribusiness on refuge lands.

Response: Comment noted.

Comment# 866-1: As a citizen, and a voter and a 38 year resident of Oregon, I ask that you do all in your power to direct our water for the highest and best use, which means for the wildlife at Klamath. Do not divert water creatures need to benefit agribusiness, because by doing so a select few people will benefit. Many more people benefit when our wild creatures flourish, because that wildlife enhances the quality of life for all of us -- agribusiness people, Oregon residents, tourists, Native folks as well as future generations.

Response: Comment noted.

Comment# 867-1: Leave water in the Klamath lake for the birds please. It should be shared only.

Response: Comment noted.

Comment# 869-1: I am appalled that the water for the wetlands at Klamath Basin has been sold to agriculture. Those wetlands are critical to migrating birds, some of whom are threatened already. That refuge was set aside for the purpose of helping the birds and somehow that has been forgotten. Please do the right thing and reflood the refuge. Big agriculture can buy its water elsewhere or grow low water crops suited to the area.

Response: Comment noted.

Comment# 870-1: Congress is, once again, looking at water in this area and trying to decide if they should allocate more for farming and less for the wildlife. However, this is a refuge first and foremost. The farming is being done on Refuge land and should come secondary to the needs to the wildlife this refuge was established for. 1) The Lower Klamath and Tule Lake refuge occupies a major position on the migratory bird flyway. There are huge, I mean huge, numbers of birds that are dependent on this area as they pass through. Damaging the refuge does not just impact Klamath it impacts bird populations from South America to Alaska. 2) The birds the depend on these refuges are part of the economy through migratory bird hunting and other activities. I, myself, am a photographer and spend a week or two every year in this area as do many many other birder, photographers and hunters. We bring large sums of money into the local economy that would be lost if these refuges suffer. 3) Many birds use these refuges for breeding habitat. The attached image was taken this spring at the White Lake unit. The American Avocet were present in good numbers and establishing nests. A mere two weeks later they were completely absent from white lake as the water they are dependent on was gone. The nests were high and dry and abandoned. Please, please, keep the priority the wildlife on the refuge.

Response: Comment noted.

Comment# 871-1: I believe that as official stewards of wildlife, the U.S. Fish and Wildlife Service, must necessarily honor our public trust that it will protect irreplaceable wetlands and flyways. Agribusiness (where it competes for water) serves neither the needs of wildlife nor the needs of the general public. The U.S. Fish and Wildlife Service should: 1/Make the conservation of migratory birds, of fish and of all wildlife and their habitats its top priority and the guiding principle for decision-making; 2/End all agribusiness use of the Klamath wetlands; and 3/Apportion water rights so that the wildlife of the refuge is supported and restored.

Response: Comment noted.

Comment# 884-1: The wetlands of Klamath NWR are absolutely essential for the survival of migrating birds. The present situation, in which water is being used for growing crops, on 22,000 acres of refuge lands, is totally unacceptable. It is contrary to the purpose of the refuge. There are plenty of other places to grow crops for profit that are NOT part of wildlife refuge. I sincerely hope that the Comprehensive Conservation Plan will contain strong rules and criteria that would ensure that refuge lands are not leased out for agribusiness and other purposes, which without doubt damage and deplete these vital places of habitat for birds and mammals.

Response: Comment noted.

Comment# 885-1: Wildlife refuges such as the Klamath refuges are established to preserve wildlife and the habitat they need to survive. No part of a refuge should ever be operated contrary to this purpose. Please return the water and lands of the Klamath refuges to the use of the birds, fish, plants and wildlife that need them and implement a plan that will eliminate use of the water and lands by businesses such as agribusiness in as short a time span a possible before more wild flora and fauna are driven to extinction.

Response: Comment noted.

Comment# 889-1: Friends of mine are astounded when I need to explain to them that the primary use of the Klamath Wildlife Refuge is not for migratory bird habitat ,but to provide water and land for large-scale farming! As I understand, the original stated purpose for federal ownership of the Klamath refuge is to provide a site on the Pacific flyway for migratory birds is to use a place to feed and rest. It should be obvious that the Klamath lands continue to be devoted to the benefit of migratory birds.

Response: Comment noted.

Comment# 893-1: Dear FWS I have been to the Klamath Bird refuges a few times over the past three decades. The first time was a sad sight...Even the visitors center told how there used to be a MILLION birds thru the wetlands each year, but now due to irrigation use of the water the wetlands were much reduced. We should NOT be using a REFUGE'S water for agriculture! It needs to stay as originally intended i.e. for the BIRDS. Please make this once rich wetlands a place where birds stop on their migrations once again, and not simply more potatoes.

Response: Comment noted.

Comment# 90-1: Wildlife belongs in the Klamath. As important as agriculture is, we can find more sustainable ways to do it and other places to do it. Wildlife does not have any such choice - it only is where it is. Let's cooperate and stop trying to control.

Response: See response to comment 21-1.

Comment# 905-5: to fulfill Congress' directive to prioritize wildlife-dependent recreation, including hunting, throughout the refuge system, managers ofNational Wildlife Refuges, including Lower Klamath, Clear Lake, TuleLake, Upper Klamath and Bear Valley, should strive to manage for healthy, sustainable wildlife populations that can be enjoyed by all those who use the System.

Response: Comment noted.

Comment# 92-1: The fact that migratory birds are at 1/5 of their historic levels is proof that the habitats are not being managed to the best benefit of wildlife.With that in mind, eliminating the leased land agribusiness program and restore these lands to wetlands that are actually managed for wildlife would be a solid commitment toward conservation.

Response: See response to comment 21-1.

Comment# 94-1: I am writing to urge USFW to implement an effective and morally sound conservation plan for the Klamath basin. The completion and implementation of this plan is the best hope to save these important but long-abused public lands from a harmful commercial farmland leasing program. This

federal program - which is unique in the nation and distinct from more well-known cooperative farming programs on many refuges - displaces some 22,000 acres of wetland habitat in favor of agribusiness, regularly consumes nearly all of the refuges' available water supply, allows the use of toxic pesticides, and oversees the wholesale mechanized destruction of baby and adult birds in their nests each spring. As a consequence of this program, the federal government regularly denies water to parched refuge wetlands and instead directs the refuge's most senior water rights to supply commercial crops. This shameful practice undermines established refuge purposes and represents a regular death sentence for thousands of migratory waterfowl.

Response: See response to comment 21-1.

Comment# 96-1: I strongly support keeping the water in wildlife refuge for the wildlife Not agribusiness. We take the environment for granted. There is only one Earth, and we must actively protect it from people motivated by money. The environment cannot compete with human greed and power.

Response: See response to comment 21-1.

C. Habitat
Letter ID # 100-4, 221-5, 291-2, 615-3

Public Concern Statement: Several individuals state that there is a need to develop additional safe and regularly usable wildlife habitat on the Refuges.

Comment# 100-4: There is a real need for more safe and regularly usable nesting habitat.

Response: Comment noted.

Comment# 221-5: In multiple places (Appendix F, Page F-2 and Page F-5) the Service has pointed out that "...providing these habitats will not guarantee that the desired abundance of waterfowl will appear". While it is true that many factors are involved with the "abundance" of species, the emphasis should be placed on what the Service can control or influence. Unfortunately I do not see much of an attempt to see beyond the status quo in this document. Has the Fish and Wildlife Service resolved itself that the position of “go along and get along" will drive its management activities and not press for changes? I agree that some of the changes may involve an encumbrance on Tule Lake Irrigation District (TID) or BOR but they will benefit migratory bird species the Service is mandated to manage. I believe this also supports the primary intent of the Kuchel Act. The goal should not only have "habitat" but it should be of a high quality.

Response: The Service believes the Preferred Alternative for each of the Refuges supports of the purposes of each of the Refuges. Regarding agriculture on Refuge lands, see CCP/EIS Appendix M, which includes our interpretation of the Kuchel Act. Appendix M, Summary, states in part, “The Kuchel Act language and the congressional testimony...make clear that Congress intended that Tule Lake and Lower Klamath NWRs be managed for the major purpose of proper waterfowl management, but it is also evident that Congress intended that, to the extent consistent with proper waterfowl management, refuge agricultural leasing continue in specific areas of the refuges.”

Comment# 291-2: Please continue to develop finding ways to restore habitat on the Klamath Basin

Refuges.

Response: Comment noted.

Comment# 615-3: Work also to improve or restore habitat.

Response: Comment noted.

D. Baseline Data

Letter ID# 56-28, 56-47, 56-48, 56-49, 56-54, 56-65, 56-69, 56-80, 56-82, 56-84, 221-3, 701-32, 906-39

Public Concern Statement: Respondents request that the Service collect baseline data and habitat assessment through "systematic baseline studies and inventories for vegetation composition, function, and structure, presence of migratory and other birds, amphibians, and all species of concern" to allow for assessment of proposed action impacts, particularly for livestock grazing, as well as scientific studies that provide support for CCP/EIS claims. One individual also states that the draft CCP/EIS should be updated to provide information on Refuge habitat changes over time.

Comment# 56-82: FWS has not conducted necessary studies to determine open habitat is limiting to GSCs in this area and region, and that the adverse imapcts to habitat, to increasing predation on colts, to loss of prey species, etc. will not be a concern. Please note that cranes prey on young birds of other species, such as redwing blackbirds, and smashing and trampling "decadent" vegetation will destroy such blackbird and other sandhill prey species nesting habitats.

Response: Comment noted.

Comment# 221-3: Appendix F, Goals, Objectives and Strategies While the developers of the document discuss populations present and past, there isn't a paragraph discussing habitat changes during those past times. Critters are a function of their habitat, available habitats and quality of those habitats. Habitats and their quality in the KBNWR area have changed a lot since the Kuchel Act was signed. I believe three major actions have occurred since this act was passed affecting bird use: 1- Loss of available water. 2- The Service has let the Tule Lake marsh degrade through siltation, and nutrient loading. This has led to higher water temperatures and poor water quality which lends itself to increased disease problems and much poorer marsh environment. In turn, utilization of the marsh has been substantially reduced by puddle ducks and nesting redheads. 3- There has been a loss of high quality fall resting area when the TuleLake IB sump was opened to hunting thereby placing additional stress on fall migratory waterfowl.

Response: Comment noted.

Comment# 56-28: The Refuge must consider a broad range of alternatives in an EIS process. Thorough, systematic baseline studies and inventories for vegetation composition, function, and structure, presence of migratory and other birds, amphibians, and all species of concern over all seasons and over the course of at least two years must be conducted to establish a proper baseline for understanding the range of science-based alternative and mitigation actions to be developed. This is essential, at a minimum, to understand the effects of any "Pilot" or other grazing "experiment" or any

grazing action at all, proposed to take place in this very stressed, sensitive landscape.

Response: The method used to develop the range of alternatives is described in a new section titled Development of Alternatives in Chapter 4.

In terms of systematic baseline studies and inventories, the Refuge completes directed monitoring for many of its resources as described in the draft CCP/EIS in a section titled Management and Monitoring Practices in Chapter 5, Affected Environment. The results of this monitoring have been incorporated into the alternatives. For example (see Section 5.1.9 of the draft CCP/EIS), in the early 1990s, the Service initiated a program of experimentation rotation of wetlands ("walking wetlands" in this CCP) within commercial farm fields at the Tule Lake Refuge. Refuge biologists monitored these flooded fields, and the Refuge changed flooding schedules to maximize meeting wildlife objectives.

Grazing has been used for decades at the Refuges to complete important functions that contribute to wildlife objectives; it is not new or experimental. Specifically, cattle grazing opens fast-growing emergent wetland vegetation that reduces the value of these areas as waterfowl habitat and helps to control invasive vegetation. Again, through monitoring the results of grazing on maintaining or improving certain habitats at the Refuges, the location, intensity, and means of grazing (e.g., heavy equipment, fences) have been varied to meet habitat and wildlife objectives. As noted above, in Appendix M and in many sections of the CCP/EIS, because of the direction provided in the Kuchel Act, the Refuge in part uses agricultural practices to achieve its wildlife and waterfowl management objectives.

The CEQ regulations note that NEPA documents are "analytic rather than encyclopedic" (CFR 40 1500.4 (b)). The kind of applied monitoring described in the CCP/EIS is important in achieving the purposes identified in the CCP and balancing the requirements for reasonableness described in the new section, Development of Alternatives. However, we believe the types of studies the commenter suggests would not be helpful in making management decisions.

Comment# 56-47: FWS admits the importance of the lands to "a variety of wildlife", yet as with vegetation, there is no valid baseline provided, stating: These areas may be used by a variety of wildlife species during different parts of the year to meet specific life-cycle needs. A large diversity of migratory birds may use these areas for nesting, cover, or foraging. General groups of birds include waterfowl, wading birds (bitterns, herons, and egrets), cranes, raptors, rails, shorebirds, and passerine species such as blackbirds and sparrows. The CD is not a viable document for understanding the scope and complexity of wildlife and other faunal species and issues here, and their relationship to the ecosystem, their need for/reliance on so-called 'decadent' vegetation, etc. FWS does not provide sufficient baseline surveys, and does not discuss all species and their habitat needs affected by the grazing proposal. Merely referring, for example, to "sparrows" places house sparrows in the same category as grasshopper sparrows. It appears that the Refuge management is paying little heed to protecting the biodiversity and Refuge values, but instead is focused on ramrodding this harmful project through for a cattle grazer with no real analysis, or required 'hard look" under NEPA. How will this project adversely affect the food, cover (characteristics and attributes) and physical space free of human/cattle disturbance required by all of these species? What are the requirements for food, cover, space, habitat security, etc. for all of these species? How might the grazing disturbance elevate predation of late-nesting species and/or re-nesting species when livestock are present? Predation and/or starvation of chicks/young animals? Collapse of small mammal and insect burrows? How might this affect predator-prey relationships and the food chain? How will this loss and simplification of protective cover carry over into the following wintering and nesting seasons. And what will be the effects? How will this facilitate easier predation in the next nesting/breeding/young bearing season,

etc.? What level of predation is currently occurring on all of these species? When, where and how has this been studied at the Refuge? How have all these factors been considered in the past grazing bouts that have been imposed on the Refuge lands? Please provide all studies. How can the Refuge term this 'pilot project" an 'experiment" when there have not been several years of specific baseline studies of species use and occupation of habitats in the absence of grazing, as well as a thorough baseline of environmental conditions and characteristics at present?

Response: See response to comment 56-96. The resources present and considered for the project are outlined in Chapter 5, and the analysis of effects to those resources is found in Chapter 6.

Comment# 56-48: What are habitat conditions –and quality and quantity - of the local and regional habitats for all species of concern and all migratory bird species affected in any way? What is the status and viability of all local and regional populations of concern of all the species inhabiting the Refuge? How have counts of various species over time been conducted on the Refuge for all native fauna? If these are newly acquired lands – what botanical, cultural, zoological and other baseline studies have been conducted? How will cattle grazing and trampling harm and conflict with these values/attributes of the lands?

Response: Habitat is described in Chapter 5, Affected Environment, and the effects of the alternatives are described in Chapter 6, Environmental Consequences. Additionally, the Compatibility Determinations in Appendix G describe the anticipated impacts of the use of grazing.

Comment# 56-49: hat sensitive, ESA-listed, rare and important biota will be affected by direct, indirect and cumulative effects? What studies have been conducted over time? What baseline studies for species occurrence, population levels, habitat threats, habitat characteristics, habitat fragmentation, etc. have been conducted. What are the specific threats, and the magnitude of threats, all of these species face? Habitat loss (from what causes?) Habitat fragmentation (from what causes)? Mortality sources? Etc.

Response: See responses to comments 56-4 and 56-71.

Comment# 56-54: FWS states: Big game species include elk and mule deer. Other mammal species include coyote, fox, raccoon, mink, badger, skunk, bobcat, and a variety of rodents. Seasonally, these areas could be used by a variety of reptiles and amphibians, including the Federal candidate Oregon spotted frog. A survey by USGS and FWS biologists in 2010 found no Oregon spotted frogs within the Barnes-Agency Tract. A variety of insect species also utilized these habitats, although specific species have not been determined. How recently had the lands been grazed when that survey was performed? How were they being managed? This survey was in the same year as acquisition.

Response: From the 1950s through the late 1990s the lands in what is now the Barnes-Agency Unit were in private ownership and used for cattle grazing. The unit was used by Reclamation for pump storage (to store pumped water) prior to acquisition by the Service. The Unit was used for pump storage until 2013.

Comment# 56-65: Grassland/Wet Meadow: The grassland and wet meadow goal is to restore and maintain the composition and structure of existing and historic wet meadow and grassland to benefit a variety of migratory bird species including greater sandhill cranes. These treatments also provide spring migrational bird habitat (feeding and roosting areas) for a variety of water bird species. For what specific species do scientific studies show a shortage of feeding and roosting sites, vs. nesting and

feeding and roosting sites for species that require more cover?

Response: See the Management and Monitoring Practices in Chapter 5, sections 5.1.9, 5.2.6, 5.3.6, 5.4.5, 5.5.6 and 5.6.5.

Comment# 56-69: The Refuge states: Grazing on the Refuge also provides foraging habitat for migratory bird species in the spring and fall including Canada geese, white-fronted geese, swans, pintails, mallards, and a variety of other duck and bird species. During early summer, treated areas provide foraging areas for Canada goose broods and greater sandhill cranes (*Grus canadensis tabida*). So is this vegetation really in short supply in this landscape? Especially since there is a very large amount of irrigated ag lands and crop residue/stubble in the region??? There must be full scientific support for these claims that this, rather than nesting habitat, is at a premium. Please provide evidence that there is a need for more vegetation of this type in the Klamath area. How much low, heavily grazed vegetation is found on the surrounding private lands? Aren't there vast areas that fit this bill for Canada Geese.

Response: The Service uses grazing as a tool to provide short-grass/green-browse (wet meadow) habitat to support spring migrating waterfowl. Refuge goals, objectives, and strategies are presented in Appendix F.

Comment# 56-80: The new Plan must fully correct the typical glossing over species surveys and impacts, and lack of proper baseline habitat and population surveys illustrated in the 2015 Grazing proposal (glossing over is discussed below). There is greatly inadequate information provided on native raptors, hawks, owls and other species. There is inadequate analysis of effects on the Bald eagle … remains specifically protected under the Bald and Golden Eagle Protection Act. Upper Klamath NWR and the adjacent lands are used by bald eagles for nesting and as migrational habitat. In 2010, there was 1 bald eagle nest on the Barnes-Agency tract. Typically, eggs are laid in late March or early April and incubated about 35 days until hatching sometime around early May. Young eagles fledge in about 3 months. Disturbances associated with grazing operations do not correspond to sensitive nesting periods or locations. Yes, they do. And what about numerous other raptors, short-eared owls, burrowing owl (with burrows collapsed by cattle) etc.?

Disturbing nests with eaglets may cause loss of nestlings, interruption of feeding, and loss (including potentially through fratricide) from weakness. Plus aren't there many other rare raptors and species of concern? Ferruginous hawk? Swainson hawk? Others? What about owls, including the ground nesting short-eared owl?

Response: The Compatibility Determination for grazing on Upper Klamath Refuge (in Appendix G), Stipulation #17 to survey grazing areas for sensitive species was revised to address additional species and ensure that the proposed date(s) for initiating grazing would not pose a threat to these and other species as determined by the Refuge Manager.

Comment# 56-84: This lists numerous rare and ESA-listed aquatic species - and water quality and quantity may be adversely impacted by this grazing scheme. Pit-Klamath lamprey, brook lamprey, white sturgeon, Lost River sucker. Klamath large-scale sucker, Klamath sculpin. What is the current status of habitats and populations of these species?

Response: With the exception of the Lost River sucker, none of the species referenced are listed. The species listed are State managed, and the commenter is referred to the Oregon Department of Fish and Wildlife for more information. See response to comment 56-71 regarding the focus of this CCP/EIS.

The current status of the Lost River sucker can be found online at: https://www.fws.gov/endangered/index.html. Appendix S to the CCP/EIS provides more information about the ESA-listed species that occur or may be present at the five Refuges addressed in this CCP/EIS.

Comment# 701-32: Appendix F also mentions that the state has conducted annual breeding bird surveys in recent years, but there is no description in the CCP/EIS how or where these surveys are conducted. The CCP/EIS acknowledges there are no long-term data upon which to base population objectives for molting waterfowl, so management strategies for waterfowl during this period is a gap in the CCP/EIS. It is stated that providing habitat for molting waterfowl is important, but a single survey is cited as evidence, acknowledging that future surveys need to be devised to estimate numbers of birds during this period. If providing habitat to meet specific waterfowl breeding and molting population goals is a concern, the data presented should be better described, evaluated, and used to make more-reasonable habitat objectives that include, perhaps, evaluating habitat quantity and quality and breeding success and productivity.

Response: Appendix N (Dugger et al. 2008) includes a comprehensive analysis of waterfowl population trends and management objectives for Lower Klamath and Tule Lake Refuges, as well as citations regarding the source of surveys used in the analysis. See also response to comment 701-23.

Comment# 906-39: While the Draft CCP/EIS includes average or sample population numbers for certain waterfowl and listed species, the Service has failed to include relevant baseline population data for numerous species in the CCP/EIS.454 It has also failed to provide specific data regarding nesting and molting and avian disease, which is essential for proper wildfowl management.455 The Service must include in the CCP/EIS:

• Year-by-year, species-specific waterfowl population for Lower Klamath Refuge [ref. 5-61];

• Year-by-year, species-specific waterfowl population for Clear Lake Refuge [ref. 5-96];

• Year-by-year, species-specific molting, nesting and breeding data for Clear Lake Refuge, in addition to the general numbers for duck, coots, and goose from 2008-2014 [ref. 5-96];

• Year-by-year, species-specific waterfowl population for Tule Lake Refuge [ref. 5-113];

• Year-by-year, species-specific waterfowl population data for Upper Klamath Refuge [ref. 5-146];

• Year-by-year bald eagle population for Bear Valley Refuge [ref. 5-167];

• Year-by-year white pelican molting, nesting and breeding data [ref. 5-19];

• Year-by-year, species-specific molting, nesting and breeding data for Lower Klamath Refuge in addition to general numbers for duck, coots, and goose from 2008-2014 [ref. 5-59-62];

• Year-by-year sage grouse and bald eagle molting, nesting and breeding data for Clear Lake [ref. 5-97];

• Year-by-year, species-specific molting, nesting and breeding data for Tule Lake Refuge [ref. 5-113];

• Year-by-year, species-specific molting, nesting and breeding data for Upper Klamath Refuge [ref. 5-

146];

• Year-by-year bald eagle nesting and molting data for Bear Valley Refuge [ref. 5-167];

• Year-by-year, species-specific avian disease data for each refuge [ref. 5-46]; and

• Data regarding diving duck foraging needs [bioenergetics report]

Response: Extensive and detailed baseline information in an EIS is discouraged; CEQ NEPA regulations state that EISs need to be "analytic rather than encyclopedic" (40 CFR 1500.4 (b)) and must emphasize information that is "useful to decisionmakers and the public and reduce emphasis on background information (40 CFR 1500.4 (f))." Year-by-year data on numbers of birds at the refuges, nesting, breeding, molting or roosting, avian disease data, etc., would not help in decision making, but summaries of trends where proposed changes in management might affect them would. This is why the kind of background, encyclopedic data the commenter suggests is not included in the EIS itself, but is instead summarized as needed to understand impacts and current conditions.

E. Wetlands and Other Waters

Letter ID # 11-2, 15-2, 23-2, 26-1, 58-1, 113-1, 174-3, 214-1, 370-1, 427-2, 432-2, 501-2, 530-2, 557-1, 619-1, 682-1, 701-50, 701-51, 701-52, 701-53, 701-54, 701-56, 734-26, 753-1, 793-65, 793-67, Form Letter 4-2

Public Concern Statement: Several commenters request that the draft CCP/EIS conserve or restore existing wetlands and riparian areas. One of these commenters more specifically requested that the Service develop wetland habitat on fallow farm ground that was recently transferred to the Service on the northwest side of Klamath Lake. Comments also recognize the importance of water sources for wildlife diversity.

Comment# 11-2: That also means restoring historic refuge lands like Lower Klamath lake and Tule Lake lakebeds. Maximizing restoration of riparian areas and wetlands.

Response: Comment noted.

Comment# 1004-2: Enhance and increase refuge wetlands and riparian areas, including restoring the historic lake beds of Lower Klamath Lake and Tule Lake within refuge boundaries.

Response: Comment noted.

Comment# 113-1: How about developing wetland habitat on the thousands of acres of fallow farm ground that was recently transferred to the USFWS on the north/west side of Klamath Lake. Would hate to see levees blown up and more deep water habitat created along the lines of what TNC did a few years back. What a waste!

Response: Comment noted.

Comment# 15-2: e have lost too many wetlands and need conserve those that are left.

Response: Comment noted.

Comment# 174-3: Our wetlands need to stay protected, and undeveloped. Conservation is very important.

Response: Comment noted.

Comment# 214-1: Water has to be a priority if we are going to call these wetlands,wetlands

Response: Comment noted.

Comment# 23-2: I ask that you use all water rights for wildlife and wetlands and do everything within your power to increase the amount of water available for wetland restoration.

Response: Comment noted.

Comment# 26-1: I strongly support eliminating the leaseland agribusiness program and restoring as many of the original wetlands to whatever status is as close to their pre-agribusiness condition as possible. Whichever officials work toward carrying out restoration will be recognized as forward-thinking and courageous in the tug-of-war between our children's future and this year's dollars.

Response: Comment noted.

Comment# 370-1: Wetlands are vital to the Earth, and small farms provide better food anyway.

Response: Comment noted.

Comment# 427-2: Please phase out, or better yet, eliminate all private use and restore the wetlands.

Response: Comment noted.

Comment# 432-2: Most of these lands - which are currently owned by the U.S. Govt. yet are being farmed by individuals and for-profit corporations - should not be farmed under any circumstance and native vegetation should be re-established on these lands. If these lands were once wetlands, then wetlands should be re-established on these lands.

Response: Comment noted.

Comment# 501-2: Crops can be grown elsewhere, wetlands have already been decimated, we need to save every one of them for the health of our world ecology.

Response: Comment noted.

Comment# 530-2: The lease-land agribusiness program needs to be phased out so the wetlands can be restored to their intended purpose. USFWS should not be providing water to agribusiness at the expense of the wetlands.

Response: Comment noted.

Comment# 557-1: After reading the alert from the Audubon society about The Klamath wetlands being allowed to go dry, I believe there could be an alternative and the agribusiness could still benefit. I'm not against the agribusiness leasing land, however, they should not have taken all of the water meant for the refuge habitat. A viable solution to keep wetland habitat alive, should have been put in place prior to the leasing of the land for agribusiness. Please help the wetlands survive and thrive.

Response: Comment noted.

Comment# 58-1: In regards to the Comprehensive Conservation Plan for these five federal wildlife refuges, I adamantly support conservingwetlands for our native migratory birds is the priority for these refuge lands. I am asking that these wetlands be restored and stop the leasing of the refuge land for agricultural products.

Response: Comment noted.

Comment# 619-1: The Klamath refuge wetlands must NOT be allowed to go dry every year because we're letting the leased land be irrigated for agriculture.

Response: Comment noted.

Comment# 682-1: I am currently a Fisheries and Wildlife student through Oregon State University. It is important that we protect one of our fastest disappearing resources: wetlands. Many migratory birds depend and need these areas to rest, feed, and breed. These birds play an important role in our society by providing aesthetic pleasure, education, and community value. Many people travel to photo and view such magnificent wildlife. Please do not let the wetlands run dry. It is not only the birds that depend on the these wetlands, but a variety of species. The health of our wetlands are a sign of our own health. We need to protect the biodiversity and maintain the health of this habitat.

Response: Comment noted.

Comment# 701-50: A quick word about two key aspects of biodiversity in the Klamath region as it relates to bird populations. As indicated above, the productive wetlands in the region have energy enough to support great numbers of individuals, particularly in migration (abundance). The wetland habitats (e.g. niche space) are also diverse enough in structure, water depth, and biotic richness that they can support a great taxonomic diversity of species (taxonomic richness). Ordinarily a person wouldn’t care whether these two metrics were correlated or not. But at the refuges, fundamental decisions must be made with respect to whether water will be provided to wetland habitats to maintain that habitat throughout the spring, summer and fall, or whether water will instead be delivered to agricultural fields, primarily in spring. Finding ways to maximize the amount and kinds of wetland habitats (e.g., amount of open surface water; variation in water depth; variation in duration of standing water; variation in vegetation type, density and structure) on the refuge lands should be a priority if the objective is to maximize biodiversity and productivity of the region, and supporting both abundance and diversity of bird life that historically used the refuge lands before agricultural water diversions impacted natural wetland habitats (Rittenhouse et al. 2012).

Response: Comment noted. Management decisions are based on water availability and the ability to

benefit waterbird resources at a continental scale rather than local scale.

Comment# 701-51: o prioritize flooded farmland (by preferentially delivering water to such sites), or to increase the areal footprint of agriculture reduces the biological potential of the land. While it provides seasonally available forage for migratory dabblers and some shorebirds, by using water that could otherwise support natural wetland habitat, it is likely to limit or irrevocably harm many more species of waterfowl, non--game waterbirds, and other kinds of wildlife. One might ask: are migratory birds more important than breeding birds? Is abundance more important than taxonomic diversity? Should a refuge prioritize a management plan that favors one set of birds (abundant migrants) over another (breeders and non-- dabbler/sandpipers)? In effect this is the question that is being asked by land managers when considering water allocation priorities that argue for flooded cropland (supporting abundance of a few species) or native wetlands (greater ecological and taxonomic diversity). If refuge managers choose to base their management on the availability of agricultural foods, they have implicitly decided to prioritize conservation of only those species that can utilize agricultural foods – primarily dabblers and geese. In contrast, a management scheme focused on agricultural foods does not address the needs of all the other species discussed above that depend on other types of food and habitat found in the natural wetlands that historically dominated the refuge complex. From a biological standpoint, the most defensible approach is: (1) One that favors diversity and abundance, rather than just one of these components of biodiversity. Natural wetlands maximize both features in all seasons; (2) If water limitation makes a choice necessary, then the integrity of breeding grounds should be protected over migratory grounds because adults are more valuable than offspring to populations. This is because there are fewer adults; adults have higher annual survivorship; and adults can breed multiple times over their lifespan. Also, much of the abundance of migratory birds is due to juveniles each year on breeding grounds over a species' range; and (3) Species diversity should be favored over abundance, particularly in the case of rare species and those sites that host a significant portion of the breeding population of a particular species. The loss of a species can be permanent, and when breeding grounds are compromised, species decline. Population sizes, while important to the genetic diversity and population dynamics of a species, are more fungible, particularly for "common" or numerous species (e.g. Northern pintail, Mallard, Western Sandpiper).

Response: The Refuge disagrees with this comment and suggests that management decisions are based on water availability and the ability to benefit waterbird resources at a continental scale rather than local scale. Current water scenarios limit the Refuge's ability to provide the complex of wetland habitat required to meet a diversity of waterbird needs across life cycle periods (taxonomic diversity). Decisions must be made then to ensure limited water on a limited wetland footprint can provide the biggest continental benefit, which under current water availability is the migratory periods. The Refuge makes every attempt as water is made available to address the breeding periods of waterbirds and attempts to manage this limited water in a way that benefits a diversity of breeding waterbirds. The challenge is the diversity of potential breeding birds in the Klamath Basin spans a large range of hydrologic conditions and forage types from deep-water fish-eating birds to ephemeral-wetland insect-eating birds. Again under limited availability the Refuge must make difficult decisions regarding where to use this water and must default to where the biggest continental impact is which under current conditions is colonial waterbirds. The reality is the Refuge cannot meet the needs of every waterbird all year and must manage for the biggest (flyway or continental) population benefit.

Comment# 701-52: Why is open water important? Open water provides:

• protection to birds from terrestrial predators. Birds rest, roost, and molt on the water, or on the banks of open water and can use these bodies of water to escape terrestrial predators;

• nests and colonies of breeding birds can be safely established on islands, near floating vegetation, or riparian trees at the water's edge because those areas provide cover. Water shortage can lead to connectivity between islands and the mainland resulting in depredation of nests by terrestrial predators and, in some cases, colony failure (e.g. Mullet Island at the Salton Sea; Shuford et al. 2000). Open water provides essential safety for young birds that cannot fly, and typically surrounds patches of isolated vegetation where birds can build their nests. (Ehrlich, 2008; Rodewald, 2015);

• food is available in open, and relatively deep water (>25cm) where birds can find aquatic invertebrates, fish, and vegetation. Dabblers, divers, and waders can use open water habitats. Shorebirds (sandpipers, plovers) typically do not use deeper water habitats, though birds like Phalaropes (which are shorebirds that spin in water of variable depth to churn up plankton or invertebrate prey) thrive in these habitats and require them.

Response: Comment noted.

Comment# 701-53: All open water is not equal. Water quality varies considerably based on the source of the incoming water (e.g. Tule Lake, noted above, has very high levels of algae, a low pH, and less available oxygen than say Upper Klamath Lake due to all of its water coming from run--off from irrigated fields). Also, if open water ponds and lakes are not deep enough to persist yearlong, or avoid freezing, they may not support fish population or the birds that rely on them (Dileanis et al. 1996).

Response: Comment noted.

Comment# 701-54: Connectivity between aquatic habitats can be important for molting water birds and other aquatic animals as well (Haig et al. 1998).

Response: Comment noted.

Comment# 701-56: The Klamath Basin NWR Complex is a crucial remnant of a historically vast wetland complex that is increasingly compromised due to over allocation of water and preferential diversions of water to agriculture rather than native wetlands in times of drought. This pattern of water use will have grave consequences for non--game water birds that migrate through the region and breed there. Many sensitive species, such as American white pelican, have experienced increasingly frequent colony failure likely as a result of island breeding grounds become exposed to terrestrial predators or decreases in water quality limiting fish supplies on Klamath NWR refuges (e.g., Clear Lake and Lower Klamath Lake)(Shuford et al. 2006; Shuford 2014; Evans et al. 2015). Allocation of water to native wetlands for diversification of wetland type and preservation of water depth is essential to supporting historic diversity of wildlife species in the basin.

Response: Comment noted.

Comment# 734-26: Due to the dire conditions, management of this refuge (Upper Klamath Lake) should be focused on the goals of restoring wetland habitat for the dual purposes of restoring water quality and habitat.

Response: Comment noted.

Comment# 753-1: End commercial large scale agriculture in the Klamath Wildlife Refuge and restore

the wetlands therein.

Response: Comment noted.

Comment# 793-65: The Upper Klamath Basin historically contained 350,000 acres of wetlands and tremendous populations of waterfowl and other wetland birds. A century ago the basin showcased what was believed to be the largest concentration of waterfowl in the world with up to 10 million birds occupying basin wetlands at one time. Unfortunately, 75% of the historic wetlands have been drained in the Klamath Basin to make way for irrigated agriculture, while 95% of the wetlands in California have been lost. This greatly increases the importance of the remaining wetlands, some of the most important of which are located in Lower Klamath and Tule Lake National Wildlife Refuges. These refuges are located on the old lakebeds of Lower Klamath Lake and Tule Lake, and the refuge lands offer the best opportunity to reclaim and restore vital and much needed wetlands in the basin and in the Pacific Flyway.

Response: Comment noted.

Comment# 793-67: Enhance and increase refuge wetlands and riparian areas. · Restore the historic lake beds of Lower Klamath Lake and Tule Lake within the boundaries of the refuge.

Response: Comment noted.

F. <u>Invasive Plant Species</u>
Letter ID # 56-46, 56-101, 256-2, 663-17, 743-53, 783-5, 897-2

Public Concern Statement: Respondents state that the draft CCP/EIS should require "aggressive" removal of all non-native plants, provide baseline invasive species information, describe how livestock actions will control invasive species, and prepare a weed management plan for grazing.

Comment# 256-2: Aggressively remove non-native plants.

Response: Comment noted.

Comment# 56-101: How ill the cows be cleaned and purged of weeds – there is no real integrated weed management being applied.

Response: Regarding the prevention of introduction of invasive plants and weed infestations, see response to comment 56-2. We prohibit ranchers from bringing hay on to the Refuge, which is one source of weeds.

Comment# 56-46: What weed risk assessments? What exotic species are present, and where and what lands are infested? How many acres?

Response: See response to comment 56-2. CCP/EIS Chapter 5 (Affected Environment) also provides discussions of pesticide (herbicide) use for vegetation management on the Refuges.

Comment# 663-17: Please study the likelihood that grazing will accomplish any goals of invasive or

noxious weed reduction. Specifically, given that livestock themselves are known vectors of weed establishment and spread, and that the effects of grazing on soils allows for weeds to more readily take hold, please weigh the putative benefits of using livestock as weed reduction against the known detrimental effects of grazing through cause or contribution to weed presence. You should also consider the palatability of any target weed species.

Response: Comment noted.

Comment# 743-53: The draft compatibility determination states that "[n]oxious weed control through the establishment of competitive plants, will remain an ongoing program within the farming program."28 TID supports the competitive plant program and believes it is a useful tool to manage noxious weeds along ditch banks and other weed-prone areas. However, this program has not been conducted for several years. It is not accurate to call it "ongoing." TID supports renewing the competitive plant program within the lease lands.

Response: Comment noted.

Comment# 783-5: The other point is the berm maintenance. They were controlled and maintained by the farmers, now they are not, and they are covered with noxious weeds, due to the limitations placed on the farmers as to what they can and cannot do. There were programs tried In the past, but there was no follow-up or incentive given to ensure that the program would work.

Response: The Preferred Alternative includes development of a berm maintenance program.

Comment# 897-2: To me the last 25 years of refuge management has led waterfowl to over fly these refuges, which are so important to over 80% of the Pacific Flyway. I would like to see USFWS address the overpopulation of weeds that have taken over the marshes and destroyed at least 25% of the marsh on the refuge.

Response: Refuge management has been hampered by the lack of water. The lack of water is a major contributing factor to the overpopulation of weeds.

G. <u>Invasive Wildlife Species</u>
Letter ID # 653-5

Public Concern Statement: One individual requests that the CCP/EIS recognize and provide special management provisions for these invasive or undesirable wildlife species, such as bull frogs and ravens.

Comment# 653-5: On September 13, 2009, I and other staff members from Western Watersheds Project observed large numbers of bullfrogs, *Lithobates catesbeiana*, in Bowles Creek. We observed about 30 individuals in a 10 minute period just north of Clear Lake road. We notified the USFWS in our February 3, 2012 comments on the Re-Proposed Designation of Critical Habitat for Lost River Sucker and Shortnose Sucker. This invasive exotic is evidently well established in the Clear Lake drainage but this exotic is not mentioned in the context of Clear Lake National Wildlife Refuge. Fish may form a significant component of a bullfrog's diet (Corse and Metter, 19803). Bullfrogs are clearly potential predators on sucker fry on the Refuge and the Service should recognize and provide special management provisions for these invasive exotics. Likewise, the EIS does not consider the association between ravens and livestock. Ravens are known sage-grouse predators. New information in the form of a recent USGS

study from southeastern Idaho found that the odds of raven occurrence increased 45.8% in areas where livestock were present (Coates et al., 20164).

Response: Boles Creek is not on the Refuge. While Boles Creek does harbor high densities of bull frogs, the same does not appear to be true of Clear Lake proper. There is no empirical or anecdotal evidence that high densities of bull frogs occur within Refuge properties. In previous studies, we have not documented any raven predation on sage-grouse (Bell 2011).

H. Invasive Aquatic Species

Letter ID# 780-8

Public Concern Statement: One entity requests that the CCP/EIS disclose decontamination stations in the Preferred Alternatives for Lower Klamath, Tule Lake, and Upper Klamath Lake Refuges to reduce the introduction of invasive aquatic species.

Comment# 780-8: EPA appreciates proposals in the Draft EIS alternatives, including the no action alternatives, to reduce the introduction and spread of invasive species before considering eradication measures with larger environmental impacts. For example, Lower Klamath Alternative C, TuleLake Alternative B, and Upper Klamath Lake Alternative B include decontamination stations near boat launches to reduce the introduction of invasive aquatic species. Tule Lake Alternative B also includes a vegetation management plan for berms to reduce invasive species and improve cover for nesting waterfowl. We support and encourage the Integrated Pest Management approach to invasive species management, which prioritizes low-impact measures. Recommendation: In the Final EIS, include decontamination stations in the preferred alternatives for Lower Klamath, TuleLake, and Upper Klamath Lake refuges.

Response: The Preferred Alternative includes this recommendation.

I. Wildlife Services/Predator Control

Letter ID # 56-16, 853-13

Public Concern Statement: One commenter asks the Service to disclose in the CCP/EIS whether wildlife services activity is occurring on the Refuges and if so, where and for what purposes. Another commenter states that the CCP should provide predator control.

Comment# 56-16: Is Wildlife Services activity taking place on the Refuge? If so, when, where and for what purposes? Full analysis of the potential adverse direct, indirect and cumulative effects of WS activity must be fully evaluated. Restoring larger native predators would aid in healthy predator-prey communities, and a very likely reduction in mesopredator predation problems.

Response: Wildlife Services (WS) has not been used on the Refuges in the recent past. Although we have no plans to use Wildlife Services, if applicable, at the discretion of the Refuge Manager, WS may be contacted in the future, in accordance with the IPM Program (Appendix Q). Measures to manage mammalian and avian predators are described in CCP/EIS Table 4.5 for Lower Klamath Refuge and the IPM Program (Appendix Q) for all Refuges. Effects of the CCP actions are addressed in CCP/EIS Chapter 6.

Comment# 853-13: Predators are a growing problem on the Refuges. They are hazardous to some of the wildlife hunted in the Refuges and harmful to hunter's dogs. Please consider some form of predator

control in the Plan, including predator hunting through utilization of California and/or Oregon state laws.

Response: Measures to manage predators are described in CCP/EIS Table 4.5 for Lower Klamath NWR and the IPM Program (Appendix Q) for all refuges. Currently, predators are not considered a limiting factor to management goals.

J. KBRA

Letter ID# 853

Public Concern Statement: It is requested that the Service clarify impacts to wildlife species and habitat from not being a designated purpose of the Klamath Reclamation Project.

Comment# 853-3: Under the KBRA, wildlife habitat would have become a purpose of the Klamath Reclamation Project and would therefore include more consideration for water deliveries and management within the Refuges. Now that the KBRA has expired, wildlife habitat is not a purpose of the Klamath Reclamation Project. What, if anything, are the impacts that wildlife habitat not being a Klamath Reclamation Project purpose have on this Plan and the priority of the Refuges/wildlife habitat within the Klamath Project?

Response: For Lower Klamath Refuge, Figures 4.3 and 4.5 through 4.7 in CCP/EIS Chapter 4, Section 4.2, show the habitat types that can be developed under a variety of water year types.

K. Kuchel Act

Letter ID # 221-2, 304-1, 435-1, 793-23, 846-2, 846-4, 846-5, 846-6, 846-7, 846-8, 846-78, 846-92

Public Concern Statement: Individuals state that the Service should require strict enforcement of the Kuchel law and its follow-on laws or eliminate the law entirely. A separate commenter requests that the Service provide an explanation of the law's pertinence in the CCP/EIS and obtain a Solicitor's opinion. More specifically, one entity states that the Service should reassess and disclose their interpretation of Kuchel Act, as follows:

1. Focus waterfowl management on maintaining necessary habitat, including not only habitat for foraging, but also for breeding, molting, and nesting.

2. Prioritize natural foods over agricultural foods.

3. Clarify which bird species fall within the definition of "waterfowl" and how the Service reached this conclusion.

4. Expand the Service's current narrow interpretation of "proper waterfowl management" in the context of the "present pattern of leasing."

5. Provide discussion of what may or must be done with the "present pattern of leasing," because the associated demand for limited water resources, use of pesticides, and lack of diverse habitat is no longer consistent with wildlife conservation and proper waterfowl management.

6. Expand the scope of the compatibility determination to consider waterfowl and other wildlife species.

Comment# 221-2: Kuchel Act First, this law appears to be a driving force in the management of the Tule Lake NWR. It may have been omitted from the list of laws in Appendix E. Maybe I just missed it. This act talks about the desirability of maintaining migratory birds and the Refuges responsibility to protect, in general terms, the agricultural activities in the Klamath Basin. It does not appear to define other agencies' activities to help maintain numbers or quality habitat in the Tule Lake area. Are there better ways to describe what this act is supposed to do? It appears to be widely interpreted depending on who you talk to. I've discussed this act with irrigation district people, BOR employees, and even University of California's Tule Lake Agriculture Experimental Station employees and each one has a different definition of what the KBNWR can do and what it is limited in doing. Does the Kuchel Act pertain to the Fish and Wildlife Service only or does it pertain to all Federal Agencies and their contractors as most Federal laws do? In the listing of this act an explanation of its pertinence should be added due to the impact on the KBNWRs. A Solicitor's Opinion, if not already in place should be requested as it appears to be a road block to many activities the Refuge may want to do or has wanted to do such as marsh rehabilitation projects.

Response: The CCP/EIS text (Appendix E) has been revised to address the comment. The Service's interpretation of the Kuchel Act as it relates to refuge management is included in Appendix M. The Kuchel Act applies to the Department of the Interior.

Comment# 304-1: For the birds, please return to as strict enforcement and philosophies of the Kuchel law, and it's follow-on laws, as possible.

Response: Comment noted.

Comment# 435-1: Kill the Kuchel Act before the Kuchel Act kills all the fish and birds. See a picture of what the Kuchel Act does for endangered Lost River suckers at the Anderson-Rose dam.

Response: Comment noted.

Comment# 793-23: The Service interprets the Kuchel Act’s consistency requirement to be synonymous with “compatibility” under the Refuge Act. While it is not clear from the Draft CCP/EIS how the Service applies this interpretation to wildlife objective relating to species other than waterfowl, we emphasize that the Service must determine whether proposed uses are consistent with all purposes of the Refuge and not only waterfowl management. The Refuges have been set aside for “wildlife conservation” purposes, and it would be contrary for law for the Service to narrow the scope of the compatibility determination to focus only on waterfowl.

Response: The draft Compatibility Determinations do in fact evaluate the compatibility of proposed Refuge uses with all purposes for each Refuge. For example, the “Anticipated Impacts of Use” section in each Compatibility Determination is not limited to waterfowl but discusses potential impacts on a variety of other wildlife species.

Comment# 846-2: Following its review of scientific literature and expert opinion, the Service concludes that “proper waterfowl management,” as referenced in the Kuchel Act, is defined as: Providing habitats sufficient to support waterfowl population objectives throughout the annual cycle while promoting the highest possible natural biological diversity of refuge habitats. A sufficient quantity and diversity of foraging resources should be provided that will meet the energy requirements and nutritional demands of all waterfowl species. Where feasible, natural foods should be given priority over agricultural crops.82 While this definition mentions habitat requirements and population

objectives, the focus is weighted towards foraging resources over habitat. This is inconsistent with the Kuchel Act where the very first sentence of the Act and the stated policy of Congress is to "preserve intact the necessary existing habitat for migratory waterfowl * * * ."83 Proper waterfowl management on the refuges must be primarily focused on maintaining necessary habitat, including not only habitat for foraging, but also for breeding, molting, and nesting.

Response: We disagree that the definition of "proper waterfowl management" in Appendix M is inconsistent with Section 1 of the Kuchel Act, which describes the policy objectives for the legislation. Given that the Kuchel Act contains no definition of "proper waterfowl management," the Service has developed the definition in Appendix M. The definition included in Appendix M mentions "...providing habitats to support waterfowl population objectives throughout the annual cycle." Referenced in chapter IV of Appendix M, "Using waterfowl population objectives in concert with food resources provided by different refuge habitats allows refuge managers and biologists to estimate the quantity and type of habitats needed to support population objectives. Thus, population objectives become thresholds toward which direct habitat management (quantity, quality, diversity, seasonality, location, etc.) is targeted. Inventory and monitoring of populations are then used to evaluate actual waterfowl populations and habitats as part of an adaptive management process. This modeling approach assumes food availability is a key factor limiting waterfowl populations." And Section 4-2 of the EIS/CCP states, "Refuge managers and biologists would seek to provide a complex of habitats sufficient to support the population objectives of migrating, breeding, and molting waterfowl."

Comment# 846-4: Additionally, there is no support in the Act for the Service's conclusion that natural foods should be given priority over agricultural crops only "where feasible." In fact, this is directly contrary to the conclusions of the scientific literature discussed in Appendix M, which concludes that agricultural food sources "are no substitute for the long-term benefits of foods provided in natural wetland habitats."86 As the Service acknowledges, "experts believe that agricultural crops should be limited to the minimum necessary to satisfy food population objectives that cannot be provided from more 'natural' foods (Reinecke et al. 1989)."87 The Kuchel Act provides that waterfowl management and wildlife conservation are the primary purposes of the refuge lands; agricultural use is secondary and is to be considered only to the extent it is consistent with waterfowl management.88 Therefore, the Act requires the Service to prioritize natural foods over agricultural foods at all times, and to continue agricultural uses only where needed to achieve the major refuge purpose of waterfowl management. This skewed prioritization of agricultural crops over natural foods seems to arise out of the Service's interpretation of Section 4 of the Kuchel Act, 16 U.S.C. §695n. The Service appears to interpret the Kuchel Act's directive that the Secretary continue the "present pattern of leasing" consistent with waterfowl management as mandating that the "present pattern" of leasing be continued and be managed so as to make it consistent with only one of many components of "proper waterfowl management"—lower priority food resources for a limited subset of species. The Service concludes that to continue the "present pattern of leasing" in a manner consistent with proper waterfowl management, The overall program must provide sufficient food resources to support population objectives for waterfowl (dabbling ducks and geese) during the spring and fall migration. In addition, post-harvest farming practices and other practices must be implemented that will increase the attractiveness of the fields for foraging waterfowl and disperse waterfowl use as widely in the leased lands as possible.89 This conclusion forms the basis for Service's bioenergetics approach to waterfowl management on the refuges (Appendix N) and the alternatives proposed in the CCP.90 Essentially, the Service has limited the scope of "proper waterfowl management" capable on the leaselands to focus solely on food resources for a limited set of waterfowl species. The Service improperly limits its "proper waterfowl management" on the leaselands to apply only to dabbling ducks and geese – to the exclusion of diving ducks and waterbird species that depend on other types of foods found in diverse wetland habitat. The Kuchel Act does not distinguish between various groups of waterfowl; the Service is prohibited by the

statute from defining its management obligations on the leaselands only with respect to species that are able to better utilize agricultural fields for forage, while excluding diving ducks and other waterfowl species that rely upon wetlands.

Response: See response to comment 634-3. Agriculture is used to supplement the energetic requirements of migratory waterfowl (per the N. American Waterfowl Management Plan, U.S. Shorebird Conservation Plan, Partners in Flight Plan, Intermountain West Joint Venture Implementation Plan, & Pacific Flyway Management Plans). Wetland loss on a landscape scale in the Klamath Basin and the Southern Oregon Northeastern California (SONEC) region has significantly compromised the ability of migratory waterbirds to fulfill life cycle requirements. Cereal grain resources on lease lands help meet energetic demand during fall migrations for shorebirds, dabbling ducks, geese, cranes, and swans. Arguably, if the perspective on refuge wetland management focuses solely on lease land operations, one could assume Refuge habitat management is focused on agriculture but this is false if the perspective is scaled to the larger wetland landscape and the issues affecting water availability and waterbird habitat. The Klamath Basin was historically rich in a diversity of wetland habitats, but dramatic landscape alteration has made the basin less favorable across waterbird guilds and life cycle requirements. However, the Klamath Basin NWR Complex still supports the largest diversity of wetland habitats in the basin, including an abundance of permanent wetland habitat (Upper Klamath NWR) and deep-water habitats (Clear Lake NWR, Upper Klamath NWR, Tule Lake NWR) for diving ducks, colonial waterbirds, piscivorous waterbirds, and secretive marsh birds. When viewed from this perspective, one can argue the most limited wetland resources in the Klamath Basin are the temporary and seasonal wetland habitats required for shorebirds, dabbling ducks, swans, geese, and cranes during the fall migration. Refuge staff prioritizes seasonal wetland habitats to meet this demand; however, the lack of priority water in the Klamath Reclamation Project and demands placed on water availability from the Current BiOp severely inhibit the Refuge's ability to manage "natural" wetlands in a manner best suited for wildlife and the wetland environment. To this end, the cooperative approach the Refuge has taken with agricultural producers in the lease lands to use flood fallow rotations of up to 3 years ensures there is some wetland diversity capable of bridging the gaps in wetland habitat in the lower parts of the Klamath Basin NWR Complex. The Refuge is not prioritizing dabbling ducks or geese and not trying to ensure the "present pattern of leasing" but simply acknowledging on a landscape level what are the most limiting habitats to waterbirds in the Klamath Basin and how under current water availability scenarios water and habitat can be managed to benefit the broadest diversity of waterbirds.

Comment# 846-5: This raises of issue of how the Service interprets the term "waterfowl" in the Kuchel Act. We ask the Service to clarify its position on which species of birds fall within the definition of "waterfowl" and how the Service reached this conclusion. It appears that the Service is taking an inconsistent position throughout the Draft CCP/EIS on which species are and are not subject to the management prescriptions of the Kuchel Act. In our mind, the Service must ensure that management of the Klamath Refuge Complex meets the needs of all wildlife that depend on the Refuges for habitat. We see nothing in the Service's legal mandates that would allow the Service to ignore the habitat needs of any of the species on the Refuges.

Response: The term "waterfowl" is defined in Appendix A (Glossary of Terms). Our usage in the CCP/EIS is consistent with this definition. We disagree with the commenter's assertion that the CCP/EIS is inconsistent "...regarding which species are or are not subject to the management prescriptions of the Kuchel Act." Habitat requirements for waterfowl vary substantially between different guilds (e.g., dabbling ducks vs. diving ducks) and even seasonally (e.g., migrating vs. molting ducks). By partitioning waterfowl species into five guilds based on foraging method and diet (dabbling ducks, diving ducks, geese, swans, and coots), the habitat requirements for other waterbirds are

captured. Table 6 in Appendix F summarizes habitat associations for waterfowl and non-game waterbirds at the Klamath Refuge Complex. It is clear from Section 2 of the Kuchel Act that the Refuges should be administered "...for the major purpose of waterfowl management." Chapter VII of Appendix M lists population objectives for migrating and breeding waterfowl and non-game waterbird focal species.

Comment# 846-6: Similarly, there is no justification for narrowing the definition of "proper waterfowl management" on the leaselands to focus only on food resources where the Service's management obligations extend to "all lands" within the refuge boundaries.91 In other words, management of the refuges as a whole must be done to for the primary purposes of wildlife conservation and waterfowl management. The Service may not focus only on one aspect of "proper waterfowl management," i.e. food resources, on the leaselands while excluding consideration of the other ways in which wetlands provide important habitats for waterfowl and other wildlife species – e.g., nesting, roosting, and molting. Agricultural leasing on the refuges must be consistent with proper waterfowl management throughout the whole of Tule Lake and Lower Klamath NWRs. Thus, regardless of whether or not the leaselands are capable of providing sufficient forage resources for a subset of waterfowl species, if continuing the "present pattern of leasing" inhibits proper waterfowl management on the refuge as a whole—because these lands have been converted from wetland habitat and because the Refuges' most senior water rights are being used to supply agricultural uses on the leaselands when those rights could be used to supply wetlands and therefore the Refuge Complex as a whole does not have enough wetland habitat to support population objectives relating to nesting, roosting and molting behavior—the Kuchel Act requires the Service to consider a reduction in agricultural leasing. The Service's narrow interpretation of "proper waterfowl management" in the context of the "present pattern of leasing" may also be based on the Kuchel Act's directive to the Secretary to consider "optimum agricultural use" and to "obtain maximum lease revenues."92 While the Service acknowledges that both directives are limited by the major purpose of the Refuges for proper waterfowl management, the Service seems to interpret the bounds of that limit as only allowing the Service to alter the cropping patterns, contract stipulations, and leaseland management practices to meet waterfowl needs.93 This is evident in the Service's conclusion that the "present pattern of leasing" may be altered only in terms of cropping patterns in order to provide sufficient food resources needed for "proper waterfowl management."94 The Service concludes that the "Kuchel Act sought to freeze management in time" meaning that the level or acreage of agricultural leasing must remain constant.95 Thus, the Service reasons that it only has "broad discretion over management * * *for waterfowl" on those "other reserved public lands" that are not subject to agricultural leasing.96 As discussed above, the Service's interpretation that the Kuchel Act "freezes in time" the acreage of leaseland farming is contrary to the plain language of the statute.

This interpretation is supported by a 1995 Regional Solicitor's opinion titled "Certain Legal Rights and Obligations Related to the U.S. Bureau of Reclamation, Klamath Project Use in Preparation of the Klamath Project Operations Plan (KPOP)," which states,

The Kuchel Act…requires that the refuge lands be used primarily for waterfowl purposes but with full consideration given to optimum agricultural use so far as agricultural use is consistent with the refuge purposes. 16 U.S.C. § 695l. In addition, the pattern of agricultural leasing existing in 1964 is to be continued on specified lands within the refuges as consistent with proper waterfowl management. Id. § 695n. Thus, it is possible that certain irrigated lands within the refuge boundaries would not be cultivated in the usual manner if that would be inconsistent with the purposes of the refuges. If such change in cultivation resulted in less water being used for irrigation within the project, then more water may be available for the refuges, pursuant to a change in the water right or otherwise, subject to prior

existing rights and water availability.

Thus, when Congress stated, in Section 2 of the Kuchel Act, that the refuges were to be administered "for the major purpose of waterfowl management, but with full consideration to optimum agricultural use that is consistent therewith," it meant "optimum" for waterfowl and wildlife. Accordingly, Congress contemplated that the "present pattern of leasing" may not forever be consistent with proper waterfowl management and could therefore be reduced.

Response: We disagree and feel that Appendix M adequately articulates and supports the role of lease lands and other Refuge habitats in achieving refuge purposes, including proper waterfowl management. It is important to note that each habitat on the Refuges supports a different suite of species and no single habitat, including wetlands, meets the needs of all species of waterbird or other priority species. As a result, the Service seeks to provide a complex of habitats sufficient to support the population objectives of migrating, breeding, and molting waterfowl. A variety of habitat types are required to meet the needs for both migratory species and those species that remain during spring and summer to breed. These habitats include seasonal and permanent wetlands, agricultural lands, and uplands. It is also important to note that the complex of waterfowl habitats present today is very similar to what existed when the Kuchel Act was passed. Also, see response to 634-3 regarding the feasibility of using irrigation water deliveries for other purposes.

Comment# 846-7: Missing from the Service's interpretation of the Kuchel Act is any discussion of what may or must be done with the "present pattern of leasing," because the associated demand for limited water resources, use of pesticides, and lack of diverse habitat, is no longer consistent with wildlife conservation and proper waterfowl management across all lands within the refuge boundaries (or even the leaselands themselves). The Kuchel Act does not allow the Service to prioritize agricultural leasing over those other aspects of proper waterfowl management that are not achieved through crop production. In the Final CCP/EIS the Service must clarify whether, under its interpretation of the Kuchel Act, the amount of acreage put into agricultural use through leasing may or must be reduced in order to achieve "proper waterfowl management" and wildlife conservation objectives if more water is needed to support the minimum amount of wetland habitat necessary to support all life histories for all waterfowl species that depend on the Refuge Complex for habitat. Contrary to the interpretation in CCP/EIS – and consistent with the Department of Interior's earlier legal opinions – the Kuchel Act resolved any conflict between wildlife conservation and agricultural interests in favor of wildlife conservation and waterfowl management. Waterfowl management is the dominant use for the Klamath Refuge Complex under the mandates in the Kuchel Act. Accordingly, the proper interpretation of Section 4 of the Kuchel Act is that the "present pattern" of leasing, meaning not only the crops grown but also the amount of acreage open to leasing, may only continue to the extent it is consistent with "proper waterfowl management" as the Service has defined that term to include diversity of habitats and natural food sources.

Response: Regarding consideration of an alternative to phase out lease land farming, see response to comment 704-9. Also, see response to comment 846-4.

Comment# 846-78: The Service interprets the Kuchel Act's consistency requirement to be synonymous with "compatibility" under the Refuge Act. While it is not clear from the Draft CCP/EIS how the Service applies this interpretation to wildlife objectives relating to species other than waterfowl, we emphasize that the Service must determine whether proposed uses are consistent with all purposes of the Refuge and not only waterfowl management. The Refuges have been set aside for "wildlife conservation" purposes, and it would be contrary for law for the Service to narrow the scope

of the compatibility determination to focus only on waterfowl.

Response: See response to comment 846-8.

Comment# 846-8: The Kuchel Act expressly dedicated "all lands" within the boundaries of Tule Lake, Lower Klamath, Upper Klamath and Clear Lake NWRs to "wildlife conservation."101 Despite this, the Service interprets the Act and related legislative history to mean that waterfowl are to be afforded top priority over general wildlife in refuge management. Specifically, "if there is a conflict in providing habitats to various groups of wildlife, waterfowl objectives are met first— before meeting the needs of other wildlife groups."102 While the Kuchel Act states that the NWRs are to be managed for the "major purpose of waterfowl management," the Service has an obligation to manage the refuges to provide habitat to both waterfowl and other wildlife species. As discussed above, given that the Service has apparently prioritized "waterfowl" over "wildlife," we seek clarification from the Service on which species of birds fall within its definition of "waterfowl" and the basis for its conclusions. We certainly disagree that the Service has discretion under its legal mandates to disregard the needs of any of the wildlife that rely upon the Refuges for habitat. As mentioned above, the Service's definition of "proper waterfowl management" under the Kuchel Act leaves out any reference to other wildlife, both in terms of population objectives and habitat needs.103 However, the scientific literature and expert opinions recommended that waterfowl management include population objectives and habitat needs for other wildlife species.104 In articulating its interpretation of the Act, the Service has failed to address whether it has an obligation to try to meet both wildlife conservation and waterfowl management objectives, or if it can focus only on waterfowl management without consideration of other wildlife. In our view, the Service must meet the needs of all wildlife species, which it has not done in the Draft CCP/EIS. The Service should also explain how, under its interpretation, wildlife conservation purposes fit into management priorities on the leaselands. Management objectives on the Lower Klamath and Tule Lake NWR lease lands are limited to dabbling ducks and geese without any articulation of how this is consistent with the Kuchel Act. The Service must clarify its management obligations with respect to other wildlife under the Kuchel Act before limiting its management alternatives in the CCP to focus almost exclusively on select species of waterfowl, particularly on the agricultural leaselands.

Response: The primary purpose of the refuges in the Kuchel Act is waterfowl management as indicated in the language of the Act (Sections 1, 2, 4, and 6) (see Chapters I–III in Appendix M). Although waterfowl management is clearly the primary purpose, these Refuges are also dedicated to the more general purpose of wildlife conservation, particularly in those areas not used as leased agricultural lands. In accordance with the National Wildlife Refuge System Mission and Goals and Refuge Purposes Policy (602 FW 1). "Where a refuge has multiple establishing purposes related to the conservation and management of fish, wildlife, and plants and their habitats, the more specific purpose will take precedence in instances of conflict." Appendix F provides more detail on management priorities for Lower Klamath and Tule Lake Refuges. In addition to detailing the population objectives for waterfowl, Appendix F includes population objectives for non-game waterbirds as well as objectives for habitats that support other fish and wildlife groups. Regarding the definition of "waterfowl," see response to comment 846-5.

Comment# 846-92: Despite these clear statements within the Department of Interior that the Kuchel Act not only allows, but requires the Service to modify agricultural leasing on the refuge to ensure it is consistent with wildlife conservation and proper waterfowl management, the Service adopted an erroneous interpretation of the Act in Appendix M. As discussed in more detail below, even under the Service's flawed interpretation of the Kuchel Act, it has not established how the proposed management actions and alternatives in the CCP will meet the statutory obligation to manage the Refuges primarily

for waterfowl and wildlife conservation purposes.

Response: We disagree and believe we have accurately interpreted the Kuchel Act regarding leasing of reserved lands. See also responses to comments 21-1 and 846-2.

L. Herbivores
Letter ID # 56-67

Public Concern Statement: One commenter asks why the Service is not trying to mimic the native herbivore effects, as opposed to cattle.

Comment# 56-67: Thompson 1982, describing the paucity of large native herbivores in the region. Why isn't the refuge trying to mimic the native herbivore effects, and not those of exotic privately owned cattle? What is the native disturbance regime?

Response: Grazing by native herbivores is not sufficient to make a meaningful contribution to the habitat objectives on the Refuge within a reasonable period of time (15 years). The difficulty in controlling distribution and numbers of wild ungulates makes their use in prescribed grazing impractical (Huntsinger et al. 2007).

M. Avian Disease
Letter ID # 906-11, 906-12, 906-13

Public Concern Statement: It is recommended that the CCP/EIS provide BMPs and other proposed solutions to limit avian disease outbreaks, as well as include a Wildlife Disease Management Plan and an analysis of how different management alternatives will influence disease outbreaks in the Refuges.

Comment# 906-11: Proposed solutions to avian disease outbreaks and implications for the various management alternatives proposed are largely absent from the CCP, other than post-hoc removal of dead birds in response to outbreaks. There is little in the way of any proactive measures posited to reduce avian disease occurrence. This is a noteworthy deficiency in the plan as avian botulism and cholera outbreaks have been responsible for a minimum of over 180,000 bird deaths over the 30+ year monitoring period.

Response: The refuge agrees that avian disease and sickness pose a tremendous challenge to managing birds. The botulism and cholera outbreaks, though different in timing and triggers, can both be managed somewhat effectively with water management. Botulism is generally triggered by bacteria found in the soils under certain climatic conditions, but it can be mitigated or often prevented by maintaining lower water temperatures through the movement of water and prevention of very shallow conditions during peak heat periods. Cholera is triggered by body condition and environmental factors, but perpetuated by concentrations of birds gathering where water is not flowing (holes in ice). Increasing water movement through areas can mitigate loss. The Service believes reliable water deliveries (timing and volume) would allow better management of these two avian issues.

Comment# 906-12: There is nothing in the CCP Best Management Practices (Appendix L) that addresses minimizing avian disease outbreaks. There is a need for specific BMPs included in Appendix L that limit rampant avian disease outbreaks that are occurring more and more in the Klamath Refuges. There is reference to a Wildlife Disease Management Plan in Appendix F (pgs. 11 and 34) yet there is no draft of said management plan available to review in the CCP, nor does it appear that the Service intends to include the Wildlife Disease Management Plan in the CCP itself, a clear violation of the statutory

requirement to prepare a "Comprehensive" plan for management of the refuge complex by a date certain.370 The remaining strategies in Appendix F to minimize disease prevention are reactionary to disease outbreaks rather than proactive. A CCP itself should include proactive measures to reduce disease outbreaks. At the forefront, ways to prevent increased densities (crowding) of waterfowl into a limited number of small wetland patches needs to be addressed. Dispersing birds through availability of agricultural lands (as mentioned in the CCP) could provide some benefit, but only for the small subset of species that can utilize agricultural land for food and only during certain times of year. Moreover, this option has not prevented the noticeable increase in disease outbreaks at Tule Lake NWR. Increased dispersion of functional permanent and seasonal wetlands needs to be a target.

Response: The Service agrees with the comment and suggests that the most beneficial tool to manage and mitigate avian disease and sickness is with greater reliability in water deliveries and increased flexibility in how water can be managed.

Comment# 906-13: The alternatives (Ch. 4) and environmental consequences (Ch. 6) sections for the relevant refuges where disease outbreaks historically occur (Lower Klamath, Tule Lake, and Upper Klamath) apparently do not take into consideration how suggested management changes will affect disease outbreaks nor do they propose measures that could minimize disease impacts. For example, Alternative D for the Lower Klamath NWR proposes a "big pond" that would start out the year at 9,000 acres and water area would reduce to approximately 4,500 acres in the fall (in a good water year). What are the disease implications for such an alternative? The alternatives are narrowly driven by the bioenergetics report (Appendix N), which only considers food as a limiting factor to waterfowl yet ignores disease impacts as well as other factors (e.g. interspecific competition). What are the disease implications for each of the alternatives for relevant refuges for non-game waterbird species? This is not covered in the CCP and needs to be addressed. Ultimately, because the evidence indicates that avian disease outbreaks are directly related to reduced water deliveries to the refuges (Fig. 4), the refuges are not able to perform the function they are mandated to perform in providing priority "protection for native birds" (E.O. 2200) dedicated to wildlife conservation….for the major purpose of waterfowl management" (Kuchel Act). By knowingly causing disease outbreaks with faulty water management there is potential violation of the Migratory Bird Treaty Act. Ways need to be found to ensure that adequate water is delivered to Lower Klamath National Wildlife Refuge so that it no longer goes dry during the summer and fall resulting in increased avian disease outbreaks at nearby refuges.

Response: The Service recognizes the confusion the "the big pond" alternative may cause, particularly in consideration of avian sickness issues. It should be recognized that alternatives cover a broad range of potential management strategies, and the "big pond" strategy was an attempt to address the loss of historic lake bed processes in the Lower Klamath Lake area. In considering alternatives, the Service recognizes pros and cons with each potentially strategy and evaluates all alternatives to determine which best help the Refuge meet its purpose.

N. <u>Population Objectives</u>

Letter ID # 221-4, 622-13, 622-14, 622-25, 622-26, 624-2, 641-10, 653-17, 701-23, 701-24, 701-25, 701-26, 701-27, 701-28, 701-31, 701-33, 701-34, 701-38, 701-47, 701-49, 701-55, 701-57, 726-4, 743-26, 743-28, 743-42, 778-2, 778-3, 793-44, 846-11, 846-13, 846-14, 846-64, 846-9, 846-93, 846-94, 846-95, 906-10, 906-14, 906-15, 906-16, 906-44, 906-46, 906-58, 906-9

Public Concern Statement: Some comments express support to implement proposed waterfowl population objectives based on the Energetics Model and to develop a habitat management plan to support those objectives. However, other commenters state that the proposed population objectives are insufficient because they

- do not accurately reflect phylogenetic and ecological consistency in species groupings;

- do not incorporate needs of migratory birds or avian needs during breeding/molting season;
- do not identify non-game migratory bird, shorebird, or other wetland dependent species (such as diving ducks) population objectives, or incorporate those objectives into habitat management and wildlife inventory planning. In particular, one commenter states that the CCP should lay down clear goals for the management of all the Refuge resources, including biological goals for each special status species;
- do not show how the population targets, which are utilized to develop habitat objectives, reflect "necessary existing habitat for migratory waterfowl" at the time that the Kuchel Act was authorized by Congress in 1964; and because they
- rely on the Bioenergetics Report which is outdated, focuses on a subset of waterfowl species that forage in agricultural fields, and operates under the flawed assumption that food availability is limiting populations of waterfowl in Klamath Refuges. Therefore, these commenters state that the report should not be the basis for population or habitat objectives and that the CCP/EIS should disclose and discuss more recent water delivery and waterfowl population data.

One commenter questions whether population objectives can be "objective" while another entity requests that the Service remove all references to Bioenergetics Report as the standard for establishing population objectives and managing Refuges.

Comment# 221-4: Population goals have been stepped down from North American Waterfowl Management Plan, I do not believe there is a sufficient amount of buffer to deal with use during prolonged fall or spring migration periods has been considered. Adequate water, emergent vegetation for food and cover, and agricultural foods need to be present for those migratory birds that use the KBNRWs even during those occasional periods that are not calculated in the other documents.

Response: Comment noted.

Comment# 622-13: Tule Lake NWR: C. Habitat Management/Wildlife Inventory 1. The Refuge should implement proposed waterfowl population objectives and develop a habitat management plan to support those objectives based on the Energetics Model depicted in Appendix N. Compatibility determinations covering the lease land and cooperative farming programs must be consistent with and be a part of the future habitat management planning.

Response: Comment noted.

Comment# 622-14: Tule Lake NWR: The Refuge should implement non-game migratory water bird population objectives and incorporate those objectives into habitat management and wildlife inventory planning.

Response: Comment noted.

Comment# 622-25: Lower Klamath NWR: C. Habitat Management 1. The Refuge should implement proposed waterfowl population objectives and develop a habitat management plan to support those objectives based on the Energetics Model depicted in Appendix N. Compatibility Determinations covering the lease land and co-operative farming programs must be consistent with and be part of future habitat management planning.

Response: Comment noted.

Comment# 622-26: Lower Klamath NWR: The Refuge should implement non-game migratory water bird population objectives and incorporate those objectives into habitat management and wildlife inventory planning.

Response: Comment noted.

Comment# 624-2: Are population objectives really that objective? To say, 'this is how it was in the 1970's, so it's how it should be now and forever'? I'm sure you have science behind this, but it has to be arbitrary in some ways.

Response: The Service believes the information in Appendix F (Goals, Objectives, and Strategies) and supporting information in Appendices M (Chapter VI and VII) and N (Chapter 2) provide adequate support for the objectives.

Comment# 641-10: The Department supports the Service's plan to replace the 1994 Habitat Management Plan with the updated goals, objectives, and strategies detailed in Appendix F. The habitat objectives are designed to achieve proper waterfowl management for wetland and agricultural habitats which are based on supporting the 75th percentile of 1970s duck and 1990s goose populations. One concern the Department has is that as for managing habitats for goose populations it may be more appropriate to manage habitats at more current goose population levels. Over the past decade or more, spring migrant goose populations in the Pacific Flyway have increased dramatically.

Response: Comment noted.

Comment# 653-17: The CCP should lay down clear goals for the management of all the Refuge resources, including biological goals for each special status species.

Response: Comment noted.

Comment# 701-23: The bioenergetics report (Dugger et al. 2008) upon which the CCP/EIS is based does not include ruddy ducks, scaup, and buffleheads among the diving duck guild that is modeled or included in population objectives, despite that these 3 species represent over half the diving ducks using the Lower Klamath and Tule Lake refuges (see Figures 2-13 and 2-14 in CCP/EIS Appendix N). The only diving ducks modeled in the bioenergetics report and included in population data or objectives are canvasbacks, redheads, and ring-necked ducks. Although quite different from swans in their ability to feed in much deeper water but on similar foods (assumed to be 100% tubers for all modeled swans and diving ducks), this diving duck guild is lumped with swans in the Dugger et al. (2008) modeling work, and depth of water was ignored in terms of estimating habitat availability. The excluded species of divers have diverse diets, feeding on many of the same foods consumed by the divers that were included, as well as some of the wetland foods consumed by dabbling ducks, but also on benthic crustaceans and mollusks that were not included in estimates of food/habitat availability (these benthic foods may be particularly important foods in some seasons for the excluded species as well as for some of the included divers). Thus, by not including ruddy ducks, scaup, and buffleheads, the population goals not only ignore their habitat needs but also may overestimate (to an unknown degree) the ability of refuge habitats to support included species of divers, swans, and included diving ducks. Similarly, by simplifying the diets of included diving ducks (canvasbacks, redheads, and ring-necked ducks) in their model to require them to feed on only tubers, Dugger et al. (1980) may further overestimate the ability of the refuges to support dabbling ducks, particularly given the diverse diets of redheads and ring-necked ducks that may also feed on many of the

invertebrates and seeds consumed by dabbling ducks. Although canvasbacks are considered specialists with respect to their feeding on tubers, redheads and ring-necked ducks are less specialized (see, for example, Hohman (1985)).

Response: The commenter is correct; the bioenergetics modeling (Appendix N) did not include population objectives for some diving duck species. Appendix N, page 4, states, "Although TLNWR and LKNWR support large numbers of Ruddy Ducks..., Bufflehead..., and scaup..., we did not establish population objectives for these species because we lacked sufficient information on the foods consumed by these birds." The bioenergetics model is a tool to quantify the energetic budget of a wetland, complex, or landscape and generate calculations of potential waterfowl use to make sure the timing of water matches migration timing. The model has its limitations based on the availability of information on certain food resources and applicability across different guilds and life cycle periods. It should be understood the goal of the energetics model was not to understand all aspects of energetic demand on waterbirds in the Klamath Basin but to better understand where the mosaic of habitats under different management regimes would miss, meet, or exceed energetic demand of several select waterfowl species during migration. One could misinterpret this effort as missing the mark in the context of overall wetland and waterfowl management. However, we believe that the habitat requirements of the species selected encompass a broad diversity of wetland-dependent wildlife, cross seasonally. The Service recognizes that more information is needed to model the entire complement of wetland-dependent wildlife and wetland habitats, and this will be addressed in several more detailed, step-down plans that will be developed after the completion of the CCP.

Comment# 701-24: In terms of numbers of ducks, however, the diet simplification modeled for the included divers (100% tubers) may be reasonable given the dominance of canvasbacks among the number of just those 3 species, particularly at Tule Lake where canvasback dominance and total number for this diving duck guild were greatest. Dugger et al. (2008) mention that because swans can switch to agricultural foods, their model may be conservative in that it underestimates the number of swans and divers (lumped together in modeling) that can be supported by requiring modeled swans to feed only on tubers. By this same reasoning, however, in modeling scenarios where the refuges cannot support population objectives for geese or dabbling ducks or where those groups are supported at carrying capacity, the model may overestimate the ability of the refuges to support those groups, because swans feeding on agricultural crops in competition with geese and dabbling ducks is ignored. Again, the degree to which this impacts conclusions is unknown and would require modeling detailed feeding habits of each species, which is beyond the scope of the simple model used.

Response: See response to comment 701-23.

Comment# 701-25: In Dugger et al. (2008), Figures 2-13 and 2-14 show that ruddy ducks are the most numerous diving duck species in all seasons, and that ruddy ducks, scaup, and buffleheads, combined, represent over half of the diving ducks in refuge counts. Even so, they evidently do not include those 3 species in reporting diving duck counts from aerial surveys (Figures 2-2 and 2-8) or in refuge management objectives (tables 2-1 and 2-2). Although Tables 2-1 and 2-2 explicitly footnote that ruddy ducks, scaup, and buffleheads are included in the counts, the numbers reported conform to the numbers reported in appendix tables C-1 and C-4 where the footnotes indicate those 3 species are NOT included. The population means shown in appendix tables C-1 and C-4 also match populations in Figures 2-2 and 2-8 3 supporting that those figures do not include the 3 species. The multiple parts of Figure 2, then, show COUNTS that do NOT include the 3 species, but PERCENTAGES that DO show those species, creating confusion that should be clarified. Furthermore, in a comparison with the data for all divers reported by Gilmer et al. (2004; tables 2c through 2f), numbers reported by Dugger et al. (2008) are approximately 50% lower for diving ducks, further supporting that numbers in Dugger et al. (2008) do not include ruddy

ducks, scaup, and buffleheads. Indeed, Dugger et al. (2008) explicitly state in the methods section text that they did not include these 3 species in their population management objectives, but by including these species in percentages reported in Figures 2-13 and 2-14, and then stating in tables 2-1 and 2-2 that they ARE included in the population management objectives (when, evidently, they are NOT), the report, perhaps inadvertently, confuses the reader with respect to how these species are not dealt with. Thus, most importantly, those 3 species are evidently not included in the CCP/EIS migrating and wintering population management objectives in any way.

Response: See response to comment 701-23.

Comment# 701-26: When Dugger et al. (2008) defended the simple model they were using based on its ability to model all species, they further confuse the fact that several diving duck species are not modeled or included in their management objectives. While Dugger et al. (2008) state in the methods section that the 3 species are not included in population objectives, modeling, or estimates of food availability, there is no mention of this in the abstract. Further, there is no mention in the introduction that the foods of these 3 species were ignored in field estimates of food availability or lab tests to determine energy gained from various foods. Again, the footnotes in tables 2-1 and 2-2 appear to incorrectly include the 3 species as part of the management objectives when they are evidently not included in the numbers reported and when the text of the report says they are not modeled. Dugger et al. (1980) reiterate in the discussion on pages 80-81 that ruddy ducks and scaup were not modeled, and that further work to evaluate their diets and determine food availability are needed. Regardless, the exclusion of these species in Dugger et al. (2008) means they also were not included in the CCP/EIS management objectives 4 for migrating and wintering diving ducks. Furthermore, statements in the abstract like “current habitats at both refuges were sufficient to meet the energy needs for target populations of swans and diving ducks” are misleading given that over half of divers were not studied or included in population estimates, management objectives, or food-availability estimates, facts NOT mentioned in the abstract but confined to a few lines in the text and then contradicted in footnotes of tables that report management objectives.

Response: See response to comment 701-23.

Comment# 701-27: While important diving duck species (ruddy ducks, scaup, and buffleheads) were excluded from modeling and population management objectives, percentages of these excluded species have been relatively constant or even increasing in some instances through 1999 (Dugger et al. 2008; figures 2-13 and 2-14) and into 2001 (see Gilmer et al. 2004) at the refuges (but no data are provided in the CCP/EIS past 1999, and breeding pairs of ruddy ducks have evidently declined dramatically in recent years (Tables 3 and 4 in CCP/EIS Appendix F).

Response: See response to comment 701-23.

Comment# 701-28: Although these excluded species are relatively important among diving duck species in terms of numbers, the total numbers of these species are small in comparison to total dabbling ducks or geese. The lack of data on the food habits and food availability for the ruddy ducks, scaup, and buffleheads is given as the reason for their exclusion by Dugger et al. 2008), but outside of their report in Appendix F, exclusion of these species is not mentioned elsewhere in the CCP/EIS, and should be reiterated. [1] Their exclusion from the modeling effort should also require that their management be included in the CCP/EIS in other ways. For example, the relative significance of the Lower Klamath and Tule Lake refuges in supporting these species compared to their regional or continental numbers and the [2] potential impacts of proposed management alternatives on these excluded species should be addressed explicitly, given they are not included otherwise. Perhaps the [3] data gap with respect to the food habits

and food availability for these species should be addressed as a specific research objective in the CCP/EIS. 5 The Dugger et al. (2008) energetics study concluded in 2008 reporting that more work was needed to identify the feeding habitats and measure the food availability for ruddy ducks and scaup. Eight years later, however, the CCP/EIS does not include any additional information for the excluded diving duck species.

Response: See response to comment 701-23.

Comment# 701-31: Dugger et al. (2008) also did not include the breeding/molting season (specifically 23 April – 23 August) in their modeling efforts to evaluate whether the refuges could provide adequate food to nesters and to molting waterfowl. One of the reasons given for not including this time period is that food may not be the limiting factor in supporting these birds, whereas it is assumed food is the limiting factor for migrating and wintering waterfowl. Although population data and population objectives for this time period are not listed in Figure 2 or Table 2 in Dugger et al. (2008), the necessity of using other criteria to set waterfowl population management objectives for the 23 April – 23 August period is not emphasized in Dugger et al. (2008). That lack of emphasis has carried over into the [1] draft CCP/EIS, where relatively little attention is given to managing for food or other resources for the many ducks that nest and raise young on the refuges or for birds during the summer molting season. A great deal of effort went into the modeling basis for establishing habitat alternatives to meet migrating and wintering population objectives, but the CCP/EIS simply assumes habitats will provide adequate food for breeding and molting waterfowl. This is evident in Appendix F, which provides the details of alternative management approaches. Tables 3 and 4 in Appendix F show means for [2] number of breeding pairs on the refuges, but there is no indication how these data were collected or where the numbers come from. Nonetheless, the mean numbers of breeding pairs in the 1970s from these tables are adopted as the breeding population objectives. Finally, on [3] pages F-1 and F-2 it is simply stated that seasonal and permanent wetlands are “expected” to provide adequate resources for breeding and summer-molting ducks. This may or may not be valid, but no basis is given for drawing this conclusion. Indeed, given that 9 ruddy ducks are the most common breeding species in the 1970s (tables 3 and 4), and that ruddy ducks are not included in models upon which habitat objectives are based, [4] it would probably be more reasonable to say that given that ruddy duck breeding numbers have declined by over 80% from the 1990s to 1990s (see Tables 3 and 4), it is unlikely that the refuges will continue to provide adequate habitat to meet breeding population objectives.

Response: The energetics models do not specifically target breeding and molting waterfowl; however, by providing a variety of wetland habitats (e.g., semi-permanent, permanent, open water, seasonal herbaceous) for these birds, the model provides recognizes the habitat needs for those life-cycle phases indirectly. Objective 1.6 for Lower Klamath Refuge and Objective 1.6 for Tule Lake Refuge includes habitat objectives for permanent wetland that support waterfowl during nesting and molting stages. The Preferred Alternative for Tule Lake Refuge includes periodic drawdowns in Sumps 1A and 1B to support more productive permanent wetland habitat and diverse submergent aquatic vegetation communities that would support habitat for breeding waterfowl (including diving ducks), brood rearing, and molting periods. The Service is exploring ways to quantitatively account for limiting factors during breeding and molting periods. See also responses to comments 701-23 and 701-30.

Comment# 701-33: Dugger et al. (2008) point out that the TRUEMET bioenergetics model they used has inherent conceptual and empirical errors. The assumptions that could contribute to conceptual error include that the model does not account for waterfowl energy costs associated with travel to find and move among food patches, and that waterfowl can feed freely on available food without interference. With no model that accounted such energy costs for the variety of species and habitats that are considered here, the TRUEMET model was chosen to provide an approximation of how well refuge habitats could

support the waterfowl population management objectives. The degree to which violations of assumptions impact their findings is unknown. Another model, REFMOD, that did include specific costs associated with finding and moving among food patches, was used by Frederick et al. (1991) to evaluate white-fronted goose management scenarios at Lower Klamath and Tule Lake refuges, which may provide some insight 10 into the possible impact of some specific conceptual errors in TRUEMET. REFMOD experiments, for example, suggested that even when adequate foods were available on surrounding private lands, removing foods within the refuge hastened emigration of geese in the fall and supported significantly fewer birds, although the reduction in numbers was not large (Frederick et al. 1991). Further, REFMOD experiments suggested disturbance of feeding birds by hunters, predators, or agricultural operations could potentially negatively impact the ability of otherwise adequate food resources to support goose populations (Frederick et al. 1991). In a later application of REFMOD (Frederick 1999; unpublished report), modeled goose populations were not significantly impacted when all refuge crops were eliminated if only 2,240 acres of grains left specifically for geese were planted adjacent to the refuge lake where birds roosted, even when competition with dabbling ducks and other goose species was considered. Although a modification of REFMOD to allow for the simulation of all waterfowl species might add some precision to the predictions of Dugger et al. (2008) by accounting for some of the inherent errors in the TRUEMET model, model development would be expensive, and REFMOD has its own set of conceptual errors, and it requires more input variable values than TRUEMET, potentially introducing new empirical errors. Conclusions from the past REFMOD studies, however, support aspects of Dugger et al. (2008) model experiments 6 and 7 in that a reduction in agriculture had little or no impact on numbers of these abundant species.

Response: Comment noted.

Comment# 701-34: It should be pointed out that the Dugger et al. (2008) report was an unpublished refuge document. Although parts of the research have been published and gone through a peer-review process, other parts may have not, and that may be why there are some errors. Likewise, the current CCP/EIS is a draft and not a final plan, so this is an opportunity to correct errors, including, perhaps in the Dugger (2008) report, which is Appendix N of the CCP/EIS. One such [1] error in Dugger et al. (2008) is in the reporting of goose and swan population means and management objectives. Assuming the numbers of swans and geese in Figure 2 are correct, the column headings that specify the 10-year periods in 11 appendix tables C-5 through C-8 are switched, where the left-hand 75-percentile and mean values are for the 1990s, and the right-hand means are for the 1990s. If so, then Table 2 population objectives for geese and swans in Dugger et al. (2008) are, indeed, based on 1990-99 data as stated in footnote a in both Table 2-1 and 2-2. Note, however, that both tables depict 75th percentile data and not means, [2] so footnote a in Table 2-2 should be the same as in Table 2-1. As stated previously, [3] footnote c in Tables 2-1 and 2-2 should be changed to show the diver guild only included canvasbacks, redheads, and ring- necked ducks. [4] As a result, Tables 1 and 2 in Appendix F of the CCP/EIS, which are taken directly from Dugger et al. (2008), need to be corrected in the same manner. Finally on this editorial point, [5] in Appendix F, footnote a of Table 1 cites Appendix M, but should cite Appendix N, which is the Dugger et al. (2008) unpublished report, and Table 2 should similarly cite Appendix N and not the methods section.

Response: The footnote in Tables 1 and 2 in Appendix F, Goals, Objective, Strategies, has been corrected to refer to Appendix N (the Bioenergetics Approach). Revision of the Dugger et al. (2008) report is beyond the scope of the CCP.

Comment# 701-38: The draft CCP/EIS waterfowl management alternatives are based on the Dugger et al. (2008) bioenergetics report that assumes food is the limiting resource in supporting waterfowl populations. It is evident, however, that water is the resource limiting the CCP/EIS to a set of options that are less than ideal in terms of sound waterfowl management. The current water management delivery

priorities are not really compatible with best waterfowl management practices, and limit the U.S. Fish and Wildlife Service to a set of priorities that are only practical under the circumstances at best. Thus, from a waterfowl management perspective, improvements are needed to add consistency to and amount of water available to refuge managers.

Response: The commenter is correct that water is the limiting factor in the Service's management of refuge wetland resources. Wetland management capabilities at Lower Klamath and Tule Lake NWRs are dependent on water deliveries through the Klamath Reclamation Project, managed by Reclamation, which limits the ability of the Service to manage the wetlands and water levels. Clear Lake is managed by Reclamation for irrigation, flood control, and wildlife habitat; the Service does not have jurisdiction over lake levels. At Upper Klamath Refuge, the water elevation of the wetland (marsh) throughout the Refuge is controlled by Reclamation through the Klamath Reclamation Project.

Comment# 701-47: Gilmer et al. (2004) document population declines in total number of waterfowl using the Klamath Basin Refuge Complex from 1953 to 2003. Curiously, Zimpfer et al. (2015) find an inverse pattern of waterfowl population increase from 1950 to present on a continental scale, suggesting that something unique was happening on refuge lands. Gilmer speculates that food was not limiting, as there was sufficient excess seeds and potatoes on many agricultural lease lands, but that degradation of the waters in Tule Lake sump were to blame for specific declines in Tule Lake populations of Northern Pintail and other birds (p. 15). Dugger et al. (2008) elect to disregard the suggestions of Gilmer et al. (2004) and conclude that food is a limiting resource for waterfowl on refuge land. Increases in waterfowl numbers at Lower Klamath Lake coincident with declines at Tule Lake (see Figure 4 in Gilmore et al. 2004) seem more likely to result from water quality and open water as key features of habitat quality, rather than food limitation.

Response: Comment noted.

Comment# 701-49: [1] The needs of non--game waterbirds have largely been neglected in the CCP/DEIS and the bioenergetics study. It is well--known that waterbirds are more diverse than waterfowl (Shuford et al. 2006), and while both groups are sensitive to water shortages and ecological degradation, the population sizes of most non--game water birds are smaller (Shuford et al. 2006), and their reproductive sites in many cases are fewer (e.g. American white pelican), making the relative consequences of water shortages potentially greater for water birds than they are for (dabbling) waterfowl. Sustained drought and changes to water levels and water quality may have serious consequences for all waterbirds and waterfowl (Eagles--Smith and Johnson 2012). However, many studies show that goose populations are increasing regionally and nationally, and that a majority of dabbler populations are also increasing, despite local declines at Tule Lake for Northern Pintail (Zimpfer et al. 2015; Dugger et al. 2008). [2] There is little to suggest however that Northern Pintail is a species in trouble (e.g. it is not listed as a species of special concern in either California or Oregon), and more to suggest that low water quality in Tule Lake and phenological changes in wintering crops in the Central and Sacramento Valley of California may better explain this trend (Fleskes and Yee 2007). In times of water shortage, water should be allocated to support native wetlands and open water habitats of varying depths to provide shelter and food for at--risk, non--game waterbirds.

Response: The bioenergetics approach (Appendix N) modeled several alternate management scenarios to explore possible options for eliminating energetic (food availability) habitat deficits. As explained in the Executive Summary of Appendix N, the options used were not exhaustive; rather, they provided examples of how a bioenergetics model can be used to explore management options. The results indicated that a variety of habitat scenarios can meet the energy needs of migrating and wintering waterfowl. The intent of the bioenergetics modeling approach is to provide the framework for objectively considering how

potential land use changes and water management options might impact wintering and migrating waterbirds at both Tule Lake and Lower Klamath Lake NWRs. Importantly, the bioenergetics model provides information on populations of birds such that when their habitat requirements are managed appropriately, the model will capture the habitat requirements of numerous waterbirds. The bioenergetics approach cannot answer all questions impacting the management of migratory waterbirds across multiple life cycles. Numerous step-down plans will be developed to better manage a diversity of wetland habitats. Regarding the allocation of water to wetlands, see response to comment 634-3.

Comment# 701-55: Dabbling ducks, many shorebirds, waders, and some geese can use flooded fields successfully, because these fields act as ephemeral wetlands. They typically contain adequately nutritious seeds of good energetic content for herbivorous birds (dabblers and geese). If flooded long enough, insect and aquatic invertebrate populations can support shorebirds. However, [1] the main reason for this strategy is in the interest of supporting agriculture, not birds. Birds, including dabblers, find more than sufficient seeds and cover in native wetland vegetation. Regardless of whether birds forage in these flooded fields, they still prefer open water for roosting and safety. Also, it would appear that food is not limited in the way that Dugger et al. (2008) assert. Despite being difficult to prove any case of food limitation outside of clear starvation (Hagy and Kaminski 2015), [2] reasons for declines in duck populations can readily be attributed to other considerations including changes in water quality at Tule Lake and Lower Klamath Lake; and direct correlations with water shortage along with temporal sequencing of winter crops in California (Gilmer et al. 2004).

Response: Flood/fallow rotations in agricultural fields are not unique to Tule Lake and Lower Klamath NWRs. This technique has been a staple in wetland management programs across the nation for several decades and provides wetland managers with a valuable succession rotation tool that is otherwise expensive and labor intensive. Unique to Tule Lake and Lower Klamath NWRs is the use of this tool to integrate wetland management with a congressionally mandated agricultural program in a manner that best meets a diversity of waterbird needs across multiple life cycle events. Flood/fallow rotations ("walking wetlands") incorporate a flood regime into an otherwise agriculturally dominated landscape. Wetland hydroperiods can vary but most commonly are conducted on a 2-year rotation where year 1 promotes annual wetland vegetation by conducting a mid-growing season drawdown to stimulate plant germination (annuals and some perennials). Additional benefits of this drawdown are exposing mudflats for local and migrant shorebirds and wading birds. Annual plants are made available through flooding in the fall for migratory waterfowl, and then the impoundment is held for the next year, where it goes through a mid-succession wetland plant community and provides pair-bonding habitat (waterfowl), nesting habitat (waterfowl, grebes, colonial waterbirds, blackbirds, wrens, etc.), and molting habitat (waterfowl). The year 2 wetlands lack an abundance of seed resources but are rich in invertebrates and the tubers of perennial plants. Agricultural producers have discovered the benefits of this flood/fallow treatment in gaining organic status for their crops, which opens new markets and benefits the local economy while adding important waterbird habitat that would otherwise not be available due to larger constraints compromising the Refuges' ability to flood wetland habitat. A flood/fallow rotation in agricultural fields does not contribute to poor water quality in the sumps; conversely, it provides valuable wetland cycling, which helps with water quality, temperatures, and sediment concerns.

Comment# 701-57: Management schemes that focus on agricultural foods from flooded agricultural fields plainly do not address the habitat needs of the full suite of wildlife species that utilize the Klamath wildlife refuge complex. The CCP/DEIS is largely silent as to the habitat needs and management provisions that are necessary or suggested to support these other important species of wildlife.

Response: Direct and indirect beneficial effects to multiple wildlife species, their habitat, and plant communities (vegetation) are expected from land management activities in the Preferred Alternatives. As

discussed in CCP/EIS Chapter 6, under each alternative, for Lower Klamath Refuge, the primary benefits are the management of delivered water to provide for the habitat needs of migrating and nesting waterfowl and other wildlife. The extent of these benefits varies with the volume and timing of water deliveries. Full water deliveries are a necessity to provide the amount of wetland and agricultural habitats needed to achieve the Kuchel Act mandate for “proper waterfowl management” (per Appendices M and N). Similar beneficial effects for multiple species at each refuge are described in Chapter 6.

Comment# 726-4: We are pleased that the management alternatives for both Lower Klamath and TuleLake NWR's are partially based on the 2008 Report "A Bioenergetic Approach to Conservation Planning for Waterfowl at Lower Klamath and TuleLake National Wildlife Refuges." The report reflects the principles of Strategic Habitat Conservation, and establishes a clear link between the North American Waterfowl Management Plan and management actions taken on behalf of waterfowl at Lower Klamath and TuleLake NWR's.

Response: Comment noted.

Comment# 743-0: [1]There is a disconnect between the references to the population objectives in Appendix F, the modeling in the study in Appendix N, description of Alternatives B and C in chapter 4, and the analysis of the effects of these alternatives in section 6.4 of the Draft CCP/EIS. [2] The latter does not appear to begin to describe the effects of providing the “required food resources” and implementing the conclusions of the 2008 Dugger study. For example, Model 6 of the study (Seasonal Wetland Emphasis) concludes that 8,721 acres of harvested grains in TLNWR would have to be converted to 7,845 acres of seasonal wetlands to meet the energy demands of the desired waterfowl populations with natural foods.9 Model 7 of the study (Minimum Agricultural Footprint) concludes that to meet the foraging habitat needs of each guild class with the minimum amount of agricultural habitat would require reducing agricultural acreage to 6,605 acres and converting the remaining 8,223 acres to seasonal wetlands. The remaining acres of agricultural lands would be partitioned to 1,200 acres of standing grains and 5,405 acres of alfalfa pasture.10 Model 8 of the study (Minimum Standing Grain) concludes that energy needs for target waterfowl populations could be met if standing grains were increased to 1,504 acres.11 [3] If the Service is truly proposing to use the bioenergetics model, it must describe exactly what that means.

Response: The TRUMET model represents a broad spectrum of alternatives. The model runs presented in the bioenergetics paper (Appendix N) are all different means of meeting the population objectives, and the Service will work closely with Reclamation on implementation. As described at the beginning of Appendix F, we have made the best estimate possible with the current tools available. Appendix F has been modified to indicate which model runs the objectives are based on. Flexibility and adaptability will be needed for various environmental and water conditions to support proper waterfowl management. Sections 4.2.3 and 4.4.3 have been revised to reflect that changes would be phased in as new leases are implemented.

Comment# 743-28: The reliance of the bioenergetics approach is more troubling when considering the interpretation of the Kuchel Act provided in Appendix M of the Draft CCP/EIS. According to the Service’s proposed definition of “proper waterfowl management,” which would govern the management of the lease lands based on the Service’s discretion, “proper waterfowl management” translates to “providing habitats sufficient to support waterfowl population objectives throughout the annual cycle . . . . A sufficient quantity and diversity of foraging resources should be provided that will meet the energy requirements and nutritional demands of all waterfowl species. Where feasible, natural foods should be given priority over agricultural crops.”12 This definition integrates the findings of the Dugger study. [1] This seemingly can be read to mean the Service is proposing to distort the language of section 4 of the

Kuchel Act mandating agriculture on the lease lands to serve as the basis for eliminating the major portion of the agricultural acreage in TLNWR, and it definitely would ignore the TID contract. This is legally unsound. [2] The Draft CCP/EIS must be modified to remove the references to the bioenergetics approach and Appendix N as a standard for managing TLNWR. [3] The Kuchel Act mandates that agriculture continue on the lease lands, which cannot be accomplished under the recommendations and conclusions in the Dugger study.

Response: See response to comment 846-2.

Comment# 743-42: The draft compatibility determination stipulation 1 refers generally to providing food resources to support population objectives and states that required food resources will be estimated based on bioenergetics modeling similar to Dugger et al. As discussed elsewhere, TID believes the specific population objectives and use of bioenergetics model are not justified, or authorized or appropriate.

Response: Comment noted.

Comment# 778-2: Where the Kuchel Act has bearing, manage the refuges to ensure there is sufficient habitat and forage to meet scientifically-determined population objectives for waterfowl. The modeling effort sponsored by the Service establishes population objectives that are consistent with the North American Waterfowl Plan and Intermountain West Joint Venture and provides an objective basis for evaluating the adequacy of habitat and forage on the refuges, both of which are essential in determining whether agricultural activities on the refuge "are consistent with proper waterfowl management." Indeed, it appears that some refuges are not meeting habitat and forage requirements necessary to sustain some avian guilds. The CCP should give clear priority to identifying and implementing the steps to be taken to improve enhance and restore refuge habitats and activities in order to satisfy population, habitat and forage objectives for waterfowl and other wetland-dependent species, such as shorebirds (see below).

Response: Population and habitat objectives are provided in Appendix F.

Comment# 778-3: Develop and implement scientifically determined population objectives for shorebirds. Similar to the modeling work on waterfowl, the Service should sponsor development of population, habitat, and prey objectives for shorebirds and other wetland dependent species. The Klamath refuges figure prominently in meeting conservation requirements for many shorebird species, and their requirements should be considered in exploring management alternatives for the refuge and in evaluating the compatibility of agriculture and other activities on refuge lands.

Response: Population objectives for shorebirds are included in Appendix F. Local energetics modeling has not been done for shorebird species as it has been for waterfowl; however, shorebird species benefit from wetland management on the Refuge. The Refuge considers shorebird life-cycle requirements when developing annual management plans.

Comment# 793-44: Upon reviewing the CCP, we were surprised to see that the Bioenergetics Report included as Appendix N provided such a foundation for management measures for Klamath Refuges. The eight-year old and unpublished Report seems to create bias in its assumption that food availability is limiting populations of waterfowl in Klamath Refuges. The Report focuses narrowly on a subset of waterfowl species that are more apt to use foods found in agricultural fields while ignoring the needs of waterfowl species that rely upon wetland habitats. Upon further investigation, another report (Gilmore, 2004) within the reference list in Appendix B seems to contradict this focus and instead highlights water availability as the top management concern for migratory waterfowl managers.16 We urge you to address

this issue in the final CCP to remedy any bias that favors the continuation of commercial agricultural operations and irrigation practices that may harm fish and wildlife on the Refuges.

Response: The need for water is addressed in the CCP/EIS. Objective 1.1 for Lower Klamath and Tule Lake Refuges is to secure sufficient water to meet habitat and population objectives. The bioenergetics model emphasizes the importance of a variety of wetland habitats to meet population objectives.

Comment# 846-11: The Kuchel Act, however, was passed in 1964 and states that "[i]t is…the policy of the Congress…to preserve intact the necessary existing habitat for migratory waterfowl in this vital area of the Pacific Flyway, and to prevent depredations of migratory waterfowl on agricultural crops in the Pacific Coast States."108 The Bioenergetics Report and the Draft CCP/EIS fail to articulate how the population targets, which are utilized to develop habitat objectives, reflect "necessary existing habitat for migratory waterfowl" at the time that the Kuchel Act was authorized by Congress in 1964. While we appreciate that the Service is attempting to develop population objectives consistent with the NAWMP to ensure that management of the Refuge Complex fits into the current management strategies for the Pacific flyway as a whole, that is only one objective. Congress also instructed the Service to focus on preservation of the habitat existing as of 1964 and necessary for migratory waterfowl. If the Draft CCP/EIS is going to rely on population surveys to establish habitat objectives, the population targets should be based upon autumn staging waterfowl numbers more in-line with the 1950s and early 1960s when waterfowl populations that used the refuges were much more robust (and that coincide with the passage of the 1964 Kuchel Act).109 During this time period, autumn staging waterfowl numbers were much higher at both Lower Klamath and Tule Lake NWRs (Fig. 3 below). Gilmore et al. (2004) states "the long-term decline in waterfowl use at Tule Lake NWR indicates that declining habitat quantity of wetlands," which provides further indication that the Service should use population counts from earlier in time to implement Kuchel Act direction to preserve existing habitat at the time the Act was passed. Using these population counts as a management objective would also provide better resiliency in the event of unforeseen impacts to waterfowl populations especially as increasing temperature and drying trends in the Klamath Basin are expected to continue in the coming decades.

Response: Regarding the basis for population objectives in the Bioenergetics Report (Appendix N), we disagree and believe the information in Appendices M (Chapter VI and VII) and N (Chapter 2) provides adequate support for the objectives. The population objectives for Lower Klamath and Tule Lake are based on objectives from the Intermountain West Joint Venture (IWJV) 2013 Implementation Plan. As with the other 21 habitat joint ventures in North America, IWJV population objectives for waterfowl are stepped down from the North American Waterfowl Management Plan. We believe it is inappropriate to develop population objectives in line with the 1950s and early 1960s, since wetlands within the Intermountain West have been physically and hydrologically altered and cropping patterns have changed significantly since this time. The Service defined "proper waterfowl management" in contemporary terms.

Comment# 846-13: The Bioenergetics Report is fundamentally flawed because it operates from the highly questionable assumption that "food is the resource limiting population performance" in the Lower Klamath and Tule Lake Refuges.113 As a general matter, food availability may potentially limit waterfowl abundance under certain conditions in certain places, but the data that is available for these particular wildlife refuges do not support the hypothesis that food is the limiting factor in the Klamath Refuge Complex. Dugger et al. have not articulated how this hypothesis is supported by existing data or prior, peer reviewed scientific studies relating to the Refuge Complex. Moreover, Dugger et al was prepared approximately eight years ago and since that time water deliveries and waterfowl populations have been heavily impacted by recent drought conditions that are likely to persist into the future. The Draft CCP/EIS failed to disclose and discuss more recent water delivery and waterfowl population data in

the possession of the Service that directly contradicts this assumption in the Bioenergetics Report.

Response: We disagree with the commenter's assertion that the Bioenergetics Report is fundamentally flawed. Conservation planning for migrating and wintering waterfowl is based on the fundamental premise that food is the resource limiting population performance. Please see response to comment 846-11. The variability in water deliveries is addressed in the CCP in Sections 4.2, 4.4, 5.2, 5.4, 6.2, and 6.4.

Comment# 846-14: Pursuant to the Kuchel Act, management of the Refuge Complex must be "consistent with proper waterfowl management."125 It is unlawful – contrary to the requirement of proper waterfowl management – for the Service to arbitrarily exclude species of diving ducks from the analysis when those species are the very ones that depend more heavily on wetland habitats and open water for their diets. In doing so, the Bioenergetics Report and the Draft CCP/EIS are again biased towards species of waterfowl that are able to utilize agricultural fields for their diets, which again masks the inability of the Klamath Refuge Complex to meet the purposes for which these lands were set aside. And by taking this approach, the Bioenergetics Report undercuts the policy objectives of the Kuchel Act, which is to "preserve intact the necessary existing habitat for migratory waterfowl * * *."126 The statute does not allow for the Service to focus primarily on those species of waterfowl that are more able to utilize agricultural foods to the detriment of diving ducks, which rely upon food found in deeper open water and diverse wetland habitats.

Response: Please see response to comment 846-11 regarding the population objectives and focus of the Bioenergetics Report. Diving ducks were not excluded. The Bioenergetics Report summarized survey data by partitioning waterfowl species into five guilds based on foraging method and diet (dabbling ducks, diving ducks, geese, swans, and coots) and calculated the 10-year mean population estimate for each guild. The survey data were used to establish guild-specific population objectives. The objectives for five breeding duck species reflect those species that have historically been the highest in abundance nesting species; the absence of other species does not reflect a lack of focus on other species.

Comment# 846-64: The bioenergetics report included two models for TLNWR: Model #6 (Seasonal Wetland Emphasis) and Model #7 (Minimum Agricultural Footprint) that estimate how effective increased seasonal wetlands on the refuge would be in supporting target waterfowl populations. For Model #6 the authors estimated that the refuge could meet all population objectives if 8,471 acres of harvested grains were converted to 7,845 acres of seasonal wetlands and only 626 acres of standing grain. For Model #7 refuge foraging habitat objectives could be met for all waterfowl guilds if agricultural acreage were reduced to 6,605 acres and the remaining 8,223 acres was converted to seasonal wetlands. It is unclear why neither of these models (or just 1) was used to develop a proposed alternative for TLNWR (as the "big pond" scenario was for LKNWR). While we do not believe that any alternative is adequate if it focuses solely on food availability as analyzed by the Bioenergetics Report, this information at least suggests that Models #6 and 7 meet one component of "proper waterfowl management" and warrant a closer look to see how reallocating water to restoring wetlands could benefit all waterfowl in all life stages and all other wildlife that use the Klamath Refuge Complex as habitat. By law, an EIS must include a full range of "reasonable alternatives."226 These alternatives at least offer a more balanced way of meeting needs of non-game waterbirds (through creation/restoration of substantial wetland habitat) in addition to meeting waterfowl forage needs as defined by the constraints of the model, not to mention greater ability to repair chronic water quality issues, store ground water, and reduce pesticides and herbicides from entering the system.

Response: See response to comment 846-65.

Comment# 846-9: The problems with the Services' interpretation of the legal authorities that apply to the Klamath Refuge Complex are reflected in and exacerbated by the Bioenergetics Report (Appendix N), which provides the foundation for the proposed management measures in the Draft CCP/EIS. As discussed in more detail below, the Bioenergetics Report is now more than eight years old, operates under the flawed assumption that food availability is limiting populations of waterfowl in Klamath Refuges, and focuses narrowly on a subset of waterfowl species that are more able to use foods found in agricultural fields while ignoring the needs of waterfowl species that rely upon wetland habitats. As a result, this unpublished report, which has not been subject to peer review, does not reflect current data and does not reflect binding management direction in the NWSRA and Kuchel Act. The Service, therefore, may not lawfully rely upon the Bioenergetics Report as a basis for population or habitat objectives for migrating waterfowl.

Response: We disagree and believe that Bioenergetics Report is an appropriate source for Refuge habitat objectives. Conservation planning for migrating and wintering waterfowl is based on the fundamental premise that food is the resource limiting population performance. In North America, population-based habitat conservation planning for both migrating and wintering waterfowl is conducted by habitat Joint Ventures. Most JVs use some form of bioenergetics modeling to estimate habitat needs to support waterfowl population objectives (Petrie et al 2011)

Comment# 846-93: This analysis clearly demonstrates that water delivery to Lower Klamath NWR is strongly correlated with waterfowl populations. The Draft CCP/EIS does not discuss any of this recent data in relying upon the assumptions and recommendations of the Bioenergetics Report.

Response: See responses to comments 846-2, 846-11, and 846-9.

Comment# 846-94: The Bioenergetics Report is further flawed because even in looking at the food supply for waterfowl, the report excludes diving ducks, including ruddy ducks, scaup, and buffleheads. These three species of diving ducks represent over half of the diving ducks that use Lower Klamath and Tule Lake refuges.121 Moreover, the Bioenergetics Report assumes that all of the diving ducks that it does consider feed on the same type of food as swans (i.e., they satisfy 100% of their energy needs by foraging on the tubers of submerged aquatic vegetation).

Response: See response to comment 701-23.

Comment# 846-95: The current alternatives in the Draft CCP/EIS rely heavily on current management practices with the exception of utilizing the Bioenergetics Report140 as a basis for alternatives that do not address the fundamental problems relating to lack of adequate water deliveries for the Refuge Complex. Under current management practices and those posited in the CCP alternatives, wildlife protection and management suffers as water allocation is prioritized for refuge leased agriculture – a blatant infringement in the use of a national wildlife refuge that is clearly not compatible with the intended purpose. Since 2010 the situation has become even more alarming as water deliveries to Lower Klamath NWR have been reduced to a trickle,141 well below the 114 thousand acre feet of water that the Service projects is needed to sustain breeding and migratory wildlife on the refuge. As a result, waterbird use at Lower Klamath NWR has plummeted; catastrophic avian disease outbreaks at Tule Lake and Lower Klamath NWRs are on the rise; and Upper Klamath, Lower Klamath, and Tule Lake NWRs regularly fail to meet state water quality standards as water is cumulatively tainted by agricultural runoff, irrigation return flows, pesticides, and herbicides.

Response: The Service disagrees with the comment. We believe we have developed and analyzed a range

of alternatives that reflects habitat scenarios under a range of water deliveries. The challenges of water supply are described in Sections 3.3 and 4.1 in the CCP/EIS.

Comment# 906-10: In addition to including inadequate data on historic use of the Refuge Complex by breeding and molting waterfowl, Appendix F also fails to set specific population or habitat objectives for these unique life stages. Again, there are no population objectives at all for breeding and molting waterfowl or any other water birds in Appendix F or the Draft CCP/EIS. And while Appendix F states generally that refuge managers will "seek to provide a complex of habitats sufficient to support the population objectives of migrating, breeding and molting waterfowl,"352 the explicit goals for managing the Lower Klamath and Tule Lake NWRs only include providing wetland habitat for "migratory waterfowl."353 There are no explicit population or habitat targets tied specifically to managing for breeding and molting waterfowl. Without identifying population objectives for these unique life stages, habitat requirements for these unique life stages, and habitat management and water allocation strategies that will be implemented to achieve these objectives and requirements, the Service cannot demonstrate the CCP will meet the purposes for which the NWRs were set aside by the Federal government, nor can the Service demonstrate that it has complied with its mandate to achieve "proper waterfowl management."

Response: See response to comment 701-31.

Comment# 906-14: As discussed above, the Service is require to manage the Klamath Refuge Complex for all wildlife and may not focus exclusively on waterfowl. By relying principally upon the Bioenergetics Report as the basis for its management direction, the Draft CCP/EIS unlawfully neglect the needs of non-game waterbirds and failed to provide any information as to whether the proposed management regime provides adequate habitat to sustain those species within the Refuge complex. Over 50 water birds species use the Klamath Refuge Complex.371 Unlike many dabbling ducks and geese, many of these waterbird species, including grebes, herons, egrets, rails, shorebirds, gulls, and terns, are largely dependent on wetlands for their food, nesting, and shelter. Some of these waterbird species like the Yellow Rail are species of conservation concern and would benefit from improved wetland habitat. Yet, these species have largely been ignored in the Draft CCP/EIS.

Response: See responses to comments 701-31 and 701-30.

Comment# 906-15: Management targets for non-game waterbird species for the Lower Klamath and Tule Lake NWRs are found in Appendix F, Table 5, of the CCP. These targets are said to be "based on abundance estimates * * * conducted by Shuford et al (2006)."378 Table 5, however, only provides population objectives for seven species of birds and yet approximately 50 species of water birds rely on the Klamath Refuge Complex for habitat. There is no discussion at all as to why the Draft CCP/EIS have chosen these seven species as "focal species" or whether that decision is supported by the habitat requirements of these 50 species.

Response: The Service agrees; use of focal species can be misleading and implicate that diversity of species and their habitat requirements are not being addressed in the evaluation of alternatives. However, the Service also recognizes that an in-depth evaluation of every waterbird species would likely not change the proposed management strategies; using these species represents the habitat requirements of a broad range of waterbirds. The species selected were intended to represent the range of waterbird foraging guilds found in the Klamath Basin to ensure that habitat conditions were being evaluated across foraging guilds.

Comment# 906-16: any numbers used as management targets should be understood not to be actual total numbers, but rather conservative minimum numbers scaled to the detection abilities under prevailing survey methodologies. Despite the limitations in the data reported by Shuford et al. (2006) (which Draft CCP/EIS fail to acknowledge), most targets specified in Table 5 of Appendix F are even lower. Table 1 below demonstrates the problem. Table 1. Comparison of CCP population target for seven non-game waterbird species versus the species numbers detected in Shuford et al. (2006). . The Draft CCP/EIS does not explain why the Service proposes to manage for lower populations than those documented by Shuford et al. Moreover, there are no population targets for non-game waterbird species established at the other three refuges. Why not? Upper Klamath and Clear Lake NWR, in particular, support important migratory breeding shorebird and colonial nesting birds. These population targets need to be set.

Response: The targets are based on the best available information, and they will be revisited when we prepare the Habitat Management Plans. Objectives are not typically set for every species that occurs on a refuge; rather, we identify focal species that we believe will reflect the needs of other species.

Comment# 906-44: The agency has not thus identified or addressed the undisclosed and baseline data discussed above. This data is essential to an informed decision-making process, and therefore must be addressed in the CCP/EIS document. In particular, we note that the Bioenergetics Report does not include population objectives for several species of diving ducks, including Ruddy Ducks, Bufflehad, and scaup, which make up more than 50% of the total population of diving ducks in the Klamath Refuge Complex.465 Dugger et al. assert that they "lacked information on the foods consumed by this birds."466 The Service must address this missing information pursuant to the requirements of NEPA's regulations.

Response: The comment is unclear; the bioenergetics model was based on population objectives outlined in the NAWMP and survey data generated from aerial surveys. Regarding "lacked information on the foods consumed by these birds," this related to availability and energetics of their forage, as these resources are not produced through management actions, are unevenly distributed in the environment, and the energetic capacity of these resources is less understood than annual wetland plants and agricultural crops.

Comment# 906-46: The agency crafts management plans for waterfowl population targets based upon population data from the 1970s and 1990s.469 This data cannot support the agency's conclusions that food is the limiting resource for current populations of waterfowl.470 The Service must include current population data in its analysis.

Response: Waterfowl population objectives were determined by population objectives for the Pacific Flyway as established in the NAWMP. The service recognizes that these objectives may need further refinement to better match predicted conditions that could occur over the life of the CCP but believe a Habitat Management Plan is the better venue for this effort.

Comment# 906-58: Allocation of water to native wetlands for diversification of wetland type and preservation of water depth is essential in supporting historic diversity of wildlife species in the basin. Management schemes that focus on agricultural foods from flooded agricultural fields plainly do not address the habitat needs of the full suite of wildlife species that utilize the Klamath wildlife refuge complex. The CCP/DEIS is largely silent as to the habitat needs and management provisions that are necessary or suggested to support these other important species of wildlife.

Response: The Service disagrees with this comment. Lower Klamath NWR and Tule Lake NWR provide complementary wetland habitats when the required water is available to manage a range of wetland

hydroperiods. The value of agricultural fields on Tule Lake NWR is twofold. Agricultural forage provides essential energetic resources during critical migratory periods. Importantly, the flood/fallow rotation integrates the natural processes of wetland cycling into the management mosaic and provides a diversity of wetland types, succession stages, and energetic value that provides resources to a broad group of waterbirds.

Comment# 906-9: While it is well-known that breeding and molting waterfowl have unique habitat and nutritional requirements, the Draft CCP/EIS fails to establish adequate population or habitat targets for breeding or molting waterfowl across the Klamath Refuge Complex. In setting habitat goals, Appendix F only addresses historic average numbers of breeding pairs for five duck species for only the Lower Klamath and Tule Lake NWRs. The remainder of the waterfowl that utilize the complex and the other units of the complex are ignored. Moreover, the Service admits that it "does not conduct aerial surveys during the late summer molting period" and therefore does not have any data it can use to set population targets for molting ducks.350 In 2003, the one year that the Service did conduct a survey during the molting period it estimated as many as 185,000 mallards were present on the Lower Klamath and Tule Lake NWRs and another 85,000 gadwall.

Response: The Service believes that habitat is not limiting to breeding and molting waterfowl; rather, the limiting factor to nesting waterfowl populations is water. The mentioned average breeding duck numbers reflect those species that have historically been the highest in abundance; the absence of other species does not reflect a lack of focus on other species. The Service does fly surveys for nesting waterfowl. Currently, both the California Department Fish and Wildlife and the Oregon Department of Fish and Wildlife fly spring pair surveys. The Service does fly molting surveys; however, molting surveys do not contribute to flyway information needs and provide limited information that could be applied to refuge management.

O. <u>Water Levels to Support Waterfowl Population Objectives</u>
Letter ID # 846-3, 846-35

Public Concern Statement: One commenter asks the Service to clarify how the reported acre-feet of water necessary to support habitat was determined, while another notes that average past delivery has been well below desired water levels and that data regarding water level impacts to avian productivity have not been provided.

Comment# 846-3: The Service has stated that it requires 114,000 acre-feet of water in order to "fully support wetland and agricultural habitats" including the lease lands on Lower Klamath NWR.84 The Draft CCP/EIS does not explain how the Service arrived that this estimate or how it was determined. We cannot assess whether this volume of water is adequate to support the complex diversity of wetland habitat necessary to support the broad spectrum of wildlife species utilizing Lower Klamath NWR without this information. As the Service notes, "[t]he availability of water is the key to providing agriculture and wetland waterfowl habitats. The Service can best meet the needs of all the guilds with reliable and full delivery."85 However, the Service's definition of "proper waterfowl management" lacks any reference to a minimum quantity of water needed to support the wetland habitat necessary for waterfowl population objectives at all life stages.

Response: Regarding the amount of water needed to support habitat objectives, Appendix F does include this information for Lower Klamath (see Objective 1.1, Rationale). Figure 4.2 in the CCP/EIS shows the water needs by month (full demand). For Lower Klamath Refuge, the monthly demand was calculated for

each habitat type, based on the area of habitat and the estimated use of the habitat type (see Table 4.1 in the CCP/EIS). The habitat acreage used to estimate demand was the objective acreages listed in Appendix F. Habitat totals were then summed to calculate the total refuge demand for each month (see Figure 4.2 in CCP/EIS).

Comment# 846-35: In order for the Lower Klamath NWR to support fully functional wetlands the Service concludes that 95,000 acre-feet of water are required annually (not including Area K).186 Total water deliveries to Lower Klamath Refuge have not exceeded 70 thousand acre-feet (TAF) since 2006, and in fact, have been well below that number in recent years. Since 2010, the average delivery to Lower Klamath Refuge has been approximately 35 TAF (not including 2015).187 Since then, waterfowl usage has suffered.188 The impact to waterfowl nest productivity as well as non-game waterbirds (numbers as well as nest survivorship) during this time frame at Lower Klamath Refuge is unknown or not officially reported. If this information exists we request that Service make it available so it can be used to evaluate the functionality of the Refuge. Regardless, it is clear that all of the alternatives for this refuge need to include an allocation of at least 114 TAF of water annually so that the Service can effectively manage the wetlands on this refuge and meet its mandate to prioritize wildlife conservation.

Response: The Service believes the water allocation scenarios described in Chapter 4 are the appropriate "bookends" for the CCP/EIS. Please see Table 5.12 in the CCP/EIS for the estimated production of ducks, coots, and geese on Lower Klamath Refuge between 2008 and 2014.

P. Habitat Objectives
Letter ID # 701-46, 701-48, 846-15, 906-17

Public Concern Statement: Respondents state that the CCP/EIS should describe how habitat objectives were crafted, provide clear habitat objectives for non-game waterbirds, and describe how these habitat objectives will be achieved. It is also requested that the CCP/EIS explain any inconsistencies between the habitat objectives set forth in Appendix F and those set forth in the 1994 Habitat Management Plan for the Lower Klamath NWR.

Comment# 701-46: Ducks, geese, and coots (collectively referred to as "waterfowl") are managed differently from other waterbirds in part because they are game birds, meaning they can be legally hunted. Waterfowl have played an important part in the history of wetland conservation (Stewart, 2014), but this grouping has neither phylogenetic nor ecological (functional) consistency and reflects an antiquated way of grouping, valuing, and conserving biological resources.

Response: The Refuge disagrees with the comment. Implementing and evaluating habitat management programs for waterbirds by foraging guilds and life cycle requirements provides the most robust perspective on the benefits and deficiencies of an action. The refuge does not manage for "waterfowl;" rather, for wetland habitats that benefit migratory waterbirds.

Comment# 701-48: To expand on the idea that "waterfowl" is a problematic phylogenetic and ecological grouping, consider that the American Coot is a rail (Family Rallidae) and that ducks and geese come from sister clades (families Anatidae and Anseridae, respectively) that belong to the same Order (Anseriformes). Thus the coots don't really belong from a phylogenetic perspective. More importantly from a management perspective are the ecological distinctions between diving ducks (particularly piscivorous ones, like mergansers), dabblers, and geese.

• Diving ducks (including goldeneye, scaup, Bufflehead, Ruddy Duck, mergansers, canvasbacks, and more) are primarily carnivorous birds feeding either on aquatic invertebrates (e.g. Ruddy Duck) or fish (mergansers) and always needing sufficient open water that is persistent, deep, and clean enough to support aquatic invertebrates and fish.

• Dabblers (including all other ducks, but notably Mallard, teal, gadwall, Northern Pintail, Northern Shoveler, widgeon) are primarily herbivorous (seed eating, mostly), augmenting this diet with macroinvertebrates (midges, etc.) in the breeding season. They can use a variety of shallow water habitats and use open water as a secure resting habitat, but will forage in flooded agricultural fields.

• Geese including the many kinds of Canada goose, snow goose, and White--fronted goose (and swans), prefer to eat either emergent green vegetation (sea grasses in the case of many Brandt) or roots and tubers in muddy or semi--dry wetland and grasslands. The ability to exploit farm fields with grains or tubers has been a great boon to goose populations.

• American coot is a versatile and gregarious rail (Rallidae) that prefers to eat emergent green vegetation in wetlands. A good swimmer, it can dive to forage, and will rest and roost on open water.

Response: See response to comment 701-23.

Comment# 846-15: In Appendix F of the Draft CCP/EIS, the Service sets forth "Goals, Objectives and Strategies" for each individual wildlife refuge.127 Appendix F starts by setting forth population objectives based on the IJMWJV, stating that the numbers in Appendix F are "consistent with objectives of the NAWMP as well as planning efforts within the Intermountain West and the Pacific Flyway."128 And then the Service states that "population objectives for "breeding waterfowl (Tables 3 and 4) parallel objectives for migratory waterfowl in that the decade of 1970s are used to establish continental and flyway population objectives."129 Appendix F does not provide an adequate basis or explanation of either the population objectives or the corresponding habitat objectives. First, as discussed above, Congress enacted the Kuchel Act in the mid-1960s to preserve "necessary existing habitat for migratory waterfowl."130 Therefore, it is arbitrary for the Service to utilize waterfowl population data from any other period of time to set habitat objectives. Second, as discussed above, there is no explanation for why Appendix F sets population targets for breeding waterfowl for only five species. Third, the Service may not rely on the Bioenergetics Report to set habitat objectives where lack of water is limiting waterfowl populations. To address the root cause of habitat degradation, the Draft CCP/EIS must determine how much water is necessary to support wetland habitat that will be required to sustain populations of migrating waterfowl, and the CCP/EIS must then establish specific water allocation requirements to ensure that the necessary quantity of water is delivered to the Refuges to meet their purposes. Appendix F must set specific water delivery objectives for each Refuge to ensure that whatever habitat objectives are developed can actually be achieved. How did the Service determine the quantity of water that is needed each year for Lower Klamath Refuge to meet its habitat objectives? Why did the Service not establish water quantity requirements for the other refuges? Fourth, Appendix F is silent as to how the Service determined the habitat requirements for breeding waterfowl. It does not appear from Appendix F that any method apart from the Bioenergetics Report was used to calculate habitat objectives, and yet the Bioenergetics Report by its own admission does not address the unique habitat needs of breeding waterfowl. How did the Service settle on habitat objectives for breeding waterfowl? Fifth, the CCP/EIS must explain any inconsistencies between the habitat objectives set forth in Appendix F and those set forth in the 1994 Habitat Management Plan for the Lower Klamath National Wildlife Refuge. In particular, the 1994 HMP concludes that seasonally flooded uplands are "crucial to meeting refuge goals pertaining to spring migrant waterfowl" and that these areas provide habitat "for migrating waterfowl, shorebirds, and sandhill cranes as well as breeding habitat for certain waterfowl, shorebirds, passerine

birds, pronghorn antelope [][, and mule deer * * *."131 Why does the Draft CCP/EIS neglect to include habitat objectives for seasonally flooded uplands?

Response: Regarding the basis for population and habitat objectives in Appendix F, we disagree and believe the information in Appendix F and supporting information in Appendices M (Chapter VI and VII) and N (Chapter 2) provide adequate support for the objectives. The population objectives for Lower Klamath and Tule Lake are based on objectives from the IWJV 2013 Implementation Plan. As with the other 21 habitat joint ventures in North America, IWJV population objectives for waterfowl are stepped down from the North American Waterfowl Management Plan. The objectives for five breeding duck species reflect those species that have historically been the highest in abundance nesting species; the absence of other species does not reflect a lack of focus on other species.

Regarding the appropriateness of using the Bioenergetics Report to set habitat objectives, we disagree with the comment. We believe it is inappropriate to develop population objectives in line with the 1950s and early 1960s, since wetlands within the Intermountain West have been physically and hydrologically altered and cropping patterns have changed significantly since this time. The Service defined "proper waterfowl management" in contemporary terms.

Regarding the appropriateness of using the Bioenergetics Report to set habitat objectives, we disagree with the comment. In North America, population-based habitat conservation planning for both migrating and wintering waterfowl is conducted by habitat joint ventures. Most joint ventures use some form of bioenergetics modeling to estimate habitat needs to support waterfowl population objectives (Petrie et al. 2011).

Regarding the amount of water needed to support habitat objectives, Appendix F does include this information for Lower Klamath (see Objective 1.1, Rationale). Figure 4.2 in the CCP/EIS shows the water needs by month (full demand). For Lower Klamath Refuge, the monthly demand was calculated for each habitat type, based on the area of habitat and the estimated use of the habitat type (see Table 4.1 in the CCP/EIS). The habitat acreage used to estimate demand was the objective acreages listed in Appendix F. Habitat totals were then summed to calculate the total refuge demand for each month (see Figure 4.2 in CCP/EIS). Water quantity requirements for other refuges were not calculated for a variety of reasons. For Clear Lake and Upper Klamath Refuges, the Service lacks management control over water levels in the reservoirs, which are managed by Reclamation. In addition, neither of these Refuges nor Bear Valley has actively managed wetlands or agricultural croplands that require the application of water. Tule Lake Refuge relies on flow from the Lost River and agricultural return flow. Additionally, water levels for the sumps were established in the 2013 BiOp for the Lost River and short nosed sucker. There are no established quantities determined for the sumps. As described in Appendix F (Section: "Waterfowl Population Objectives for Lower Klamath and Tule Lake"), habitat objectives for seasonal and permanent wetlands at Lower Klamath and Tule Lake are expected to provide sufficient habitat to achieve breeding waterfowl objectives. This assumption will be evaluated further when habitat management and inventory and monitoring plans for the refuges are developed in the future. Regarding the lack of an objective for seasonally flooded uplands in Appendix F, the Service now uses the term "wet meadows" to refer to these habitats (see Objective 1.10 in Appendix F).

Comment# 906-17: Appendix F states that "[h]abitats to achieve species objectives are estimated based on habitats present during the above mentioned surveys."379 It is unclear precisely what habitat objectives are being set for non-game waterbirds or how those are derived. And, moreover, Draft CCP/EIS are not at all clear on whether any of the alternatives are actually able to achieve these vague and unclear habitat objectives in order to provide for the needs of nongame waterbirds.

Response: There are no specific objectives for non-game waterbirds. The habitat objectives are designed to support all of the guilds and are not specific to any one guild. These objectives will be revisited when the Habitat Management Plans are prepared in the future.

Q. Livestock Impacts

Letter ID # 56-115, 56-125, 56-53, 56-66, 56-86, 56-90, 56-91, 653-10, 653-11, 653-15, 653-3, 663-15, 663-4

Public Concern Statement: Three entities express concern that the CCP/EIS does not sufficiently disclose Proposed Action (namely grazing and juniper removal) impacts to wildlife species and their habitat, including disclosure of which species may benefit from grazing and how, and whether grazing is a compatible use. Comments note that the draft CCP/EIS and accompanying documents lack information concerning impacts of livestock grazing on the two listed suckers, the Devil's Garden/Clear Lake greater sage-grouse population, pinyon jay California listed threatened bank swallow, and rare native plants documented and reported as occurring on Clear Lake NWR (see more below in Section 10).

Comment# 56-115: The grazing scheme will promote increased predation of breeding and nesting migratory birds and other wildlife on the refuge.

Response: The timing of grazing prescriptions reduces adverse effects to migratory birds and other wildlife. The implementation of monitoring and adaptive management and restriction measures will be used to meet nesting migratory bird breeding and nesting goals and objectives. Grazing (and other habitat management activities) would be implemented to achieve the habitat objectives described in Appendix F (to enhance migratory bird and other wildlife habitat).

Comment# 56-125: NOTE that in the case of the FWS Klamath Grazing proposal, there are Alternatives to opening up areas for frogs with cows – such as careful and strategic small-scale mowing – and not wholesale cattle impact imposition. Plus, there have been no studies at all of the degree to which predation may be increased, adverse modification of habitat occur, disease/parasite /pollution stress concerns increase, and other adverse factors arise.

Response: Comment noted. Mowing with brush/deck mower and cutting with a sickle bar mower (to reduce invasive and undesirable vegetation and limit the seed bank) can be done safely on relatively flat ground. However, mowing is not typically used on rocky or uneven terrain because it may result in the metal equipment striking rocks, sparking and igniting wildfires. More information is provided in responses to comments 56-18 and 56-30.

Comment# 56-53: The elusive yellow rail is very rare across its range, including in the Klamath. See http://www.fws.gov/FieldNotes/regmap.cfm?arskey=26444. This population is highly significant. How will it give predators an upper hand/advantage? How will this set back, delay and retard yellow rail conservation and recovery?

Response: The link provided in the comment refers to the Klamath Marsh Refuge, which is not part of this CCP/EIS. A separate CCP process was completed for Klamath Marsh Refuge in 2010. It is not known whether the yellow rail may occur on the Refuges. As with all wildlife, although there may be short-term, temporary disturbance to a small number of individual animals due to Refuge operations and programs, the Service anticipates that implementation of the CCP will have long-term beneficial effects to wildlife populations. The BMPs and our PUP program will be used during implementation of the CCP to

minimize adverse effects to wildlife resources. Importantly, though, yellow rails are a species that needs multiple succession stages within their breeding territories to successfully hatch and fledge young. In the absence of natural disturbance regimes (fire, flood, ice movement) grazing and haying help maintain emergent plant communities in various stages of succession.

Comment# 56-66: Timing: Grazing would be permitted between June 1st and November 30th. The early date is necessary to open areas of dense, decadent vegetation where little or no nesting occurs. Where, how, and when were these sites surveyed for all nesting species? Which species may nest and/or re-nest at this time, and/or have eggs, young or small chicks present? Most grazing will take place in late summer or fall after nesting season. Most waterfowl and other ground nesting bird species have completed nesting activities by mid-July. Permittees typically have 10 – 12 weeks of grazing on the refuge. The time- frame can extend longer depending on weather and other factors. THIS demonstrates that any grazing that has taken place prior to mid-July may be harmful to bird species. Such use must be ended under the new Plan.

Response: See response to comment 56-63. Surveys for nesting species are described in Chapter 4 (Alternatives) of the CCP/EIS and Appendix F (Goals, Objectives, and Strategies).

Comment# 56-86: Use of prescriptive grazing would enable Refuge Managers to provide some level of vegetative treatment, rejuvenating decadent stands of vegetation, while still leaving sufficient residual dead/decadent vegetation to provide nesting cover for yellow rails in the following year. Adverse impacts to mesic and potential upland vegetation types and habitats for species of concern that will be adversely impacted by this grazing are not assessed. It is impossible for the refuge to make this claim, as it has not taken a hard and science-based look at the serious adverse effects of this use, or how use will be sufficiently regulated and controlled. This will represent habitat loss, degradation, fragmentation for the yellow rail and numerous other species.

Response: Please see the Compatibility Determination for grazing at Upper Klamath Refuge. See also response to comment 56-2.

Comment# 56-90: Cumulative and indirect/secondary effects: Grazing is a very common practice used in the grassland and sedge communities throughout the upper Klamath Basin. However, the Refuge's prescriptive grazing program is unique in that it is specifically designed to maximize benefits and minimize impacts to wildlife. How so???? NOTE that this plan is NOT applicable to the lands targeted for grazing, And in fact, there is no Final Plan.

Response: See response to comment 56-63.

Comment# 56-91: The following also does not appear to be true: Refuge administrative activities, such as water management, construction, and maintenance are minimal during grazing seasons and therefore any cumulative impacts are expected to be minimal. No major indirect or secondary wildlife or habitat effects are anticipated. AS described throughout WLD comments and Lit cd, this is clearly not the case. However, potential minor indirect/secondary effects of the programs include: temporary loss of forage and cover for some wildlife species; potential introduction of invasive plant species (seeds) from permittees equipment or livestock; potential for fuel, diesel, or other contaminant spills; and the potential to create an economic dependency of permittees on Refuge resources. HOW has FWS determined what is major and what is minor?

Response: We are unable to locate the referenced text in any of the grazing Compatibility Determinations. In the CCP/EIS, the Service used descriptions of thresholds of impact to help readers

understand how the analyst interpreted data, scientific literature, and other information to provide an approximate assessment of the severity of an impact. These thresholds are communication tools to show comparisons and help the Service and the public speak of impacts in the same way, rather than absolute definitions of the degree of impact. The descriptions of each threshold are in Sections 6.1.1 through 6.1.5 of the draft CCP/EIS.

Comment# 653-10: There are also colonies of the California listed threatened bank swallow, Riparia riparia on the Refuge (CNDDB, 2016; occurrences 119, 124). Bank swallows nest in burrows in banks. The banks and burrows they nest in are sensitive to trampling and erosion by cattle.

Response: Cattle do not access the steep, semi-vertical banks used by the bank swallow. Therefore, no adverse affects to bank swallow habitat from cattle are anticipated.

Comment# 653-11: Clear Lake National Wildlife Refuge is habitat for pinyon jay, Gymnorhinus cyanocephalus. CCP/EIS at 5-96. The CCP/EIS includes no analysis of the effects of the current and proposed juniper treatments on this rare species.

Response: Pinyon jay is found in pinyon-juniper woodland, sagebrush, scrub oak, and chaparral communities, and sometimes in pine forests (Cornell Lab of Ornithology). Although juniper removal is one of a variety of techniques used on the Refuge to improve habitat on the Refuge for sage grouse and other native species, juniper habitat is not a limiting factor for pinyon jays in the greater Clear Lake area. Analysis of effects to fish and wildlife in general from current and proposed habitat management at Clear Lake Refuge is provided in CCP/EIS Section 6.3.6.

Comment# 653-15: The Draft Compatibility Determination ("Compatibility Determination") fails to provide a compelling justification for why livestock grazing is a compatible use of Clear National Wildlife Refuge and the draft Compatibility Determination fails to consider negative impacts to listed and at-risk species. It also shows clear evidence of politic bias with many of the citations being solely attributed to "Merrill-Davis" – a well-known apologist and spokesperson for the livestock industry. The Refuge Improvement Act of 1997 requires the Service to develop a CCP for each refuge by 2012 and to manage refuges in a way that ensures the long-term conservation of fish, wildlife, plants, and their habitats and provides for compatible wildlife-dependent recreation. CCP/EIS 1-1. One of the specific purposes the Service is preparing this CCP for is to "Evaluate existing and proposed uses of each refuge to ensure that they are compatible with the purposes of the refuge as well as the maintenance of biological integrity, diversity, and environmental health." Draft CCP/EIS at 1-3. Therefore, the Service must clearly and conclusively demonstrate that the current and proposed grazing program ensures the needs of wildlife and plants. Moreover, policy requires that the Service base compatibility determinations on a refuge-specific analysis of reasonably anticipated impacts. 603 FW 2.11E. Service policy also recognizes that, "the take of even one individual of a threatened or endangered species could significantly impact the refuge's ability to manage for and perpetuate that species." 603 FW 2.11B2. Unfortunately the draft CCP/EIS and accompanying documents lack information concerning impacts of livestock grazing on the two listed suckers, the highly imperiled Devil's Garden/Clear Lake greater sage-grouse population, and rare native plants documented and reported as occurring on Clear Lake NWR. Until this is rectified it cannot be said that Service has demonstrated a commitment to ensuring that the needs of wildlife and plants come before other uses. There are California Natural Diversity Database ("CNDDB") records for Columbia yellow cress, Rorippa columbiae - California RPR 1B.2, Playa phacelia, Phacelia inundata - California RPR 1B.3, and Newberry's cinquefoil, Potentilla newberryi - California RPR 2B.3 on the refuge. These plants are susceptible to grazing related impacts including browsing, trampling, changes in local hydrology, and invasive species such as medusahead and cheatgrass that are spread by livestock.

Where are the protections for these species? Are we going to be offered even more sage-grouse killing fences? Animals listed in the CNDDB include burrow nesting birds such as the state-listed bank swallow, Riparia riparia. How is livestock grazing compatible with their protection?

Response: In the early 1990s, we determined we had the only active lek in the Devil's Garden area. In 2005, there were five male sage-grouse. With translocations and juniper removal from the Refuge, the number of males on the Refuge has increased to 33 in the spring of 2016. Regarding livestock grazing compatibility, see response to comment 663-5. Impacts to the project from the proposed alternatives are outlined in Chapter 6 and Appendix F. Regarding invasive species, see response to comment 56-2. See response to comment 653-4 concerning impacts to the Lost River and shortnose sucker species.

Comment# 653-3: The EIS avers that current management consists of "intensively managed cattle grazing, herbicide application, combination cattle grazing/herbicide treatments, and juniper removal to promote sage-steppe habitat". However, the EIS does not provide a coherent disclosure of the current grazing situation. It provides almost no information on the livestock grazing on Refuge lands that is being authorized by Modoc National Forest and does not disclose the effects that that grazing is having on important Refuge resources including endangered suckers and greater sage-grouse. It does not clearly disclose when and how the current grazing on the Clear Lake "U" was authorized and what the public involvement process was for that authorization. The EIS fails to disclose how much Lost River and shortnose sucker critical habitat is being grazed on the refuge. Nor does the grazing compatibility determination include any assessment of impacts to these species or their critical habitats. The CCP does not disclose important and relevant range developments such as the amount of fencing, developed waters, and other grazing infrastructure that impacts sage-grouse and other species. This all needs to be disclosed in the revised draft CCP and EIS so that the public can make informed input into what appears to be a very murky process.

Response: Current and proposed grazing use and range improvements are detailed in Chapter 5 and the Compatibility Determinations in Appendix G. See response to comment 653-4 concerning impacts to the Lost River and shortnose sucker species.

Comment# 663-15: In the CD, you note that the decision whether or not to allow grazing on the allotment must be based exclusively on wildlife and habitat needs. In general grazing has profound negative effects on a variety of wildlife and habitat. Grazing in marshes and wetlands has negative consequences for water quality, native wildlife species, and has the potential to promote invasive species. The CD itself notes a variety of negative consequences of the grazing: Negative impacts from grazing activities may include:

- short-term disturbance to and displacement of wildlife;

- temporary disturbance to soils or plants;

- temporary loss of forage and cover for some wildlife species;

- loss of residual decadent or dead nesting cover/material for some species;

- potential introduction of invasive plant species (seeds) from cattle/manure;

- potential for fuel, diesel, or other spills if using pumps, motor vehicles or ATVs;

- potential for misinterpretation of agricultural uses on Refuge lands;

- grazing may make landscape less aesthetically appealing to some visitors.

- phosphorus loading of sub-soils via cattle manure CD at 4-5.

The CD refers to the potential to improve wildlife habitat by prescriptive grazing, but only vaguely addresses which species would stand to benefit, or how. Is grazing vegetation down so that some species may forage compatible with leaving vegetation intact for nesting and security cover for many other species, including Yellow Rail?

Response: See response to comment 663-16.

Comment# 663-4: The Service also contends that grazing can be used to improve habitat and benefit species. However, the EIS notes that at best grazing could provide "some beneficial effects" to some species while at the same time harming other species. The compatibility determinations do not define which species stand to benefit from private agricultural uses, and which would suffer. For example, do Yellow rail and sandhill crane, which need deep, dense grass benefit from removal of cover? Throughout the EIS, the Service also acknowledges that any claimed benefits from grazing can be accomplished through other means, including prescribed burning.

Response: The potential effects of grazing are provided in CCP/EIS Chapter 6, Environmental Consequences.

R. Vegetation

Letter ID # 56-104, 56-117, 56-124, 56-45, 56-56, 56-59, 56-64, 56-68, 56-72, 56-79, 56-83, 701-42, 701-43, 701-44, 793-46

Public Concern Statement: Commenters provide a range of comments related to vegetation management for the Refuges, including the

- need for baseline data showing current vegetation inventories and mapping,
- justification for removal of decadent vegetation,
- support for the need to graze sedge meadows to mimic natural processes and limit woody vegetation encroachment, as well as an evaluation of other strategies to accomplish these actions, and
- a full review and analysis of the ecological literature describing adverse effects, particularly to justify that management strategies contribute to the overall health of these vegetative communities, limit or reduce the spread of invasive species, and reduce the speed of succession.

Comment# 56-104: The encroachment of these areas by willows, invasive plants, or pines, will degrade their value and eventually they may be completely lost. WON'T alternative measures such as changes in the water table, mowing, etc achieve all of this?

Response: The Service uses a variety of habitat management tools. The uneven terrain on Upper Klamath Refuge generally precludes the use of mowing to set back vegetation. See also response to comment 56-125.

Comment# 56-117: As far as agricultural uses, using ungrazed acreages of the Refuge for potential native seed harvest and propagation for restoration actions, and to conserve waters for ag. by keeping cattle from drying out and desertifying Refuge lands and using and polluting scarce water is an important concern. Preventing cattle-caused weed infestations (and subsequent herbicide use and drift) that will spread to non-Refuge ag. lands is also essential.

Response: The Service believes there are sufficient safeguards in place to minimize the spread of invasive plant species from cattle grazing. See also response to comment 56-2 about preventing the introduction of invasive plants and weed infestations.

Comment# 56-124: Imposing cattle herds will increase non-native vegetation like reed canarygrass, thistles, white top, and other weeds, promote spread of diseases, make sites drier, and promote conditions that favor predators (including potentially bullfrogs?).

Response: See response to comment 56-2 about preventing the introduction of invasive plants and weed infestations.

Comment# 56-45: The vegetation species and vegetation characteristics of the affected lands (whatever these areas may precisely be – no map is even provided) are described in the most nebulous of terms: Primary plant species found in areas hayed and grazed include grasses (Agropyron spp., Agrostis spp., Poa palustris, Poa pratensis, Hordeum spp.), sedges (Carex nebrascensis, Carex rostrata, Elocharis acicularis, Juncus balticus), and a mix of forbs. What vegetation studies, ecological inventories, botanical inventories, current plant mapping, weed inventories, etc. have been conducted? Please provide these, assess their findings, and determine what additional baseline surveys and studies need to be conducted. What native insects, including rare species may be affected? What rare plants? Where, when, how were studies/surveys conducted? Please provide them to the public on-line for informed comment on this proposal. What land and ecological health assessments have been conducted?

Response: See responses to comments 56-22 (CCP/EIS maps of recently grazed areas), 56-21 (CCP/EIS tables of invasive weeds), and 56-4. Plant lists for the Refuges are provided in Appendix H of the CCP/EIS.

Comment# 56-56: The Refuge wants to get rid of “decadent” vegetation. How does the Refuge define, describe and quantify “decadent” vegetation? What may appear decadent to a rancher’s eyes is critical cover to many biologists eyes. This term is often used to vilify old and mature native vegetation that provides critical habitat for many important, sensitive, rare and imperiled species. Once vilified, ranchers and the bureaucracy that often serves them to the detriment of natural resources, then justifies intensive grazing to get rid of the “bad” decadent vegetation. What is the scientific basis for claiming this as a need for this grazing? What is the experiment, and how is it designed? Isn’t the time frame much too short to draw any conclusions? Where are reference areas/controls? How has the refuge determined these are valid, and similar? Where are the systematic, multi-year baseline studies on these sites?What is the basis for any “Pilot” project? What is the experiment? How is it designed? What science is it based on?

Response: As used in the CCP/EIS, “decadent” describes vegetation that is marked by decay or decline with reduced wildlife habitat values (for diversity, foraging, nesting, etc.). This word has been added to the CCP/EIS Appendix A, Glossary. See also response to comment 56-34.

Comment# 56-59: What level of use is needed to remove the so-called “decadent” vegetation? Won’t this

vary dramatically within land areas and be dependent on a thorough understanding of vegetation that is present.? What collateral damage will this level of use cause to wildlife species other than "weedy" Canada geese that this appears to be aimed at? Won't cows preferentially eat many desirable native species, and bypass weeds?

Response: See response to comment 56-96. Also, the CCP/EIS and Compatibility Determinations (Appendix G) contain detailed descriptions of the proposed grazing program and the potential effects on refuge resources. Appendix F includes the habitat objectives we are striving to achieve through the grazing program.

Comment# 56-64: The emergent marsh goal is to restore and maintain optimum interspersion and diversity of aquatic vegetation and open water within the emergent marsh community to support migrating and nesting water birds. Sedge Meadows: The sedge meadow goal is to maintain and enhance the natural structure, diversity, and productivity of the seasonally flooded sedge meadows with an emphasis on providing nesting and foraging habitat for rails, waterfowl and sandhill cranes. The priority would be to use grazing to mimic natural processes, however, other tools, like prescribed fire may be utilized in the future. Burning may not be feasible due to logistical, air quality restrictions, funding, staff availability or climatic conditions. The Refuge will provide complexes of sedge meadow in conjunction with associated emergent marsh/open water habitats where possible. What are the "natural processes" in the Klamath region being mimicked here? Please provide scientific support and analysis. There are native deer, elk, and other herbivores, aren't there? Plus vegetation-consuming birds and small mammals – in fact, voles very effectively reduce/"mow off" cover at times.

Response: This comment was originally submitted in 2015 on an Interim Compatibility Determination for Grazing on the Upper Klamath NWR. The Interim Compatibility Determination is superseded by the Compatibility Determination included in Appendix G of the CCP/EIS.

Comment# 56-68: The Refuge States: These management strategies contribute to the overall health of these vegetative communities, can help limit or reduce the spread of invasive species, and reduce the speed of vegetational succession. PLEASE provide scientific references and analysis that support each and every one of the CDs claims about grazing effects, natural disturbance regimes, etc.. A broad range of current science contradicts this. As part of the new Plan, full review and analysis of ecological literature describing adverse effects of grazing must be conducted by USFWS.

Response: A referenced analysis of the grazing effects on the Lower Klamath, Clear Lake, and Upper Klamath Refuges is included in the Anticipated Impacts of the Use section in each of the respective Compatibility Determinations and in Chapter 6, Environmental Consequences, in the CCP/EIS.

Comment# 56-72: FWS also claims it will limit woody species encroachment into seasonal wetland habitats, and … create fire breaks for prescribed fire management activities, saving significant refuge staff time and funding. Just how will grazing save "time and money"? WHY is burning occurring in a manner the agency cannot control? How frequently do these areas naturally burn? How beat to death will soils, vegetation, etc. be to achieve this severe level of use? What are the cumulative effects of wildlife habitats and other elements of the environment suffering multiple stresses – both grazing and burning? And also haying potentially in some areas? What is the complete management activity footprint?

Response: For the fire frequency, see the "Historic Role of Fire" and the "Prescribed Fire and Fuel Treatment History" sub-sections in Chapter 5, Section 5.1.1. The activity area footprint on the Refuges is shown in draft CCP/EIS Figure 4.3 (Lower Klamath; see the map legend with grazing and/or haying

areas), Figure 5.11 (Clear Lake Grazing Area), and Figure 5.21 (Upper Klamath Grazing and Haying Activities).

Comment# 56-79: Using cows "to limit the encroachment of woody vegetation" makes no sense. In fact, opening up the sedge meadows by cattle trampling, serious soil displacement and hummocking, altering soils chemistry, etc. is highly likely to INCREASE rather than decrease "encroaching" woody vegetation. Just what species are encroaching? What wildlife may be using these species? Certainly a human crew with clippers or saws (depending on the size of the vegetation) for a day or 2 can do a lot more to limit encroaching vegetation than cows. Plus for species like OSF, won't willows or other woody vegetation aid in dam building and actual natural marsh/wetland restoration?

Response: Grazing may be used as a tool to limit encroachment of woody vegetation on Upper Klamath Refuge; however, the objective of grazing and other habitat management tools is to create a mosaic of varied wildlife habitat structure to optimize habitat value on the Refuge.

Comment# 56-83: FWS woefully ignores necessary detailed analysis of the how grazing severe enough to create "firebreaks" or to whatever unknown and unspecified level is necessary to prevent "decadence" of vegetation on hundreds of wildlife species.

Response: We disagree with the commenter's conclusion. See response to comment 56-79.

Comment# 701-42: Emergent wetlands are formed by successional vegetation growing at the edges of open water habitats and include sedges, rushes, in addition to taller bulrush and cattail clumps known as "tule". Emergent wetlands typically have considerable amounts of open water mixed with taller vegetation. Historically, wetlands that filled in with this kind of vegetation would burn periodically. Management of rangeland and refuge lands has largely limited this historical component of plant succession and nutrient cycling.

Response: The use of prescribed fire at Upper Klamath will be a management tool carried forward for consideration. However, because of the difficulty of managing prescribed burns over areas with peat soils, prescribed fire would rarely be used.

Comment# 701-43: Riparian vegetation can be found at the edges of open water habitat, and is typically made of up willows and cottonwood trees. These stands of woody vegetation at the edges of marshes are important for plunge--feeding birds like kingfishers, and for nesting birds such as cormorants, herons, and egrets. Riparian vegetation will grow in stream beds also, but the bird diversity associated with many cattle--trod incised streams is considerably less than those sites where brush and understory vegetation is integrated into the taller woody structure of the riparian plants (DeGaudio and Young 2011).

Response: Comment noted.

Comment# 701-44: One byproduct of environmental disturbance has been an increase in the amount of vegetation monocultures found on agricultural lands. For example, DeGuadio and Young (2011) found perennial pepperweed (*Lepidium latifolium*) monocultures abundant on reclaimed wetlands throughout NE California in recent surveys. Similarly, Dileanis et al. (1997) also found algal monocultures to be more common presently than in historical surveys of the Klamath Lakes region.

Response: Comment noted.

Comment# 793-46: Even though Service requires feeding livestock weed-free feed for 48 hours before letting them on refuges (see Appendix G), this does not prevent the spread of seeds through feces once the livestock are let loose in an area with invasive vegetation for more than a few hours.

Response: The Service considers the potentially adverse effects that grazing may have, such as introducing weeds, along with the potentially adverse effects of other means of reducing vegetation biomass in a specific unit, and the consequences of taking no action. In some areas, the Service has determined that the benefits to wildlife (waterfowl and other wetland-dependent species) of achieving habitat objectives through prescribed grazing outweigh the risk of introducing weeds.

10. Biological Resources – Sensitive Species

A. Sage-Grouse

Letter ID # 622-29, 622-30, 622-31, 653-6, 653-7, 663-5, 663-6, 663-7, 774-5, 846-50, 846-51, 846-102, 846-103, 846-104, 846-105

Public Concern Statement: Several individuals request that the CCP/EIS require monitoring, maintain perimeter Refuge fencing, and restore sage-grouse habitat at Clear Lake NWR. In particular, one commenter requests a population target for the greater sage-grouse and asks the Service to manage lands using mechanical methods, prescribed burns, and other more wildlife-friendly methods, rather than grazing and herbicides. Two commenters state that the CCP/EIS should provide baseline data for the sage-grouse population and provide analysis of juniper removal and grazing impacts on the species. It is stated that the Service also inappropriately relies on the Clear Lake Sage-grouse Working Group Plan as justification for grazing in and around sage-grouse habitat.

Comment# 622-29: Clear Lake NWR: 1. Monitoring. The Refuge should continue to monitor sage grouse and colonial nesting water birds on islands within the lake. Monitor all grazing activities to ensure it is meeting desired future condition for sage grouse and sage obligate species.

Response: Comment noted.

Comment# 622-30: Clear Lake NWR: Cooperation. The Refuge should continue to cooperate with adjacent landowners by maintaining perimeter refuge fencing and assist USFS and private landowners in restoring sage habitats to meet desired future condition for sage obligate species, with special emphasis on sage grouse.

Response: Comment noted.

Comment# 622-31: Clear Lake NWR: Aggressively pursue techniques to restore sage grouse habitat on the “U” toward desired future condition.

Response: Comment noted.

Comment# 653-6: Western Watersheds Project is extremely concerned that the CCP will not only fail

to protect the Clear Lake-Devil's Garden population of greater sage-grouse, but that the EIS has failed to consider the direct, indirect and cumulative negative effects of the CCP's proposed livestock grazing on this highly imperiled population. Although the population is monitored the DEIS fails to provide quantitative data on the population or population trends. In reality, the population is so small that loss of only one or two birds may constitute a serious setback to their recovery.

Response: The CCP/EIS (Section 5.3.2) has been revised to include a graph summarizing peak lek counts on the refuge from 1988–2015. It should be noted that the peak lek counts have been increasing over the past 10 years.

Comment# 653-7: The draft CCP/EIS does not present trend data on the sage-grouse population yet "[w]ithout establishing the baseline conditions . . . there is simply no way to determine what effect the [action] will have on the environment, and consequently, no way to comply with NEPA." Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988). Nor does the draft CCP require monitoring of the sage-grouse population in relation to the proposed livestock grazing. In fact, the CCP provides no end points for deciding when targeted grazing is deemed unsuccessful. Nesting habitat remains a limiting factor, and improvements in cover and species diversity are needed to extend the current nesting habitat for the Clear Lake population to allow for expansion of the local range of this grouse population. Bell (2011), in his study of sage- grouse nesting on the Clear Lake U, found that 11% (n = 7) of sage-grouse nests were under western juniper. Yet the DEIS includes no disclosure or analysis of the effects of the proposed juniper removal on sage-grouse nesting or nesting habitat. The Devil's Garden-Clear Lake sage-grouse population is at serious risk of extirpation due to its small size. However, loss of the Devil's Garden-Clear Lake sage-grouse population would result in a significant range contraction for the greater sage-grouse. The Service has a clear mandate to protect these imperiled birds on Clear lake National Wildlife Refuge and certainly not to increase risks of their endangerment. The Service has not met that mandate in the Draft CCP and it has not analyzed the effects of key CCP components such as livestock grazing and juniper treatments on this key sage-grouse population in the draft EIS.

Response: See response to comment 653-6. The sage-grouse population at Clear Lake Refuge has been stable or increasing; however, as identified in Clear Lake Objective 1.1 in Appendix F, we are pursuing management changes to improve habitat. Objective 1.1 articulates the desired future conditions for sagebrush habitat on the refuge. The limited presence of nesting habitat at the Clear Lake Refuge is primarily due to past burns, invasive annual grass species, and juniper encroachment, as described in Chapter 5 of the CCP/EIS. Most of the non-sagebrush habitat on Clear Lake Refuge is a result of recent wildfires. Given the extensive invasion of annual grasses and the limited density of native plant species in the area burned in the Clear Fire, potential strategies will require a combination of approaches. Chemical treatment of annual grasses may reduce the density of these species, but the layered thatch of medusahead may persist for several years and will maintain an elevated fire potential. Wildland fire suppression is important to prevent further degradation of this habitat. Conducted at the proper time, livestock grazing is useful in reducing fuels produced by early season annual grasses. Encroaching western juniper into the non-sagebrush habitat should be removed. Bell (2011) notes that the western juniper present in the study area were junipers interspersed within sagebrush, which is described in Horney (2008) as juniper encroachment that is negatively affecting greater sage-grouse habitat. Removing juniper encroachment is highly effective at functionally restoring sage-grouse landscapes (Baruch-Murdo et al. 2013; Davies et al. 2011). Baruch-Murdo et al. (2013) conducted modeling of lek activity as a function of western juniper presence, with the results showing that lek activity is reduced where small trees were dispersed, larger trees clustered, or canopy cover is over 4%, whether the areas had active encroachment or more established stands. Lek use by males is linked to female nest settlement (Bradbury et al. 1988). Clear Lake Refuge's goals, objectives, and strategies, including

monitoring, are described in Appendix F. The Service will develop Habitat Management and Inventory and Monitoring Plans that will address monitoring for grazing and other management in detail. Also of note is that one of the purposes of the Refuge from the Kuchel Act includes optimum agricultural use.

Comment# 663-5: Grazing on Clear Lake Refuge is not compatible with recovery of the Devil's Garden/Clear Lake sage-grouse population. The lek on the Clear Lake "U" is the sole remaining lek and population in the otherwise extirpated Klamath CA/OR population. It represents the most western extant Greater sage-grouse population and the furthest west occupied habitat, and is important to recovery of the species as a whole. As the Service has documented, sage-grouse use the U year-round—for lekking, nesting, brood-rearing, and overwintering. Telemetry data shows that sage-grouse use the U every month of the year. The only lek used by the population is on the U. Livestock are detrimental to sage-grouse in many ways. Livestock physically harm sage- grouse by flushing them from their nests, disturbing lekking activities, and trampling and depredating nests. Sage-grouse have higher levels of stress hormones in areas where livestock graze. Livestock grazing causes short and long-term vegetation changes that harm sage-grouse, including because livestock preferentially graze the large statured native bunchgrasses that sage- grouse rely on for nesting and brood rearing security cover. Sage-grouse require a minimum of 7-10 inches of grass for secure nesting. Shorter increaser grasses like Sandberg's bluegrass and invasive annual grasses replace taller grasses under livestock grazing pressure. Livestock also target sagebrush directly at certain times of the year, and trample and crush sagebrush seedlings, slowing recovery following fires.

The compatibility determinations also claim that grazing fills the ecological role of large, terrestrial grazing mammals. However, the sagebrush ecosystem evolved without heavy grazing and native plant species are highly sensitive to grazing disturbance. In any habitat type, herbivory by livestock where grazing by native species occurred is far more complex than the Service's suggestion that livestock simply replace other species (Painter, 1995).

Livestock infrastructure such as fencing fragments intact sage-grouse habitat and provides perches for predators that prey on sage-grouse and their nests. Fences also pose collision hazards to sage-grouse, and even marking fences does not entirely remove the threat to them from collisions. Fencing also provides predator travel routes and weeds become established and spread along fencelines. Sage-grouse avoid taller structures such as these, because they associate them with risk of predation. Livestock grazing and infrastructure subsidize corvids like ravens, which predate sage-grouse nests. Livestock troughs provide a breeding ground for mosquitos that carry and transmit West Nile virus to sage-grouse.

Livestock grazing destroys soil crusts, which form a barrier to species like cheatgrass and other invasive bromes, medusahead, and ventenata. These in turn increase fire risk, which removes sagebrush that sage-grouse rely on for food and cover.

Livestock also directly compete with sage-grouse for food resources, including forbs, which provide important nutrition for hens before they nest, and food for young sage-grouse during brood-rearing. Livestock grazing in not compatible with protecting and enhancing the struggling sage-grouse population at Clear Lake, and the compatibility determination is unsupportable due to its failure to consider the impact of grazing on the seasonal needs of sage- grouse, and its ultimate finding.

Response: The Service disagrees that livestock grazing is not compatible with greater sage-grouse population and habitat objectives. Managed livestock grazing can be used as a tool to maintain and enhance greater sage-grouse and its habitat (Boyd et al. 2014; Connelly et al. 2000; Davies et al. 2011; Derner et al. 2009; Frost and Launchbaugh 2003; Horney 2008; Miller and Eddleman 2000; Vallentine and Stevens 1992). See also responses to comments 653-7 and 774-5 and the Compatibility

Determination for grazing at Clear Lake Refuge in Appendix G. Livestock grazing would be implemented to achieve habitat objectives as outlined in Appendix F. See responses to comments 56-2 and 56-114 concerning grazing impacting soils and invasive species. The effects of fences are analyzed in Chapter 6 and the Compatibility Determination in Appendix G.

Comment# 663-6: The Service also inappropriately relies on the Clear Lake Sage-grouse working group plan as justification for grazing in and around sage-grouse habitat on the U. The working group plan is not peer-reviewed science. The Service does not cite its own sage-grouse warranted listing determination, or other peer-reviewed sage-grouse research.

Response: Livestock grazing is being proposed to meet the goal, objectives, and strategies as outlined in Appendix F and the Compatibility Determination in Appendix G using the implementation of monitoring and adaptive management and restriction measures. Objective 1.1 is specifically tailored to maintaining and improving sage-grouse habitat. This management approach is consistent with the October 2, 2015, Service finding that the greater sage-grouse is not warranted for listing under the ESA (*Federal Register* Vol. 80, No. 191, Friday, October 2, 2015, Proposed Rules).

Comment# 663-7: The Service's EIS is also inconsistent with NEPA because it fails to adequately consider the direct and indirect impacts of livestock grazing on the Clear Lake sage-grouse population, as described above. Further, it does not consider the cumulative impacts of livestock grazing and other activities on the neighboring Tucker and Carr allotments on the Modoc National Forest, including new livestock grazing infrastructure on the Forest, as well as impacts from large-scale juniper removal in the surrounding areas. This violates NEPA.

Response: We disagree. Section 6.3 in the CCP/EIS describes the effects of grazing as well as other management activities on the Clear Lake Refuge. See also response to comment 653-7 concerning juniper removal.

Comment# 774-5: The Clear Lake "U" should be managed for the greater sage grouse. Grazing should be permitted only if it benefits sage grouse habitat. There is no need for goose browse in this area.

Response: The Service will implement a more detailed site assessment prior to developing a detailed Habitat Management Plan (to evaluate treatment options including prescribed grazing). The site assessment will include 1) evaluating the site's resilience to disturbance and resistance to invasive annual grass, 2) assessing the most appropriate treatment, and 3) evaluating the need for seeding (Miller et al. 2014).

Comment# 846-102: Both Alternative A and B promote use of grazing and herbicides to manage shrub- steppe habitat on the refuge with the intention of improving habitat characteristics for Greater Sage Grouse (a species of great conservation concern). Multiple studies have identified livestock grazing as a key factor responsible for the degradation of sage grouse habitat across the western U.S.201 While some level of grazing can be used as a tool to manage habitat for sage grouse,202detrimental impacts of grazing to sage grouse can be particularly high during the nesting season (reproductive success)203 and can have long-lasting impacts for sagebrush habitat recovery.204 There is a paucity of information on the level of grazing that can be done without impacting nest and chick survival for sage-grouse populations.205 In addition, it is questionable that the use of grazing as a tool to minimize the spread of invasive grasses is effective over the long-term. Even though the Service requires feeding livestock weed-free feed for 48 hours before letting them on refuges (see Appendix G), this does not prevent the spread of seeds through feces once the livestock are let loose in an area

with invasive vegetation for more than a few hours.

Response: See responses to comments 653-6 and 663-5 regarding the use of prescribed grazing at Clear Lake Refuge. See response to comment 56-2 regarding prevention of introduction of invasive plants and weed infestation.

Comment# 846-103: The experimental study mentioned in the CCP206 that tested efficacy of grazing on reducing annual grasses should not be used to inform subsequent management because high-intensity grazing is not a viable option as such high-intensity grazing is reported to be one of the main factors in the dramatic decline of sage grouse207 and studies specifically indicate such grazing can negatively impact sage grouse habitat.208 In addition that study was small-scale, only conducted for one year, and apparently was not peer-reviewed.

Response: We disagree. We believe that high intensity/short duration grazing is a viable tool to manage invasive exotic grasses on wildfire-damaged sites. See also response to 653-16, specific to the timing, intensity, and duration of grazing.

Comment# 846-104: Under Alternative B cattle grazing would be employed on the 3,000 acres of the "U" area during the pre and early nesting season for birds (March 1 to mid-April).209 As mentioned, reproductive success for sage grouse could suffer significant impacts by grazing (see citations above) and other shrub-steppe bird species could be negatively impacted as well210 during this time frame as it could directly influence reproductive success or have latent impacts with reduced cover sustained after grazing is completed leaving nests more vulnerable to predation.

Response: Comment noted.

Comment# 846-105: Grazing recommendations seem to be the product of the Clear Lake Sage Grouse Working Group (Devils Garden/Clear Lake Population Management Unit), members of this group serve rancher clients (through grazing permits and advice) and any error in range management would likely result in too much, rather than too little grazing - adversely affecting sage grouse habitat.

Response: The Devil's Garden/Clear Lake Sage Grouse Working Group (DG/CL SGWG) primary partners consist of federal and state agencies whose primary missions and the objectives of the DG/CL SGWG are stated in the DG/CL SGWG. See response to comment 774-5.

Comment# 846-50: C. Clear Lake Refuge a population target for Greater Sage Grouse that use the refuge needs to be set based on the best available science.

Response: Comment noted.

Comment# 846-51: C. Clear Lake Refuge the Service, in the habitat management plan they propose to develop (under Alternative B) or with current management, should employ mechanical methods, prescribed burns, and other more wildlife-friendly methods rather than grazing and herbicides to manage habitat for sage grouse. As much as possible of the refuge "U" lands should be managed for sage grouse and other species requiring sagebrush steppe habitat.

Response: See response to comment 846-54.

B. <u>Oregon spotted frog</u>
Letter ID # 56-70, 56-81, 663-10, 663-16

Public Concern Statement: Two entities request that the CCP/EIS analyze proposed grazing impacts to the Oregon spotted frog species and critical habitat.

Comment# 56-70: The low spring vegetation structure produced from grazing may also enhance breeding sites for the state sensitive and federal candidate Oregon spotted frog (Rana pretiosa); It may also negatively impact OSF and their recovery. Elsewhere, the FWS claims it surveyed 5 years ago- but haven't the lands been free of grazing since then? Won't grazing adversely impact many frog habitat requirements, spread chytrid disease, etc..

Response: Specific periods of the Oregon spotted frog (courtship and oviposition) require sparse vegetation conditions that promote light penetration and warming of the water column to be successful. Historically, natural events, including fire, herbivory, and ice movement, would have promoted such spring conditions. In the current modified system, management options to achieve these conditions are limited by safety and regulatory restrictions; land managers must find creative solutions that promote a similar habitat response as historic process. Among other human activities, Oregon spotted frog habitat can be affected by "...vegetation changes resulting from the timing and intensity of livestock grazing (or in some instances, removal of livestock grazing at locations where it maintains early seral stage habitat essential for breeding)" (51658 *Federal Register* Vol. 79, No. 168, Friday, August 29, 2014). Due to the limited abundance and distribution of Oregon spotted frog, actions such as grazing should be approached cautiously. Watson et al. (2003) noted that overgrazing can result in unsuitable Oregon spotted frog habitat conditions by eliminating too much emergent vegetation. As a result, caution is needed when making definitive conclusions about cattle grazing as a management tool for Oregon spotted frogs (Hayes 1995; Wood River site, Marty 2005 in Hallock 2013). Management options for Oregon spotted frog habitat must consider the historic process that drove wetland productivity and value for the species, the modifications that have impacted the location, and the risks of implementation of a management program for the species. "During the [December 2013] meetings, the Service explained that grazing does not always result in a negative impact to critical habitat for the Oregon spotted frog. Rather, low intensity grazing could be used to maintain breeding habitat for spotted frogs by improving ground-level solar exposure and maintaining early seral emergent vegetation within wetlands" (29336 *Federal Register* Vol. 81, No. 91, Wednesday, May 11, 2016). [Watson, J. W., K. R. McAllister, and D. J. Pierce. 2003. Home ranges, movements, and habitat selection of Oregon Spotted Frogs (*Rana pretiosa*). *Journal of Herpetology* 37(2):292-300.] [Hayes, M.P. 1995. The Wood River Spotted Frog population. Report prepared for The Nature Conservancy, sponsored by the Bureau of Land Management, Oregon Department of Fish and Wildlife, PacifiCorp, Weyerhaeuser Company and the Winema National Forest. 18 pp. + appendices.] [Marty, J.T. 2005. Effects of cattle grazing on diversity in ephemeral wetlands. *Conservation Biology* 19(5):1626-1634.] [Hallock, Lisa. 2013. Draft State of Washington Oregon Spotted Frog Recovery Plan. Washington Department of Fish and Wildlife, Olympia. 93 +v pp.]

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Response: Watson et al. (2003) noted that overgrazing can result in unsuitable Oregon spotted frog habitat conditions by eliminating too much emergent vegetation. As a result, caution is needed when

making definitive conclusions about cattle grazing as a management tool for Oregon spotted frogs (Hayes 1995; Wood River site, Marty 2005 in Hallock 2013). Among other human activities, Oregon spotted frog habitat can be affected by "...vegetation changes resulting from the timing and intensity of livestock grazing (or in some instances, removal of livestock grazing at locations where it maintains early seral stage habitat essential for breeding)" (51658 *Federal Register*, Vol. 79, No. 168, Friday, August 29, 2014). "During the [December 2013] meetings, the Service explained that grazing does not always result in a negative impact to critical habitat for the Oregon spotted frog. Rather, low intensity grazing could be used to maintain breeding habitat for spotted frogs by improving ground-level solar exposure and maintaining early seral emergent vegetation within wetlands" (29336 *Federal Register* Vol. 81, No. 91, Wednesday, May 11, 2016).

Comment# 56-81: WLD has previously discussed the need for in depth analysis of OSF and other native amphibian impacts.

Response: Comment noted.

Comment# 663-10: Livestock also negatively impact Oregon spotted frog, which are likely present in the Upper Klamath Refuge on the Barnes-Agency tract, and which is designated critical habitat. Livestock crush frogs and their egg masses and pollute aquatic systems.

Response: Comment noted.

Comment# 663-16: The CD notes that the area proposed for grazing could be seasonally occupied by Oregon spotted frog. The CD repeatedly refers incorrectly to the status of the Oregon spotted frog. The refuge should know that the species was listed as threatened under the Endangered Species Act with critical habitat proposed. Given the potential that the prescribed grazing may affect the threatened Oregon spotted frog, the refuge must consult with the appropriate agency over the potential effects.

Response: We believe this comment was originally submitted on an Interim Compatibility Determination for Grazing on the Upper Klamath NWR. No such text was found in the draft Compatibility Determinations in Appendix G to the draft CCP/EIS. Compliance with the federal ESA is addressed in CCP/EIS Appendix S.

C. <u>Gray wolf</u>
Letter ID # 653-9

Public Concern Statement: One commenter states that the CCP/EIS should analyze Proposed Action impacts to the gray wolf, with particular focus on addressing conflicts between wolves and livestock and potential for take.

Comment# 653-9: The Draft CCP/EIs make no mention of the gray wolf, Canis lupus in relation to the Clear Lake NWR. The gray wolf is protected under both federal and state endangered species acts. After an eighty year absence from California, a gray wolf pack has been documented in the region and the founding male of this pack is known to have used the Clear Lake area. The State of California fully expects the state's wolf population to increase (CDFG, 201154). Gray wolves are key apex predators whose presence on the NWR will help restore the balanced ecosystem that is so important in maintaining biodiversity. Wolves, by limiting meso predators such as coyotes, can influence the survival of other species - for instance, pronghorn fawns appear to have higher survival where wolves have reduced coyote

numbers. Apex predators can also limit the spread of diseases, provide carrion for salvagers, and increase the "wildness" and alertness of prey species. Wolves perform and promote all these ecological services for free (Wuerthner, 201055). Livestock grazing has direct, indirect and cumulative effects on gray wolves. Gray wolves were hunted almost to extinction precisely because they are apex predators that on occasion will take livestock. Conflicts caused by authorizing grazing of private livestock with federally protected species such as wolves are bound to be very expensive and difficult to manage. A thorough analysis of the future conditions must be performed with respect to potential conflicts between wolves and livestock. Additional stress and possible killing under the umbrella of predator control must also be considered. Impacts that should be addressed include:

• Displacement of prey by cattle and sheep.
• Competition for prey forage by livestock.
• Reduced sub-apical tropic capacity. Cattle, unlike native ungulates, are removed from the area and so do not provide carcasses commensurate with their numbers.
• Restrictions on prey use of important habitats because of livestock grazing infrastructure such as fences.
54 CDFG. 2011. Gray Wolves in California: An Evaluation of Historical Information, Current Conditions, Potential Natural Recolonization and Management Implications. California Department of Fish and Game. December 2011. Available at:
http://www.dfg.ca.gov/wildlife/nongame/wolf/docs/Gray_Wolf_Report_2012.pdf 55 George Wuerthner. 2010. The West needs more, not fewer, wolves. Available online at:
http://missoulian.com/news/opinion/columnists/article_a708dabe-723b-11df-912a-001cc4c03286.html
• Disturbance at sensitive den and rendezvous sites.
• Risk of disease from contact with domestic dogs used in grazing operations.
• Risk of genetic pollution from contact with guard dogs used in grazing operations.
• Risks from coyote control measures including traps and bait.
• Vehicle strikes.
• Illegal hunting and trapping and killing. Please revise the CCP to deal with the expected wolf population. In addition, the CCP should specify that any livestock grazing authorizations will include terms that specify that because the project area is within the range of the gray wolf, livestock losses due to predation by wolves are part of the cost of doing business and must be tolerated by the permittee. The permits should also include specific terms to mitigate any genetic impacts such as the need of herders to use only sterilized guard dogs. Hebblewhite (2011) indicates that the potential loss of calves from wolves is negligible in comparison to other causes. However, without assurances in the permits, the Service cannot authorize livestock grazing in wolf habitat knowing that such authorization may result in the unauthorized take of gray wolf.

Response: A thorough analysis of future conditions with respect to potential conflicts between wolves and livestock is beyond the scope of the plan; however, all required analyses, including compliance with the ESA and NEPA, will be conducted to ensure continued conservation and protection of all listed species, including wolves.

D. Suckers

Letter ID # 431-7, 622-39, 653-12, 653-14, 653-2, 653-4, 688-1, 688-2, 688-3, 734-25, 735-5, 793-18, 793-19, 793-47

Public Concern Statement: Several respondents state that the CCP/EIS should address how the project will contribute to the survival and the recovery of endangered suckers and their spawning habitat, in particular by maintaining adequate spawning flows. Several of these comments recommend actions to prioritize deep-water management and increase riparian vegetation within the areas with sucker populations, or designating the entire Clear Lake NWR off limits to livestock to protect endangered

fish. It is also questioned whether levee breaching will improve water quality as well as larval and juvenile sucker habitats; respondents request additional analysis and scientific evidence.

Comment# 431-7: Insist on spawning habitat for endangered Lost River and Shortnose suckers in tributaries, and the main stem of the Lost River.Create fish passage on dams in the Lost River, right away.Update documents, biological opinions, and critical habitat to protect what is there. Base this on the species, not politics.

Response: The subject of this comment is beyond the scope of the CCP/EIS.

Comment# 622-39: Upper Klamath NWR: The Service states that breaching the levees would be consistent with actions in the most recent sucker recovery plan by improving water quality as well as larval and juvenile sucker habitats. Prior to conducting this essentially irreversible action, the Service should carefully consider the potential for success in meeting these objectives (water quality/sucker habitat). TNC has been conducting extensive sucker and water quality monitoring activities on the Williamson River Preserve (reconnected to UKL about 10+years ago). Has water quality in the lake improved? How are larval suckers using the property? Are these fish surviving beyond year one of life? Lessons learned at the Williamson River Preserve may be invaluable in the decision making process.

Response: See response to comment 622-40.

Comment# 653-12: The Clear Lake NWR CCP falls short of the mandates laid down by Congress in the National Wildlife Refuge System Improvement Act. The draft CCP does not even include a goal to protect the endangered Lost River and shortnose suckers and their critical habitats, despite most of the refuge being habitat for these species. This failure must be rectified.

Response: As addressed in Section 4.3.5 of the CCP/EIS, because the Service does not control the water levels in Clear Lake, there is no management action related to sucker populations for the Service to implement. Clear Lake water levels are presently regulated by Reclamation. Nevertheless, the Service does and will continue to protect and conserve all listed species in accordance with all relevant laws and within appropriate mandates.

Comment# 653-14: The CCP must ensure that all special status species benefit from and are not adversely affected by the proposed management actions and are substantial part of the refuge vision. Apparently, grazing is necessary because the Service has decided that it is. There is no clear justification. Indeed, the Service does not even analyze impacts of grazing on the endangered Lost River and shortnose suckers. These species that occur on the Refuge will be impacted by livestock grazing yet get no special management and do not even merit biological goals.

Response: Appendix F includes the habitat objectives we are striving to achieve through the grazing program (and other programs). See also response to comment 653-4 regarding potential effects of grazing on suckers at Clear Lake Refuge.

Comment# 653-2: the Service dismissed consideration of any alternative to enhance and sustain sucker populations. EIS at 4-54. It illegally claims that “There is therefore no management action related to sucker populations for the Service to implement.” But there are “no management action related to sucker populations for the Service to implement” purely because the Service ignored consideration of the effects of livestock grazing on the two endangered sucker species – despite clear evidence to the

contrary in the USFWS files and prior biological opinions.

Response: See response to comment 653-4 regarding the potential effects of cattle near Clear Lake. There is no clear evidence that suckers at Clear Lake are being adversely affected by grazing.

Comment# 653-4: Protecting watersheds is clearly important for the conservation and recovery of any endangered fish species. Most of the Clear Lake watershed within and outside the National Wildlife Refuge, including parts of the Clear Lake shore line, is grazed by cattle running on federal grazing allotments. Here the Service is proposing to continue to allow livestock to graze in critical habitat on National Wildlife Refuge lands around Clear Lake without consideration of any alternatives to this grazing. This is problematic since livestock grazing has direct, indirect and cumulative effects on riparian vegetation in reducing soil erosion, sediment loading, and maintaining water quality particularly in the context of a reservoir system such as Clear Lake where the water levels are not maintained. The Service recognizes that livestock grazing (at least in the upper Klamath River basin) may lead to an increase in sediment and nutrient loading rates by accelerating erosion, alters streamside riparian vegetation and compacts soil surfaces increasing groundwater runoff, lowers streambank stability, and reduces cover. 77 FR at 76343. The Service should overtly recognize that, unfortunately, extensive cattle grazing on the Clear Lake NWR results in similar effects... Because of these extensive and ongoing impacts that are undisclosed in the EIS the Service should have considered designating the entire Clear Lake National Wildlife Refuge off limits to livestock to protect these endangered fish.

Response: The Service agrees that protecting watersheds is important to the conservation and recovery of endangered fish species. We acknowledge that grazing can adversely affect aquatic environments. However, in this case, we have no empirical data that show that current grazing practices adversely affect the primary constituent elements of critical habitat for suckers in Clear Lake. Nevertheless, all appropriate evaluations under the ESA (Appendix S) and NEPA will be completed to ensure protection of all listed species.

Comment# 688-1: This comment addresses the failure of the draft Plan to discuss and consider the duty of the Refuge, specifically the Tule Lake Refuge, to modify its Lease Lands farming program's spring water deliveries to insure that the fecund two endangered sucker fish species have adequate spawning flows. These flows allow the fish to attempt to spawn and hatch larvae in their historic spawning grounds directly below the Anderson-Rose Dam (A-R Dam) on the Lost River. It is ironic that the United States Fish &Wildlife Service, (USF&WS), the designated protector of Endangered Species, is actually participating in conduct which is leading to the demise and possible extinction of two of the species that it actually listed as endangered in 1988.

Response: Water deliveries are managed by Reclamation in accordance with the 2013 BiOp.

Comment# 688-2: The only discussion found in the Draft Plan regarding Tule Lake endangered suckers is: [Discusses harms to UKL suckers] many other significant physical barriers persist throughout the range of these species, limiting the ability of populations including those in Tule Lake to reproduce or disperse. Draft CC Plan, 6-216-17. The plan concludes in its Cumulative Section: While changes to water delivery to support endangered suckers is predicted to improve reproduction and offset extinction of these populations, it has also further reduced water available for the refuges and is likely to result in fewer waterfowl and other wetland-dependent wildlife in the Klamath Basin. Id. at 6-217. However, there is no discussion of how the Tule Lake Refuge itself could contribute to the survival and the recovery of endangered suckers in Tule Lake. It further fails to discuss how it can stop sending water to the J Canal in the month of April and early May (a slight delay), and allow a portion of that water to remain in the Lost River to wet currently used sucker spawning grounds, and prevent

stranding and killing suckers that have made their journey to the last of their historic spawning grounds to try to perpetuate their species.

Response: See response to comment 688-1.

Comment# 688-3: As previously discussed, the Endangered Species Act creates a duty for federal land managers to preserve and assist in the recovery of all endangered species on their land. The current draft plan does not do that. It only reflects inconsequential modifications to Refuge Lease Lands without considering proper irrigation timing modifications that would prevent killing of resident endangered suckers in Tule Lake. The plan needs to address the spawning needs of endangered suckers existing on the Tule Lake Refuge, especially when the refuge itself is a partner in eliminating those in stream spawning flows to irrigate lands that it owns. Failure to Consider this Significant Factor Makes the Plan Legally Deficient As noted in the Draft Plan, NEPA significance can be many different kinds of actions, including those that can be cumulative. One of those is the degree to which an action may adversely impact an endangered or threatened species as listed under the Endangered Species Act of 1973. Here, an operation of the Refuge that is known to kill endangered suckers is of such significance. There is no known reason why the Refuge should not consider leaving its 30 percent of the water in the Lost River until at least five weeks after April 15th. This is especially true when the Refuge now knows that even when those flows have been restricted for seven years, that some primordial drive continues to move both endangered Lost River Suckers and shortnose Suckers to their ancestral breeding grounds. Or conversely, the Plan at least needs to acknowledge that such action of removing known spawning water from the Lost River, and to discuss the harm that it is doing to these endangered fish.

Response: The proposal in the comment would not meet our purpose and need. See Chapter 1 of the CCP/EIS.

Comment# 734-25: We agree with the findings of the CA North Coast Regional Water Board that Tule Lake management should prioritize deep water management within the areas with sucker populations as a way to both improved water quality and create more habitat for suckers. We also support the suggestion that adding to riparian vegetation could improve water quality and add that supporting riparian restoration could also add to the sucker population and habitat, both of which is sorely needed current due to the crisis in the populations. We are encouraged to hear that USFWS is dropping its plans to obtain a take permit for the Tule Lake sucker population. We suggest that the service goes further and work to restore habitat to support migration and recruitment. The fact is that the Lost River watershed used to support more sucker populations than anywhere else in Klamath basin. Giving up on this key watershed and counting on Klamath Lake to save this species is irresponsible and violates the intent of the Endangered Species Act. Restoring historic sucker habitat and deep water areas would have additional benefits to water quality. especially when coupled with treatment wetlands and land retirement of inconsistent crops. We support management that could help to obtain TMDL load requirements and benefit species within this refuge.

Response: The requests in the comment are beyond the scope of the CCP/EIS.

Comment# 735-5: Upper Klamath Refuge. Proposals to breach existing dikes to create more open water are ill-conceived. Until such time that scientific information regarding past dike breaching clearly shows the benefits gained no further breaching should be done. There is plenty of open water now.

Response: Comment noted.

Comment# 793-18: Sedimentation in wetland areas has eliminated 90 percent of the water depth in emergent wetlands as well as open water areas of Tule Lake. Radiotagging of adult suckers in Tule Lake show that during the summer, when dissolved oxygen levels are at their lowers, there remains a small section of Tule Lake, termed the "donut hole', that maintains dissolved oxygen levels higher than the levels elsewhere in the lake and may be crucial to maintaining the sucker population. "Because many endemic fish species in the Tule Lake Basin are adapted to the naturally eutrophic water quality conditions, relatively small improvements in water quality may greatly increase the suitability of aquatic environments to these species." (Integrated Land Management Plan, 2000). The difference in water quality in the 'donut hole' indicates the importance of deep water habitat in Tule Lake in supporting federally endangered sucker species. Deeper water stays cooler and slows algal growth, which is currently responsible for the large diurnal swings in dissolved oxygen and pH. Deep water also provides cover for fish. The CCP should support the creation of additional deep water habitat to help increase the areas of acceptable dissolved oxygen in Tule Lake so that more of the lake supports the warm water fishery.

Response: Comment noted.

Comment# 793-19: The Integrated Land Management on Tule Lake National Wildlife Refuge developed by a working group in 2000 explores different configurations of the seasonal and permanent wetlands, agricultural lands, and deep water habitat acreages. One of the primary management strategies guiding the analysis of these different management unit configurations is to reduce nutrient loading to the deep water habitat areas of Tule Lake in order to improve water quality for the fish species that use this habitat. The plan utilizes the natural filtration properties of these habitats to treat agricultural tailwater and improve water quality in Tule Lake and in refuge outflows. For example, the area of the deep water 'donut hole' in Tule Lake has been identified as an important habitat for endangered suckers species that reside in Tule Lake, and in the workgroup document serves as a starting location for restoring deep water habitats. The USFWS CCP should look at ways to route water through the different management units to reduce nutrient and organic matter loading to this area of the lake. Agricultural lands and wetlands can be a nutrient sink during the summer irrigation season. By routing agricultural return flows from the privatelands surrounding the refuge through these types of management units prior to discharge to the deep water habitat area, water quality for fish species should improve. Treating agricultural runoff has the added benefit of mitigating some of the nutrient loading from private lands and improving water quality as water enters the D plant, which pumps water to Lower Klamath Lake.

Response: Section 4.4.6 of the CCP/EIS describes why the integrated land management proposal was eliminated from detailed analysis. However, the walking wetlands/flood/fallow practice likely performs a similar function, improving water quality.

Comment# 793-47: Tule Lake and Lower Klamath Lake support several fish species and the Tule Lake fishery includes the federally endangered Lost River sucker and shortnose sucker. These sucker populations are thought to be imported from the surrounding irrigation canals and although fish do migrate to the base of Anderson Rose dam on the Lost River, little recruitment has been documented. Tule Lake is listed as supporting a warm water fishery and in order to meet Basin Plan water quality standard the lake needs to maintain water quality that supports this adult population of suckers. The Tule Lake sucker populations have also been given preference in the 2013 USFWS Sucker Recovery Plan as auxiliary populations that "may be used to maintain a stock of individuals to prevent extinction or loss of significant diversity, to produce individuals to augment existing wild populations, or to facilitate research." (USFWS, 2013).

Response: Comment noted.

E. Fish - General
Letter ID # 56-85, 663-9, 734-5, 748-59, 793-1, 906-51

Public Concern Statement: Respondents request that the CCP/EIS analyze Proposed Action impacts on anadromous fish, redband trout, bull trout, and endangered sucker species, as well as including several listed as threatened or endangered under the ESA, such as the green sturgeon, Coho salmon, and eulachon. In particular, one commenter states that the document should address the issues of salmon reintroduction and water quality and habitat needs of salmon as they are related to the Refuges and Refuge-related water quality discharges. It is also requested that the CCP/EIS provide data on water delivery for fish species and whether habitat degradation will favor exotic over native fish species.

Comment# 56-85: We note the presence of exotic fish species. Won't further degradation of water quality and aquatic species habitat attributes favor the exotics t the expense of the rare native fish biota.

Response: Invasive fish are discussed in CCP/EIS Chapter 5, Section 5.1.2, under the heading Invasive/Non-Native Wildlife Species. The effects of CCP actions on water quality, fish, and other resources are discussed in CCP/EIS Chapter 6.

Comment# 663-9: The compatibility determination does not address the impacts of grazing on anadromous fish, which are likely to return to the upper Klamath basin following the removal of Klamath River dams as early as 2020. The Service also does not address any impacts to redband trout, bull trout, and endangered sucker species. Livestock grazing is harmful to all of these species. Grazing reduces vegetation that shades water, which increases water temperature to the detriment of salmonids and other fish. Grazing also degrades water quality, and reduces the quantity of water through the land's loss of capacity to retain moisture.

Response: The area grazed is at a lower elevation than the lake, and cattle are not allowed direct access to the lake. There is no nutrient input directly into the lake due to grazing on the Refuge because fencing along the dike prevents cattle from directly accessing the lake and canals. Optimistically, anadromous fish may re-populate the lake in 2021, following the removal of the Klamath River dams. Grazing would have no effect on bull trout critical habitat; cattle on the Refuge have no access to the lake habitat itself. Restoration of Barnes-Agency Unit would be addressed in a step-down plan and NEPA document. See also response to comment 653-4 regarding potential effects of cattle to the aquatic environment.

Comment# 734-5: Finally we request additional analysis that addresses the issues of salmon reintroduction and the water quality and habitat needs of salmon as they are related to the refuges and refuge- related water quality discharges. Reintroduction of salmonids back into the Upper Klamath Basin is clearly an anticipated and foreseeable consequence of four-dam removal in accordance with the Klamath Hydropower Settlement Agreement (KHSA), which has recently been amended and continues to move forward toward four-dam removal in 2020.

Response: The requests in the comment are beyond the scope of the CCP/EIS.

Comment# 748-59: 6.7.3 listed fish species water delivered has averaged xx "Please ensure data is

appropriately provided. Also, suggest a graph be included for readability. .

Response: The text referenced in the comment was not found.

Comment# 793-1: In reviewing cumulative impacts for the refuges, an analysis of proposed and approved construction projects that will effect water quality and availability for Refuge use, and should be included in the final CCP/EIS. For example, the draft CCP/EIS contains no mention of the proposed Jordan Cove Liquefied Natural Gas Project, or the associated Pacific Connector Pipeline that, if approved, would cross Klamath Project facilities at several locations and be built within the next 15 years.

Additionally, the adoption on April 6, 2016 of the Klamath Hydroelectric Settlement Agreement (KHSA) puts the removal of four dams on the Klamath River on track for 2020. Once fish passage is opened by the removal of the dams, there exist distinct plans for the reintroduction of salmon into areas historically populated by the anadromous fish. Current impairment of water quality, partially stemming from agricultural operations on Lower Klamath and Tule Lake refuge, and ongoing cattle grazing on Upper Klamath Refuge must be reconciled before salmon can survive. Please include considerations and implementations to support the reintroduction of Klamath salmon into the Upper Basin.

Response: Although a final EIS for the Jordan Cove Liquifation Project (Coos County, OR) and Pacific Connector Pipeline Project (Coos, Klamath, Jackson, and Douglas Counties, OR) is available at http://energy.gov/nepa/downloads/eis-0489-final-environmental-impact-statement, this project was denied by the Federal Energy Regulatory Commission in March 2016. The effects of the Klamath Project operations on listed salmon are covered in the Joint BiOp on the Effects of Proposed Klamath Project Operations from May 31, 2013, through March 31, 2023, on five Federally Listed Threatened and Endangered Species. Also, see response to comment 734-35.

Comment# 906-51: the Klamath River provides essential habitat for a host of aquatic species, including several listed as threatened or endangered under the Endangered Species Act. These species include the Southern Distinct Population Segment of green sturgeon, the Southern Oregon/Northern California Coast ("SONCC") Coho salmon Evolutionarily Significant Unit ("ESU"), and the Southern DPS eulachon. Degraded water quality has the potential to adversely affect all three of these species. Thus, in addition to consulting under Section 7 on the impacts of the CCP on these species, the Service must also prepare a NEPA analysis of these same impacts, providing an up-front disclosure and "hard look" at these effects to inform the public of the possible consequences of agency action.

Response: Water deliveries to and water released from the Refuge are under the Klamath Project and are covered under the Biological Assessment and joint 2013 BiOp for the Klamath Project.

F. <u>MBTA</u>
Letter ID # 56-108, 906-53

Public Concern Statement: Comments state that the Service must obtain permits under the Migratory Bird Treaty Act (MBTA) that would authorize the take of protected migratory bird species, and that the CCP/EIS must demonstrate that the Service is complying with its legal obligations under the MBTA.

Comment# 56-108: This conflicts with the MBTA, as it will increase predation and "take" of many species of migratory birds; will alter, degrade and adversely modify nesting and other habitats for many

species of migratory birds; will potentially injure and/or kill migratory birds through rancher vehicle collisions, cattle trampling, cattle impacts increasing disturbance and vulnerability to predation and cowbird parasitism of migratory birds, etc. etc.

Response: Prior to implementing activities regulated by the MBTA, the Bald and Golden Eagle Protection Act, and other applicable laws, Refuges obtain the applicable permit. The habitat objectives are designed to enhance habitat for migratory birds and other species. Stipulations in the Grazing Compatibility Determinations avoid adverse effects to migratory birds and their habitat.

Comment# 906-53: The Service must obtain permits under the MBTA that would authorize the take of protected species of migratory birds, and the Draft CCP/EIS must demonstrate that the Service is complying with its legal obligations under the MBTA.

Response: Comment noted.

G. Section 7 Consultation
Letter ID # 56-55, 56-107, 906-54

Public Concern Statement: It is stated that the Service has an obligation to consult under Section 7 of the ESA with respect to the effects of the CCP/EIS on threatened and endangered species and to provide both the Biological Assessment and BiOp for public review during the planning process.

Comment# 56-107: The Refuge must conduct full and current ESA consultation for all potentially affected species whose habitat will be degraded, impaired, modified, destroyed, by cattle disturbance, pollution, runoff, linked herbicide use, harmful chemicals excreted by or used on cows, etc. – as well as the cumulative effects of this grazing on top of other disturbances, pollution, grazing impacts, etc. that occurs across the range of these species and the local and/or regional populations. Isn't virtually every acre of non-Refuge lands intensively grazed.

Response: The Service will complete section 7 ESA consulatation for the CCP/EIS.

Comment# 56-55: Full ESA consultation on the significance of adverse effects and habitat modification and infringement on conservation of viable populations must be conducted with the appropriate parties within FWS. We request that this take place with the Plan, and that it be reviewed by peers so there is no conflict within in Interior, and to reduce likelihood of caving into political pressures.

Response: The Service will complete section 7 ESA consulatation for the CCP/EIS

Comment# 906-54: the Service has an obligation to consult under Section 7 of the ESA with respect to the effects of the CCP on threatened and endangered species including, among other species, the short nose sucker, Lost River sucker, and Oregon spotted frog and associated critical habitat. With respect to the Oregon spotted frog, we are concerned that the Draft CCP/EIS states that this species has not been documented on the Upper Klamath Refuge.491 In designative critical habitat for the Oregon spotted frog on May 11, 2016, the Service designated Critical Habitat Unit 13 as the "Upper Klamath Lake" unit and concluded that "Oregon spotted frogs are known to currently occupy this unit (BLM, USFS, USGS, and USFWS multiple data sources).492 Moreover, as discussed elsewhere, agricultural runoff and irrigation return flows discharged through the Klamath Straits Drain harm water quality in the

Klamath River, which provides habitat for the Southern Distinct Population Segment ("DPS") green sturgeon, Southern Oregon/Northern California Coast ("SONCC") coho salmon Evolutionarily Significant Unit ("ESU"), and Southern DPS eulachon. We are disappointed that the Draft CCP/EIS did not include a draft or final version of the Biological Assessment that must be prepared by the action agency to trigger the consultation process required by Section 7. We look forward to reviewing the biological opinion to be issued by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service to ensure that management of the Klamath Refuge Complex and authorization of continued leaseland farming does not jeopardize any listed species or modify critical habitat.

Response: See response to comment 56-55.

H. Special Status Plants
Letter ID # 653-8

Public Concern Statement: One respondent notes that the Refuges support a range of special status plant species that could be impacted by livestock grazing.

Comment# 653-8: There are California Natural Diversity Database ("CNDDB") records for Columbia yellow cress, *Rorippa columbiae* - California RPR 1B.2, *Playa phacelia, Phacelia inundata* - California RPR 1B.3, and Newberry's cinquefoil, *Potentilla newberryi* - California RPR 2B.3 on the refuge. As noted in the CNDDB records and elsewhere, these plants are susceptible to livestock grazing related impacts including browsing, trampling, destruction of soil crusts, changes in local hydrology, and spread of invasive species such as medusahead and cheatgrass for which livestock act as vectors. Simply fencing these occurrences off does not ensure their conservation and increases risks to the already imperiled greater sage-grouse.

Response: Comment noted.

11. Pesticide/Chemical Use

A. General
Letter ID # 104-1, 220-2, 255-3, 270-1, 310-1, 58-2, 720-2, 730-1, 730-12, 730-17, 730-24, 730-3, 730-4, 730-5, 730-7, 734-15, 734-32, 734-8,793-13, 793-43, 793-71, 812-1, 812-3, 812-9, 846-106, 906-57

Public Concern Statement: Many commenters express a desire for the Service to disallow pesticide and herbicide use, such as neonicotinoids and chlorpyriphos, in the Refuges. Similarly, other commenters request that the Service require conversion to organic farming on agricultural lands and offer incentives to facilitate that shift. Several respondents also suggest that the Service fails to satisfy NEPA since the draft CCP/EIS contains no real alternatives to, or reductions of, pesticide use on the Refuges.

Comment# 104-1: Allowing pesticide use in a wildlife refuge makes NO sense to me. Either stop agribusiness farming or limit it to organically grown crops only.

Response: Comment noted.

Comment# 220-2: Minimize or eliminate pesticide use and other chemical inputs on refuges.

Response: Comment noted.

Comment# 255-3: pesticide spraying must stop.

Response: Comment noted.

Comment# 270-1: Our population both human and wild life have suffered from the spraying of very toxic herbicides for many years and the increased use of the chemicals has caused great sickness, wildlife die off and human health expense. All commercial agriculture and farming practices that use any form of herbicides must be banned!! Our water is precious and our land can no longer sustain life if it is poisoned. The use of chemical cocktails is now being exposed for the danger it really is. The research is readily available. Please do your own research and don't fall pray to the propaganda put out by the right to farm groups and chemical and aviation spraying lobbyists. Please keep these comments in mind in the decision process on NWR land.

Response: Comment noted.

Comment# 310-1: I support the idea of "Wildlife Refuge", not refuge lands being used for agribusiness. Apparently, pesticides are used on areas where birds feed and rest. This activity goes against the mission of the refuges, which is to preserve wildlife.

Response: Comment noted.

Comment# 58-2: The pesticides and herbicides used for agriculture production is inappropriate in a native wetlands for migratory birds.

Response: Comment noted.

Comment# 720-2: The Comprehensive Conservation must end pesticide use that supports agricultural crops in favor of organically farmed crops or return to native habitat.

Response: Comment noted.

Comment# 730-1: Nothing in the Kuchel Act requires the use of pesticides for agricultural production, and, where such use is incompatible with the primary purposes of wildlife conservation and waterfowl management, pesticide use must be prohibited. The draft compatibility determinations report that a variety of pesticides, including herbicides, fungicides, insecticides and soil fumigants are used on most crops on the Lower Klamath and Tule Lake NWRs.10 Although organochlorine insecticides were replaced with organophosphate, carbamate, and pyrethroid insecticides, which generally degrade more quickly, these are acutely toxic to many organisms.11 The draft determinations do not adequately assess whether the use of the pesticides is compatible with wildlife conservation and waterfowl management.

The Service relies upon two pesticide monitors used in 1998, 1999 and 2000 to monitor sprayed agricultural fields for affected wildlife.12 The determinations do not explain the scope or methodology of these dated monitoring efforts. In 1998, a northern pintail was found dead with depressed brain cholinesterase, which can be caused by certain chemical classes of pesticides, such as organophosphates and carbamates. From this limited information, the Service concludes that there is

limited evidence of adverse impacts associated with "current" pesticide use on the refuges, while noting that "dead or sick wildlife can be extremely difficult to locate and effects can be sub-lethal, potentially reducing growth, reproduction, survival, and etcetera."13 None of this information supports a draft determination that the use of pesticides is compatible with wildlife conservation and waterfowl management.

Response: The Service disagrees with the comment and believes that the Compatibility Determinations and the CCP/EIS adequately assess the impacts of pesticide use. The Klamath Basin Refuge Complex has one of the largest organic farming programs in the Service. Although organic agriculture has a rapidly expanding commodity market, the market is limited by many factors, including: national and international demand, distribution networks, distance to shipping areas or major cosmopolitan centers, current market value of the crop, and many other factors. In accordance with the Kuchel Act, the refuge is instructed to manage the lease lands with "full consideration of optimal agricultural production," and in a market-limited environment farmers cannot sustain planting for organic production without a premium on their organic crops. Further, even in organic systems over time crop pests tend to build up in the system, often precipitating a need to convert land back to conventional agriculture. The use of pesticides is part of an overall IPM program and is conducted consistent with Departmental and Service policy. We will evaluate new pesticides annually and all pesticides every 5 years through the multi-disciplinary PUP committee. The CCP/EIS has been revised to include additional information on the water quality monitoring.

Comment# 730-12: The Service fails to satisfy NEPA since the Draft CCP/EIS contains no real alternatives as to pesticide use on the Lower Klamath and Tule Lake NWRs. NEPA requires that an agency include a "detailed statement" of "alternatives to the proposed action." 42 U.S.C. § 4332(2)(C)(iii). An agency's alternatives analysis must "[r]igorously explore and objectively evaluate all reasonable alternatives." 40 C.F.R. § 1502.14(a). With respect to the use of pesticides, Alternatives A and B continue to allow the use of pesticides, while Alternatives C and D propose to expand the areas of lease land and cooperatively farmed units that are managed organically and expand incentives to achieve that result. This is not an adequate range of alternatives. The Service should also include alternatives that would result in reduction of pesticides, which would also assist in reaching the goal of all agricultural uses managed organically. These alternatives could include prohibition of the use of insecticides on all lease lands and cooperative units and prohibition of crops that intensively use pesticides, such as onions and potatoes and other row crops.

Response: We disagree. The highly altered nature of the refuge environment and surrounding area necessitates a wide range of tools for IPM (see 569 FW 1), including the application of pesticides when warranted. Therefore, the Service believes it is unreasonable to include the prohibition of synthetic chemical pesticides in the action alternatives. Such an alternative was considered but regected in the 1998 Environmental Assessment for an Integrated Pest Management Program for Leased Lands at Lower Klamath and Tule Lake National Wildlife Refuges. While desirable, the Service will not make organic agriculture a strict requirement of either lease land or cooperative farm units because organic agriculture is dependent on a consistent water supply and external economic forces that are beyond our control. The Preferred Alternatives at both Lower Klamath and Tule Lake Refuges would include expanding incentives such as lease extensions for farmers that manage fields organically. Each of the alternatives includes strategies to reduce the use of pesticides through IPM. These tools range from flood/fallow for quackgrass control on Lower Klamath Refuge to grazing, mowing, and prescribed burning, to walking wetlands on Tule Lake NWR, in addition to incentives for organic agriculture on both of these Refuges.

Comment# 730-17: The Service needs to more clearly restrict possible aerial application of pesticides

on refuge lands, and the Center respectfully suggests that aerial application be banned altogether on these refuges. To begin with, the proposed IPM plan does not actually evaluate the potential effects to wildlife and refuge resources from aerial spraying.49 The only guidance the IPM plan does provide is that "aerial spraying . . . is only [sic] be used where access is difficult (remoteness) and/or the size/distribution of infestations precludes practical use of ground-based methods."50 Allowing aerial applications when a crop is "difficult" to access or the croplands are large in size/distribution, without further defining these circumstances, leaves open a significant possibility that aerial application could be used for convenience or ease under the guise of necessity. The Service needs to further develop and implement limitations on aerial applications to ensure that it is used only when absolutely necessary to deal with a serious pest problem. Alternatively, the Service should simply ban aerial applications, choosing instead to employ the various other control methodologies outlined in the IPM plan. The increased risk of chemical drift, incorrect application, and harm to refuge aesthetics, as well as the disruptive nature of flying planes through bird habitat, should lead the Service to opt for a complete ban of aerial spraying on these refuges.

Response: The Service will continue to allow aerial application of pesticides when necessary. Aerial applications are needed during certain stages of crop growth when plant height or plant growth stage sensitivity limits the ability for ground applications to occur. The PUP committee determines specific economic action thresholds and BMPs with each product approved for aerial application (both are reflected in the approved PUP).

Comment# 730-24: In its compatibility determinations for cooperative farming on the Lower Klamath NWR, insecticides are seemingly both prohibited and allowed for use. Compare Draft CCP/EIS at App. G, p.4 ("For [cooperative farming] fields farmed conventionally, no insecticides are allowed . . . ."), with id. at 5 ("crops [on cooperative farms] can be subject to treatment with a variety of pesticides including herbicides, fungicides, and insecticides"). This may indicate that insecticides are allowed only on organically farmed cooperative farm units (assuming "conventional" means non-organic), but if so, the Draft CCP/EIS fails to clearly state that. The public and regulated entities are left wondering what the Draft CCP/EIS actually proposes, making it impossible to coherently comment on the Plan. In any case, the Center strongly encourages the Service to prohibit the use of non-organic insecticides on cooperative farming units. This would help ensure that the wildlife that are intentionally attracted to these areas are not harmed and would aid the Service in "the expanding Klamath Basin organic farming effort.

Response: At Tule Lake Refuge, to ensure cohesive pest control, we allow cooperative farmers with conventional fields to use the same array of pesticides authorized for use on lease lands. Where feasible, we use flood/fallow and other non-chemical practices to suppress nematodes and other pests instead of chemicals. At Lower Klamath Refuge, cooperative farmers are limited in their Special Use Permits to a small number of herbicides.

Comment# 730-3: Pesticides that are extremely harmful to the environment should not be used on the refuges under any circumstances because they are not compatible with these refuges' conservation missions: 1. The CCP must clearly provide that the Service has banned the use of neonicotinoids. The term "neonicotinoid" does not appear anywhere in the CCP/EIS. This ban must explicitly include the use of neonicotinoid treated seeds.

Response: The Service will continue to evaluate pesticides to minimize environmental risk. We evaluate new pesticides annually and all pesticides every 5 years through the multi-disciplinary PUP committee. The use of neonicotinoids is restricted to lease lands, which is consistent with Kuchel Act

direction on optimal production.

Comment# 730-4: For the Lower Klamath, the Service states that most cooperative units will be farmed organically.26 Given that it is feasible to farm organically in some areas of the refuges, the Service should require that all agricultural use of the refuges is organic.

Response: While the Service strives to encourage organic farming each year, we also retain the limited use of herbicides as a tool to combat agricultural weeds that tend to affect crop yield over time. On Lower Klamath Refuge, we use cooperative farming strategically to reduce weeds and initiate the first year of the wetland cycle. The Preferred Alternative for Lower Klamath Refuge includes increasing incentives for farmers to expand organic production. See also response to comment 730-1.

Comment# 730-5: The Service should prohibit the use of insecticides on all cooperative farms and lease lands. On the Lower Klamath, all alternatives prohibit the use of insecticides.27 As the Service recognized, "[t]errestrial invertebrates are also an important food base for many migratory and resident bird species, and include numerous species of grasshoppers, beetles, butterflies, moths, ants, spiders, and other insects. In addition, many of these invertebrates play key roles in plant pollination."28

Response: The Service manages agricultural use pursuant to the Kuchel Act and consistent with Departmental and Service policy on IPM.

Comment# 730-7: The Service must not approve specific pesticides that are known to be harmful to wildlife. For example, the Service intended to phase out the use of malathion before the 2011 crop season, yet it continues to approve products containing malathion because applicators wanted it in their toolbox. Likewise, the Service continues to approve Lorsban 15G, which contains chlorpyriphos while waiting for an alternative that the applicators feel comfortable with. The Service must give primary consideration to wildlife, not use of harmful pesticides that the applicators prefer.

Response: The Service will evaluate new pesticides annually and all pesticides every 5 years through the multi-disciplinary PUP committee. See Sections 4.2.2 and 4.4.2 in the CCP/EIS. The Service manages agricultural use pursuant to the Kuchel Act and consistent with Departmental and Service policy on IPM.

Comment# 734-15: Use of herbicides, most of which are highly toxic to fish and wildlife, is also inconsistent with the fish and wildlife purposes of the refuge and should be phased out.

Response: Comment noted.

Comment# 734-32: Refuge specific testing show that 45-68% of birds tested showed acetylcholinesterase inhibition after spraying and that at least 25% of aerial spraying is drifting into water. Therefore, there is little choice but to ban chemical use for farming and weed control especially near waterways on the refuges. Crops that require fungicides or pesticides, such as potatoes, should not be allowed on the refuges, and anyone that is found in violation of organic rules or reporting requirements should have their leases suspended and retired unless the crop is benefiting animals, in which case the lease holder should have the lease taken away and it should be reoffered to a farmer that can follow refuge requirements.

Response: The use of pesticides on refuge lands is highly regulated. Our use of pesticides is one tool in an IPM program. We do a screening-level assessment of each pesticide before approving it, and we

reevaluate every 5 years. The 1995 study involving acetylcholinesterase inhibition and pheasants was related to pesticides that are no longer used on the Refuge (e.g., methamidophos, parathion, etc.). Aerial spray applications have several BMPs associated with them, including: 150-foot buffer from Tule Lake Sumps and English Channel, and 50 feet from wetlands, canals, and drains. Additional buffer restrictions are added, depending on the product.

Comment# 734-8: First we would like to see an end of the use of chemical pesticides and fertilizers within the boundaries of the refuges, along with the phasing out of the practice of flood irrigation for farming purposes on the refuge ecosystem.

Response: See responses to comments 634-3 and 730-12.

Comment# 793-13: In addition to the evidence from the Affected Environment section of the draft CCP/EIS mentioned above, we would like to direct your attention to a new analysis completed August 1, 2016 by William Fish, PhD. Dr. Fish's research and scholarship in environmental engineering focuses on the behavior of chemicals in surface water, groundwater and soil. His recent analysis concluded the following three points which are explained in more detail in his statement which is attached to these comments. On water quality resulting from Irrigation Return Flows Associated with Agricultural Leaselands: 1. Agricultural Runoff and Irrigation Return Flows from Agricultural Leaselands within Tule Lake and Lower Klamath Wildlife Refuges Are Contributing to Exceedances of Water Quality Standards in Tule and Lower Klamath Lakes. 2. Agricultural Runoff and Irrigation Return Flows from Agricultural Leaselands within Tule Lake and Lower Klamath Wildlife Refuges Are Contributing to Exceedances of Water Standards in the Klamath Straits Drain. 3. Discharges from the Klamath Straits Drain Contribute to Exceedances of Water Quality Standards in The Klamath River Downstream from Klamath Straits Drain. We acknowledge that the Service aims to provide the best habitat available for migratory birds and wildlife in the Klamath Refuge Complex, and that a deep divide in the public's ideology continues to plague conservation and water management in the Upper Klamath Basin. We also reasonably acknowledge that while Kuchel Act directs the Service to allow for limited agricultural land use in the Refuges as a balancing mechanism designed to reduce controversy between agricultural and conservation interests, the interpretation of the Act should not include an assumption that large scale agriculture can be sustained in perpetuity. However, with these acknowledgements, we respectfully urge the Service to recognize the rapid degradation in water quality that has created intolerable conditions the fish, wildlife, plants, and human communities who depend on clean water in the Klamath Basin for survival, much less recovery. To this end, we urge the Service to offer more specific measures that can be implemented over the next 15 years, including promoting an Alternative that immediately bans conventional (non-organic) farming on Tule Lake and Lower Klamath Lake Refuges and clearly addresses actionable steps to resolve water quality problems stemming from leaselands and cooperative farming, grazing, haying, and pesticide use. All activities that contribute to elevated pollutant loads from within the Refuges should be fully mitigated and, if necessary, phased out.

Response: See responses to comments 730-1 and 734-4.

Comment# 793-43: Refuge specific testing show that 45-68% of birds tested showed acetylcholinesterase inhibition after spraying and that at least 25% of aerial spraying is drifting into water. Therefore, there is little choice but to ban chemical use for farming and weed control especially near waterways on the refuges. Crops that require fungicides or pesticides, such as potatoes, should not be allowed on the refuges, and anyone that is found in violation of organic rules or reporting requirements should have their leases suspended and retired unless the crop is benefiting animals in which case the lease holder should have the lease taken away and reoffered to a farmer that can follow

refuge requirements.

Response: See response to comment 734-32.

Comment# 793-71: Prohibit pesticide, herbicide, and fertilizer use in connection with commercial farming on the refuge.

Response: Comment noted.

Comment# 812-1: CFS advocates for complete conversion to organic farming on the Refuges' agricultural lands and implores the Service to choose alternatives that would incentivize and expedite this change.

Response: Comment noted.

Comment# 812-3: .CFS supports adoption of the alternatives for agricultural land management that would expand the area of leased and cooperatively farmed land that is managed organically. Indeed, it is CFS's position that all cooperatively farmed and leased refuge land should be organically managed. Implementing these alternatives would support the overarching purpose of the national refuge system to conserve wildlife, plant resources, and their habitats, see §4, 111 Stat. 1252, 1254, due to the environmental benefits of organic farming when compared to conventional farming practices.

Response: Comment noted.

Comment# 812-9: FWS should select Alternative C concerning agricultural management actions for both the Lower Klamath and Tule Lake Refuges as its preferred alternative for the final CCP/EIS, should include other possible incentives for organic farming in addition to lease or permit extensions, and should ultimately convert all of the farm lands on the Refuges to being organically managed.

Response: Comment noted.

Comment# 846-106: Herbicide treatments (particularly 2.4-dichlorophenox (acetic acid)) are known to cause loss of sagebrush, suppression of forbs, and expansion of grasses211 and such herbicide treatments have caused substantial loss, fragmentation, and deterioration of sage grouse habitat across the west.

Response: Invasive species treatments within sage-grouse habitat will be limited to spot treatments and when possible will avoid sagebrush and native forbs. Invasive plant species can supplant native species, alter important ecosystem processes, and may reduce the availability or timing of important foraging resources for native wildlife. Herbicide treatments are an important tool for reducing the adverse effects of invasive species and for promoting habitat characteristics that benefit wildlife.

Comment# 906-57: We incorporate by reference here the detailed comments submitted by the Center for Biological Diversity regarding compatibility of pesticide use with refuge purposes.

Response: Comment noted.

B. PUP Process

Letter ID # 730-15, 730-2, 730-21, 730-22, 730-27, 730-9, 906-21, 906-22, 906-23, 906-24, 906-33

Public Concern Statement: Some comments state that the Service should not use the PUP process to evaluate the specifics of proposed chemicals, treatment sites, application methods, and sensitive aspects of use and that the ecological risk assessment used in the PUP process cannot be relied on for Compatibility Determinations or effects determinations. These comments suggest that the Risk Quotients/Levels of Concern approach is much too high a threshold for an ESA "no effect" determination. Comments similarly argue that the CCP/EIS did not consider the NAS report, which discredits the Risk Quotient/Level of Concern methodology. It is requested that appropriate protections be put in place during the effects determination process to account for uncertainties inherent with using models and estimating exposure. Moreover, these comments state that application of the PUP process has environmental effects that are not evaluated in the CCP/EIS, and the process does not consider alternatives to pesticide use or alternative, and less harmful, pesticide products.

PUP comments cover a variety of other topics, including the following requests:

- Need for PUP process to require an emergency spill and response plan,
- Description of the process for approving or denying a PUP on leased land for agricultural purposes in compliance with CWAs, particularly for areas near 303(d) impaired waters,
- Application limitations for 2.4-D and other chemical compounds, as well as sediment monitoring action to ensure compliance,
- Analysis of allowable TMDLs for chemical compounds (both toxic and conventional) found in terrestrial or aquatic pesticides and ongoing monitoring of both impaired and unimpaired surface waters for TMDL limits, and
- Clarification of what pesticide approval process the CCP/EIS would establish for the different management unit types, and how that differs from current management.

Comment# 730-15: To the extent the Service relies upon the PUP process to evaluate the effects of pesticide use, the Service did not entertain any alternatives to the PUP process and did not consider the NAS report, which discredits the RQ/LOC methodology used in the PUP process. Moreover, 44 See Draft CCP/EIS at 4-69 & App. F, p.33, 39. 45 Id. at 4-69, 4-71. 46 See, e.g. CCP/EIS at 6-45. August 4, 2016 Page 10 application of the PUP process has environmental effects that are not evaluated in the CCP/EIS, the process and the results are not disclosed to the public, and the process does not consider alternatives to pesticide use or alternative, and less harmful, pesticide products.

Response: Effects of implementing the pesticide use program on lease lands at Tule Lake and Lower Klamath Refuges are evaluated through the PUP process and the 2007 biological evaluation and associated 2007 BiOp (Service 2007b, in Appx B, References to the CCP/EIS). The 2006 Programmatic Biological Evaluation (Service 2006) documents the pesticide risk assessment process employed by the PUP Committee, an interagency committee with expertise regarding pesticide use and its effects on fish and wildlife, and local knowledge of agronomic appropriateness of the requests. The service recognizes that there are more in depth and more improved processes available. The method we adopted for our PUP review process is a screening risk assessment similar to one used by EPA to screen potential ecological risks associated with pesticide use (available online at https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/overview-risk-assessment-pesticide-program). This screening risk assessment is intended to be complemented by the National Pesticide Consultations done by the National Marine Fisheries Service, Service, and EPA.

Comment# 730-2: The Service concludes that the limited and outdated monitoring failed to detect any

acute problem with pesticides, while recognizing that "the occurrence of chronic or sublethal effects is more difficult to detect," therefore, the Service uses the "Pesticide Use Proposal (PUP) process to evaluate the specifics of proposed chemicals, treatment sites, application methods, and sensitive aspects of use."14 However, the PUP process does not and cannot substitute for a compatibility determination. Instead, the Service allows the use of pesticides "when necessary," which is for agricultural purposes, not wildlife purposes.15 Moreover, the PUP process consists of conducting pesticide ecological risk assessments to determine whether the proposed pesticide use presents "excessive risk to Refuge wildlife resources . . . ."16 Allowing the use of pesticides, even if that use poses something less than "excess risk" to wildlife is not a substitute for a compatibility determination.

The ecological risk assessment that the Service uses in the PUP process has been discredited by the National Academy of Science and cannot be relied upon for compatibility determinations or effects determinations for purposes of consultation pursuant to Section 7 of the Endangered Species Act.

Response: Regarding ongoing pesticide monitoring, please see the revised section titled Environmental Contaminants in 5.1.1. See also responses to comments 730-15, 730-25, and 906-28.

Comment# 730-21: It is unclear how the current pesticide approval process works in relation to the Draft CCP proposals. The Draft CCP/EIS is unclear as to how the PUP process applies to pesticide use on cooperative lands. Looking to the 2015 PUP Book, the PUP approval process is apparently being used to consider and approve pesticide use on cooperative farming units distinct from use on lease lands. 2015 PUP Book. Yet, the Draft CCP/EIS describes current management as follows: "For administrative purposes and to ensure cohesive pest control, pesticides that are approved for use on the leased lands are also approved for use on cooperative farm units." Compare Draft CCP/EIS at 4-66, with 2015 PUP Book at 31, 47, 87, 91, 171, 175 (clearly identifying "co-op" lands as distinct management units from lease lands in approving the use of certain pesticides). If the Draft CCP/EIS proposes to change the approval process from how the PUP system currently works, this should be clearly identified and should be discussed in the alternatives section of the Draft CCP/EIS. On the other hand, if current practice is not accurately reflected in the 2015 PUP Book, and simultaneous approval is the way the process works, then the Center requests that the Final CCP change this practice and instead assess pesticide use with consideration to the management unit type where the pesticide would be used. This only makes sense given the unique role that cooperative farming units play in providing forage for wildlife. In either case, the Service should ensure that pesticide use will not expose wildlife to harmful chemicals by rigorously assessing PUPs in relation to where it would be used before approving them.

Response: The Preferred Alternatives in the CCP/EIS do not propose to change the PUP approval process. The CCP/EIS has been revised to clarify how IPM would be conducted. See also response to comment 730-24.

Comment# 730-22: The Draft CCP/EIS contains a new Integrated Pest Management Plan but fails to explain how this new plan would interact with the existing one used for lease lands. Currently, the Service approves pesticide use through the PUP process established by a 1998 Integrated Pest Management plan. Environmental Assessment for an Integrated Pest Management Program for Leased Lands at Lower Klamath and Tule Lake National Wildlife Refuges (Nov. 1998) (hereinafter "1998 IPM"). The Draft CCP/EIS states only that "[p]est control on leased lands would continue to follow the 1998 IPM plan." Id. at 4-69, 4-71. Confusion here is further exacerbated by the fact that the PUP process was never intended for use in approving pesticides for cooperative farming units, 1998 IPM at 1-10 (Nov. 1998) ("the program does not apply to co- op lands"), yet the 2015 PUP Book contains several PUPs that purport to approve pesticide use on cooperative farming lands at both refuges. 2015 PUP Book at 31, 47, 87, 91, 171, 175. Does The Service propose to simply continue its use of the existing PUP process for lease lands

while creating a parallel PUP process for cooperative farming units and facilities management? Or does the Service propose to expand the mandate of the existing PUP process to approve pesticides for all refuge land? The Service needs to clarify what pesticide approval process the CCP/EIS would establish for the different management unit types, and how that differs from current management.

On its face, the Draft CCP/EIS apparently proposes to bypass any analysis of pesticide use on cooperative farming units prior to their use. Instead, the Draft CCP/EIS states that cooperative farmers "are allowed to use the of pesticides . . . as those used by individuals farming the lease lands on the refuge." Draft CCP/EIS at 5-80 (citing inexplicably to the 2015 PUP Book which clearly does not approve the same pesticides for lease land versus cooperative farming lands). This reading suggests that the Service proposes to simply continue using, unaltered, the PUP process for lease lands, but will treat each PUP as approving pesticide use for both lease lands and cooperative farming lands regardless of what units were actually assessed by the PUP Committee. Again, a serious lack of clarity makes it difficult to understand exactly what the Draft CCP/EIS is proposing for future approval or disapproval of pesticide use on the different management unit types.

Response: Appendix Q covers cooperative farmlands, habitat management, and maintenance on the Refuge Complex. The Service will always prepare a PUP prior to allowing the use of pesticides on any Refuge land in accordance with Departmental and Service policy.

Comment# 730-27: In the PUP process, the Service uses Risk Quotients ("RQ") and Levels of Concern ("LOC") to make "no effect" findings, which it has agreed in the context of EPA's pesticide effects determinations is improper. The RQ/LOC approach is much too high of a threshold for an ESA "no effect" determination. The Service is effectively making a policy judgment that some level of impact to these species represents an acceptable level of risk. This is not permitted under the ESA, which requires consultation with the expert wildlife agencies whenever there is "any possible effect," either through informal consultation and a written concurrence or formal consultation and a biological opinion.42 The Service must use the best available science, including the NAS report, to consult on the use of pesticides on the refuges.

Response: See response to comment 730-15.

Comment# 730-9: The Service relies upon a 2007 Biological Opinion30 for use of the PUP process to meet its duties under Section 7 of the Endangered Species Act (ESA) to insure its authorizations of the use of pesticides will not jeopardize endangered or threatened species or adversely modify their critical habitat. For the same reasons that the PUP process, which relies upon the 2004 EPA ecological risk assessment methodology, cannot substitute for a compatibility determination, it is not appropriate to make ESA effects determinations. The Service summarizes that the Risk Quotients (RQs) are compared with Levels of Concern (LOCs) established by USEPA.31 If a calculated RQ exceeds an established LOC value, then there is a potential for an acute or chronic effect (unacceptable risk) to federally listed threatened and endangered (T&E) species and non-listed species. However, use of EPA's 2004 approach to assessing risks to ESA-listed species as part of its ecological risk assessment process has been invalidated by a district court because the method is "highly likely (if not certain) to result in an overall under-protection of listed species."32 As discussed above, the NAS has also discredited the 2004 EPA approach. The failure to account for indirect effects and incorporate this uncertainty into the ecological risk assessment is putting many species at risk of harm. This is especially true when it comes to endangered or threatened species. Every listed species has a population that is in peril, making potential harm to each individual important and making it much more likely to lead to adverse effects on the species' population. Therefore, appropriate protections need to be put in place during the effects determination process to account for this extensive use of surrogacy and other uncertainties inherent with

using models and estimating exposure. Not doing so would be a direct acknowledgement that harm may occur to some listed species.

Response: See response to comment 730-15. The threshold for listed species is much more restrictive than for other species.

Comment# 906-21: For toxic pollutants, such as copper-based pesticides, the FWS must ensure that operator activities are in compliance with the CWA's goal of eliminating the discharge of all [toxic] pollutants. Clear pest management and reporting measures are necessary for achieving this goal. The Pesticide Use Permit (PUP) listed under the Draft CCP, Appendix Q, section 7, lacks analysis of allowable Total Daily Maximum Loads (TMDLs) for chemical compounds (both toxic and conventional) found in terrestrial or aquatic pesticides.

Response: Pesticides are not listed on the current TMDL. If they are listed on a future 303(d) list, they would be addresssed at that time under a separate process.

Comment# 906-22: Ongoing monitoring of both impaired and unimpaired surface waters for TMDL limits must be considered in FWS's Integrated Pest Management (IPM) plan, risk assessments, and PUPs.

Response: See response to comment 906-21.

Comment# 906-23: For toxic pollutants, such as copper-based pesticides, the FWS must ensure that operator activities are in compliance with the CWA's goal of eliminating the discharge of all [toxic] pollutants. Clear pest management and reporting measures are necessary for achieving this goal. The Pesticide Use Permit (PUP) listed under the Draft CCP, Appendix Q, section 7, lacks analysis of allowable Total Daily Maximum Loads (TMDLs) for chemical compounds (both toxic and conventional) found in terrestrial or aquatic pesticides.

Response: See response to comment 906-21.

Comment# 906-24: the CCP does not include an analysis of the process of approving or denying a PUP on leased land for agricultural purposes in areas surrounding/in the CWA 303(d) impaired waters list.

Response: PUPs are approved/disapproved at the refuge/complex level, not for individual lease land lots. However, other restrictions such as BMPs prohibiting certain pesticides within buffers around waterbodies can affect usage at the lot level. Additionally, pesticides are not listed on the current TMDL. If they are listed on a future 303(d) list, they would be addresssed at that time under a separate process.

Comment# 906-33: An emergency spill and response plan is not included in as a requirement for a PUP. The absence of this requirement places an enormous burden on operators to respond, without preparedness, to accidental or negligent spills. We strongly suggest that the FWS requires operators to include an emergency spill and response plan as a part of the requirements to receive a PUP.

Response: A Spill Prevention, Control, and Countermeasures Plan is maintained by the Klamath Basin Refuge Complex to prevent and manage pesticide spills. In addition, Reclamation's Klamath Area Office maintains an Oil and Hazardous Substance Spill Response, Containment, and Cleanup Plan that applies to the lease lands and Klamath Project water infrastructure.

C. IPM
Letter ID # 730-10, 730-13, 730-16, 730-28, 730-29, 846-39, 846-40

Public Concern Statement: Comments ask that the Service clarify whether the old IPM plan is being updated in the CCP/EIS. Several respondents state that the Service should prepare a new IPM plan and that the IPM needs to be part of Section 7 consultation. It is also requested that the Service require binding parameters and mitigation measures in the IPM.

Comment# 730-10: the Environmental Assessment and ESA consultation supporting the 1998 IPM plan are not sufficient for a new integrated plan for pesticide use on the refuges. This IPM plan was expressly limited to lease lands. This limited focus, along with changes in conditions over the past 18 years, highlight the need for a new IPM plan as well as for comprehensive section 7 consultation that considers impacts from pesticide applications to all refuge lands.

Response: The 1998 IPM Plan established a process that we are continuing to follow. The CCP/EIS includes an analysis of cooperative farming as well as habitat management and maintenance. We have completed Section 7 consultation and compliance on the 1998 IPM Plan (Service 2007) and will complete Section 7 compliance on the CCP/EIS.

Comment# 730-13: With respect to the IPM plan, in the Draft CCP/EIS, the Service really only provides two alternatives: no action and adoption of the IPM as presented in the Draft.44 The Service seems to admit that the new IPM plan is essentially the same as the No-Action Alternative (simply retaining the existing IPM plan), but with minor additions.45 The Center requests that the Service fully engage the required alternatives analysis and consider an alternative to the existing PUP process, such as a public process that allows interested parties to weigh in on individual pesticide use approvals. The Center also requests that the Service engage in an alternatives analysis as to whether pesticides should be allowed at all, and if so under what circumstances.

Response: Under all alternatives, the Service will practice IPM (see 569 FW 1) to control pests on Service land. Tables 4.5, 4.10, 4.13, 4.15, and 4.17 summarize the ongoing IPM practices on the refuges within the Klamath Basin Complex. The Service does not concur with the suggestion to prohibit the use of pesticides. The Service does not believe an alternative prohibiting the use of pesticides is feasible, given the highly altered nature of the refuge environment and surrounding area. See response to comment 730-12. Battling invasive plant species continues to be a large-scale problem and substantial part of Refuge management (See Appendix F, Goals, Objectives, and Strategies and Chapter 4, Alternatives.). Action alternatives do contain important new tools to combat invasive species such as the use of GPS to map and monitor invasive plants, and a rapid assessment and control program to minimize the spread of new invasive species at Lower Klamath Refuge. These are distinct advantages over the No Action Alternative, rather than “minor additions.” Both the Draft CCP/EIS and the EA for the 1998 IPM for Leased Lands at Lower Klamath and Tule Lake NWRs provided opportunities for the public to weigh in on how pesticides are used.

Comment# 730-16: The Draft CCP/EIS’s Integrated Pest Management Plan must contain binding parameters and mitigation requirements to ensure compatibility with the refuge’s missions. Alternatives B and C for both the Lower Klamath and Tule Lake Refuges propose to “formalize the ongoing pest management for habitat, maintenance, and cooperative farming into an IPM program as described in [the CCP/EIS].”47 These two alternatives would also require commercial pesticide applicators to obtain Special Use Permits (“SUPs”) before being allowed to apply any pesticides. 48While the Center applauds and supports the proposal to require SUPs for all commercial applicators, if the new IPM plan is to actually “formalize” pest management on the refuges, it must include many more non-discretionary

limitations and guidelines to ensure effective and consistent use of PUP approvals and SUPs. Currently, the Draft CCP/EIS's IPM plan is replete with best practices and guidelines that pesticide applicators "should" follow, but is lacking almost any binding mandates. The Center appreciates the need for flexibility, but more strongly worded best management practices ("BMPs") and mitigation strategies would lead to clearer and stronger protective conditions, and subsequently to less harmful pesticide applications. This would help ensure that pesticide use on the refuges will not undermine wildlife conservation and will not harm the wildlife for which the refuges were created. Below is a selection of suggested revisions:

• Applicators should be required to use the most target-specific application equipment possible. The Service should mandate that an applicator articulate the reasoning behind any decision to use less target-specific methods. Existing language: "Where possible, target-specific equipment (e.g., backpack sprayer or wiper) is used to treat target pests." Draft CCP/EIS at App. Q, p.9. Suggested Revision: "Approvals for pesticide use must direct applicators to use the most target-specific application equipment possible (e.g., backpack sprayer or wiper). Special Use Permits will specify the range of target-specific methods available to an applicator."

• The Center is happy to see that the Service elevates effectiveness and environmental safety over cost when selecting a pesticide to use on the refuges. Id. at 10. We suggest the Service correct a typographical error in this section.

Existing Language: "Cost is not being the primary factor in selecting a pesticide for use on a refuge."

Suggested Revision: "Cost is not the primary factor in selecting a pesticide for use on a refuge."

• BMPs should be the required starting point, deviations should be allowed only where absolutely necessary.

Existing Language: "Based upon the Department of Interior Pesticide Use Policy (517 DM 1) and the Service Integrated Pest Management policy (569 FW 1), the use of applicable BMPs (where feasible) help ensure that pesticide uses do not adversely affect federally listed species and/or their critical habitats . . . ." Id. at 11.

Suggested Revision: "Based upon the Department of Interior Pesticide Use Policy (517 DM 1) and the Service Integrated Pest Management policy (569 FW 1), the use of applicable BMPs are required to help ensure that pesticide uses do not adversely affect federally listed species and/or their critical habitats . . . ."

• Pesticide applications must be supervised by refuge staff or state certified pesticide applicators.

Existing Language: "Pesticide treatments should only be conducted by or under the supervision of Service personnel and non-Service applicators with the appropriate state certification to safely and effectively conduct these activities on refuge lands and waters." Id. at 12.

Suggested Revision: "Pesticide treatments shall only be conducted by or under the supervision of Service personnel and non-Service applicators with the appropriate state certification to safely and effectively conduct these activities on refuge lands and waters."

• Drift reduction technologies should be required for all application equipment that creates the possibility of harm to non-target species.

Existing Language: "Applicators should use drift reduction technologies such as low-drift nozzles, where possible." Id.

Suggested Revision: "Applicators must use drift reduction technologies such as low-drift nozzles, unless those technologies are clearly not possible or unnecessary."

- Buffers should be a mandatory BMP when applications take place near sensitive habitats.

Existing Language: "For pesticide uses associated with cropland and facilities management, buffers, as appropriate, should be used to protect sensitive habitats, especially wetlands and other aquatic habitats." Id. at 13.

Suggested Revision: "For pesticide uses associated with cropland and facilities management, buffers must be used where needed to protect sensitive habitats, especially wetlands and other aquatic habitats."

Existing Language: "When drift cannot be sufficiently reduced through altering equipment set up and application techniques, buffer zones should be identified to protect sensitive areas downwind of applications. Applications adjacent to sensitive areas should only be made when the wind is blowing the opposite direction." Id.

Suggested Revision: "When drift cannot be sufficiently reduced through altering equipment set up and application techniques, buffer zones must be identified to protect sensitive areas downwind of applications. Applications adjacent to sensitive areas shall only be made when the prevailing wind is blowing the opposite direction."

- Since the IPM relies on the PUP process to ensure compliance with the CCP and the Endangered Species Act, a PUP approval must be a prerequisite to any pesticide applications.

Existing Language: "Pesticides should only be used on refuge lands for habitat management as well as croplands or facilities maintenance after approval of a PUP." Id. Suggested Revision: "Before pesticides may be used on refuge lands for habitat management as well as croplands or facilities maintenance, they must first receive approval through a PUP."

Response: Appendix Q, including the BMPs, have been revised to address this comment where appropriate.

Comment# 730-28: The Service indicates that it will undertake intra-agency section 7 consultation over the CCP/EIS, and the new IPM plan must expressly be a part of that consultation. According to the Draft CCP/EIS, "Intra-Service consultation will be conducted . . . for special status species and designated critical habitat" on the Lower Klamath and Tule Lake NWRs.43 Since the IPM plan would put in place the strategies and processes for ensuring future compliance with the ESA (such as the PUP process) and pesticides have the potential to harm listed species, the IPM must be a major focus of the Service's section 7 consultation.

Response: Comment noted.

Comment# 730-29: he Service needs to explain how the two IPM plans would interact with each other, if at all. The Center asks that the Service abandon its proposal to simultaneously approve pesticide use on both lease lands and cooperative farming lands through the existing PUP process. Instead, the Service should aggressively pursue its goal of increasing organic farming on cooperative lands by strictly

curtailing any non-organic pesticide use on these lands. FWS should scrap the existing 1998 IPM plan in favor of a new IPM plan that integrates all pest management across these refuges. This would offer greater clarity and efficiency, and should mandate that the PUP Committee separately assess pesticide use on lease land versus cooperative farming units. Through independent analysis and the imposition of clearly defined limitations on when a pesticide may be used by cooperative farmers, the Service can better meet the goals and purposes of each management type.

Response: The Service will continue to use the 1998 IPM Plan for Leased Lands at Lower Klamath and Tule Lake NWRs. For cooperative farm lands, habitat management, and general maintenance, the Service will use the IPM Plan as drafted in Appendix Q of the CCP/EIS. IPM is a sustainable approach to managing pests using cultural, physical, biological, and chemical tools in a way that minimizes health, environmental, and economic risks (see 569 FW1.2). Both the 1998 IPM for Leased Lands and the 2016 IPM in Appendix Q of the CCP/EIS focus on using a range of tools to manage pests, not simply chemical methods (pesticides). An approved PUP is required for pesticide application on a refuge, not the IPM plan (see 569 FW 1.10 and 1.12). The Service will continue to use the PUPs authorized through the Lease Land PUP Committee as the master set of pesticides that can be used on cooperative farm units. However, the Service will also continue to limit the amount and type of pesticide used at Lower Klamath NWR. On Lower Klamath NWR, the restrictions in the Special Use Permit limit the types of pesticides that can be used on conventional crops, to the following: "one ground broadcast application of 2,4-D amine, MCPA, glyphosate, and/or dicamba using a maximum application rate of 1.5 pt/ac 2,4-D amine, 1.0 pt/ac MCPA and/or 4.0 oz/acre dicamba; and glyphosate using 2.0 pt/acre." In general/ only pesticides that meet the standards outlined by the National Organic Program criteria are used in conjunction with the Cooperative Farming Program at Tule Lake and Lower Klamath NWRs. However, in the future the spectrum of PUPs approved within Tule Lake and Lower Klamath NWRs, respectively, may be used on Cooperative Farm Units, if crop pests reach levels that either cause significant economic injury within or adjacent to Cooperative Farm Units, or if environmental or economic forces affect the attractiveness of refuge cooperative farm land to organic growers. The Service believes this is the most practical, efficient way to administer and regulate the use of pesticides used for agricultural purposes and believes this process complies with Service and Departmental policy, as well as the Kuchel Act. The Preferred Alternative for both Tule Lake and Lower Klamath NWRs includes strategies to expand the use of organic agriculture on both lease and cooperative farm units. The Service will not make organic agriculture a strict requirement of either lease land or cooperative farm units because organic agriculture is dependent on a consistent water supply and external economic forces.

Comment# 846-39: Alternative B We agree that there needs to be an update to the 1994 Habitat Management Plan given that it is more than 20 years out-of-date and since 2010 much has changed on the refuge in terms of water allocation alone. Likewise, the 1998 Integrated Pest Management (IPM) Plan needs to be updated as it is out-of-date.

Response: Comment noted.

Comment# 846-40: Alternative B states that the ongoing pest management related to agriculture and other uses will be "formalized under an IPM Program."193 It is unclear whether this means the old 1998 IPM plan will be overhauled. The new IPM plan should strive to limit pesticide use and ensure proper monitoring so that impacts can be assessed and corrected in a timely manner. Moreover, these plans must be included as a part of the Comprehensive Conservation Plan required by the NWRSA.

Response: The 1998 IPM Plan is specific to pest management practices related to lease land farming on both Lower Klamath and Tule Lake Refuges. Appendix Q in the CCP/EIS formalizes the ongoing IPM for cooperative farming, habitat management, and maintenance activities on all five of the refuges that are

addressed in the Klamath Basin Complex CCP/EIS. Edits have been made to the CCP/EIS and Appendix Q to clarify this distinction.

D. Effects Analysis

Letter ID # 56-25, 730-11, 730-14, 730-18, 730-19, 730-20, 730-25, 734-31, 748-32, 748-37, 748-46, 793-42, 812-5, 812-6, 906-2, 906-28, 906-29, 906-60

Public Concern Statement: Respondents state that the CCP/EIS should more thoroughly address the direct and indirect impacts of pesticides, particularly in relation to grazing and haying activities or on cooperative farm lands, as well as consider impacts to pollinators or species other than waterfowl, such as aquatic invertebrates and bald and golden eagles. It is also requested that the CCP/EIS provide a cumulative effects analysis on pesticide use and that the Service address the issue of mixing multiple end-use products by constraining or prohibiting this use. One commenter recommends referencing and discussing the Pesticide Monitoring Results for Tule Lake, California, 2007 Study.

Comment# 56-25: This describes continuing controversy and a host of unresolved issues over waters, pollutants, fish and wildlife, and the political deal-making and ag. and other threats to the Klamath system – all of which are ignored in the minimal CD. This Refuge Plan must fully grapple with the tremendous existing chemical pollution load, and set specific goals, time frames and methods to address the pollutants and pollution sources.

Response: Comment noted.

Comment# 730-11: the Service should consider the potential impacts unique to pesticide use on cooperative lands during consultation. Cooperative farming units are intended to provide forage grounds for wildlife by leaving about one-third of crops standing, effectively luring wildlife to the lands were the pesticides are used, so pesticide use on these lands has even more potential to kill or otherwise harm wildlife, potentially violating the ESA. The use of cooperative farming agreements to secure forage for visiting wildlife and reduce depredation on private land, should include heightened scrutiny for any proposed pesticide use on these lands. The Center opposes simply rubber-stamping pesticide use on these lands under the banner of previously approved PUPs for lease lands.

Response: Comment noted.

Comment# 730-14: The Service also fails to adequately evaluate the indirect effects of pesticide use. Chapter 6 only evaluates the environmental consequences of “direct adverse impacts to fish and wildlife from pesticide applications” and concludes they are minor.46 This conclusion is not properly supported. Further, indirect effects from pesticide exposure can result in significant population level impacts that must be studied.

Response: The conclusion has been corrected to better reflect the analysis, which includes all impacts to biological and physical resources of pesticide use through its summary of and incorporation by reference of the analysis in the 2007 BiOp for the Implementation of the Pesticide Use Program on Federal Leased Lands. Through the PUP process, the Service reviews and approves only those pesticides that have minor, temporary, or localized impacts on biological resources and the physical environment. This includes indirect impacts, which are defined as further in distance or removed in time from the use itself. Section 6.2.6 of the CCP/EIS has been revised to included additional details regarding potential indirect effects.

Comment# 730-18: The Service needs to at least make an effort to assess the risks posed by mixing multiple end-use products and applying that mixture to refuge lands. While the Center appreciates that it is very difficult to accurately assess the potential effects to species and the environment from mixtures, the CCP/EIS should take a precautionary approach and prohibit mixing end-use products in the face of this uncertainty. To ensure tank mixes will not cause unexpected harm to wildlife or refuge resources, mixing multiple end-use products should only be allowed only where there is substantial evidence that the mixture will not have synergistic effects. This would allow the PUP approval committee to consider the potential synergy and adverse effects of a particular mixture, instead of leaving it to the discretion of individual applicators. In the absence of a prohibition on tank mixtures, the following language should be used:

• Existing Language: "Labels for two or more pesticides applied as a mixture should be completely reviewed and products with the least potential for negative effects should be selected for use on a refuge." Draft CCP/EIS at App. Q, p.32–33. Suggested Revision: "Labels for two or more pesticides applied as a mixture must be completely reviewed and products with the least potential for negative effects shall be selected for use on a refuge.

Response: Appendix Q was revised as suggested.

Comment# 730-19: The CCP/EIS must address potential harm to pollinating insects from pesticide use throughout the Klamath Basin Complex. Despite widespread recognition that pesticide use is a major threat to pollinating insects, especially bees, the Service does not analyze these possible impacts in the CCP/EIS. This absence of any meaningful analysis of impacts to pollinators contradicts the goals of the Obama administration regarding nationwide protection of pollinators.51 No pesticide use should be allowed until the Service clearly identifies criteria and guidelines for assessing the potential impacts of a pesticide on pollinators in and near the Klamath Basin NWR Complex. This could be a required and distinct consideration in the PUP process.

Response: The Service recognizes the importance of insect pollinators. Section 6.2.6 of the CCP/EIS has been revised to included additional details regarding potential indirect effects.

Comment# 730-20: The Service must review pesticide use to ensure that applicators are not violating the Bald and Golden Eagle Protection Act (BGEPA), 16 U.S.C. §§ 668–668d, or the Migratory Bird Treaty Act (MBTA), 16 U.S.C. §§ 703–712. As noted in the Draft CCP/EIS, lease lands and cooperative farming units on both the Lower Klamath and Tule Lake NWRs provide important foraging grounds for bald eagles, other raptors, and many migratory waterfowl.52 The BGEPA prohibits persons from, among other things, poisoning, wounding, killing, molesting, or disturbing either eagle species.53 The MBTA makes it illegal to, "by any means or in any manner[,] . . . kill . . . any migratory bird."54 The Service is tasked with enforcing these prohibitions; therefore, the Service should take this responsibility very seriously and undertake an impacts analysis as to whether pesticide use on refuge lands could result in a violation of any of the above prohibitions. More succinctly, the Service could simply ban all use of any pesticides that are known to be toxic to bald or golden eagles or any migratory birds.

Response: During the PUP process, we consider toxicity of the proposed pesticide to birds.

Comment# 730-25: Moreover, the EPA's ecological risk assessment and the Service's PUP process only determine direct effects on surrogate species. They do nothing to determine indirect effects. For example, insecticides are, by design, generally highly toxic to invertebrates, which are an important food source for waterfowl, particularly during spring breeding and in the diets of young waterfowl, because they provide

required protein and amino acids.23 Amino acids are especially important during egg production and during molt.24 Invertebrates, such as bees, other beneficial insects and aquatic invertebrates play other beneficial roles in the environment, thereby contributing to quality habitat for wildlife and waterfowl. The Service must consider these pesticide impacts in its compatibility determinations.

Response: The Service recognizes that there are more in-depth and improved screening tools available. This screening assessment method or process is used widely by the Service and the EPA and is used in conjunction with the PUP review process. The process is meant to be complemented by the National Pesticide Consultation. We believe the methods we use are adequate to evaluate the risks associated with our pesticide use.

Comment# 734-31: It is unacceptable to release a Comprehensive Plan that does not include a Cumulative Watershed Effects analysis on the past, present and foreseeable use of multiple chemical agents within watersheds and wetlands that are already suffering from legacy contaminants and poor water quality. It is also unacceptable that highly controversial and dangerous chemicals are used on wildlife refuges without monitoring requirements or scientific analysis on impacts. In one of the rare studies conducted at Tule Lake Refuge and Lower Klamath Refuge, Grove et al. (2001) reported two young pheasants died because of exposure to the organophosphate insecticide methamidophos, and found evidence of sublethal exposure of pheasants to insecticides that inhibit brain cholinesterase. However, Grove et al. concluded that the overriding factor affecting the suppressed Tule Lake Refuge pheasant population was poor habitat quality, although loss of insects killed by insecticides may have contributed to food shortages and indirectly influenced survival. Though this study uses poor water quality as an excuse to write off the impacts of chemicals on the pheasants, it does not address the cumulative impacts of the water quality when coupled with the impacts from the pesticides. The final EIS should do this.

Response: The 1995 study involving acetylcholinesterase inhibition and pheasants was related to pesticides that are no longer used on the refuge (e.g., methamidophos, parathion, etc.). Please see the revised Environmental Contaminants discussion in Section 5.1.1, which provides the results of pesticide monitoring conducted on Tule Lake Refuge in 2007 and 2011. The Service believes the cumulative effects of refuge actions are addressed in Section 6.7.5 in the CCP/EIS.

Comment# 748-32: 5.4.1 Environmental Contaminants New Paragraph "Suggest referencing and discussing Pesticide Monitoring Results for Tule Lake, California, 2007 Study. This study was designed and conducted by Reclamation and Service. Report available at: http://www.usbr.gov/MP/KBAO/programs/land-lease/Tule_Lake_Pesticide_Monitoring_2007_summary_report_Final_HighRes.pdf.

Response: Section 5.1.1 of the CCP/EIS was revised to include additional information regarding pesticide monitoring and detections.

Comment# 748-37: 6.2.5 between the percentage New paragraph at end. "Suggest referencing and discussing Pesticide Monitoring Results for Tule Lake, California, 2007 Study This study was designed and conducted by Reclamation and Service. Report available at: http://www.usbr.gov/MP/KBAO/programs/land-lease/Tule_Lake_Pesticide_Monitoring_2007_summary_report_Final_HighRes.pdf..

Response: References and discussion of the more recent pesticide monitoring has been included in Sections 5.1.1, 5.4.1, 6.2.3, 6.2.6, 6.4.3, and 6.4.6.

Comment# 748-46: 6.4.3 Pesticides are used no pesticides have been documented in refuge waters at concentrations that are toxic to fish and wildlife (Snyder-Conn et al. 1999). "Suggest referencing and discussing Pesticide Monitoring Results for Tule Lake, California, 2007 Study. This study was designed and conducted by Reclamation and Service. Report available at: http://www.usbr.gov/MP/KBAO/programs/land-lease/Tule_Lake_Pesticide_Monitoring_2007_summary_report_Final_HighRes.pdf..

Response: Section 6.4.3 of the CCP/EIS was updated to reflect results of more current monitoring.

Comment# 793-42: It is unacceptable to release a Comprehensive Plan that does not include a Cumulative Watershed Effect analysis on the past, present and foreseeable use of multiple chemical agents within watersheds and wetlands that are already suffering from legacy contaminants and poor water quality. It is also unacceptable that highly controversial and dangerous chemicals are used on wildlife refuges without monitoring requirement or scientific analysis on impacts.

In one of the rare studies conducted at Tule Lake Refuge and Lower Klamath Refuge, reported two young pheasants died because of exposure to the organophosphate insecticide methamidophos, and found evidence of sublethal exposure of pheasants to insecticides that inhibit brain cholinesterase.109 However, Grove et al. concluded the overriding factor affecting the suppressed Tule Lake Refuge pheasant population was poor habitat quality, although loss of insects killed by insecticides may have contributed to food shortages and indirectly influenced survival. Though this study uses poor water quality as an excuse to write off the impacts of chemicals on the pheasants it does not address the cumulative impacts of the water quality when coupled with the impacts from the pesticides. The final EIS should do this.

Response: See response to comment 734-31.

Comment# 812-5: the final CCP/EIS should more thoroughly address the use of pesticides in relation to grazing and should ban the use of synthetic pesticides on grazed plants. The CCP/EIS briefly mentions pesticide use concerning grazing. Although the Lower Klamath Refuge no-action alternative states that the invasive species grazed on this refuge grow without pesticide use, it does not specify whether other plants grazed, such as rushes, forbs, cattail, and bentleaf grasses, are subject to treatment with pesticides.

Response: All pesticides applied on the Refuges will be used according to their label, as required by the EPA. Additionally, pesticide applications are evaluated and permitted consistent with IPM practices, an approved pesticide use proposal, and other relevant policies of the Department of Interior and the Service, as described in the CCP/EIS. Only noxious and non-native invasive species would be targeted for pesticide application, when warranted under the IPM for the applicable Refuge.

Comment# 812-6: The draft CCP/EIS's discussion of haying on the Refuges suffers from some similar shortcomings as the grazing analysis and would benefit from additional scrutiny in the final CCP/EIS. When describing the Lower Klamath Refuge's no-action alternative for haying, the draft CCPS/EIS states the plants most commonly "hayed on the refuge include pasture grasses, alfalfa, rushes, and sedges," and "[s]ome or all of these plants grow on the refuge without the need for planting, irrigation, fertilization, and/or pest management." CCP/EIS 4-15 (emphasis added). However, "[o]ther plants (e.g., pasture grasses and alfalfa) may involve planting, irrigation, fertilization, and/or pest management." CCP/EIS 4-15 (emphases added). In addition, the draft Compatibility Determination specifies haying on the Lower Klamath Refuge will be conducted under lease land contracts administered by the Bureau of Reclamation and that the contracts will address conditions such as the use of GE crops and pesticides. CCP/EIS App. Pt. 1 at 331. Similarly, the no-action alternative for the Upper Klamath Refuge indicates plants hayed on

this refuge include pasture grasses, alfalfa, rushes, and sedges, and that "some/all of these plants grow on the refuge without the need for planting, irrigation, fertilization, and/or pest management," while "[o]ther plants (e.g., pasture grasses and alfalfa) may involve planting, irrigation, fertilization, and/or pest management." CCP/EIS 4-82 (emphases added). Thus, the extent and parameters of pesticide use on the Refuges for the haying program at present and in the future is unclear from the draft CCP/EIS, and FWS should include additional information in the final CCP/EIS or in a formal supplemental environmental analysis to fulfill its duty to adequately examine the environmental effects of its proposed actions under NEPA.

Response: The CCP/EIS and Lower Klamath and Upper Klamath Haying Compatibility Determinations have been revised to remove any reference to alfalfa. In general practice, the application of herbicides and fertilizers is not needed or conducted for haying. Regarding genetically engineered crops, see response to comment 812-7.

Comment# 906-2: The Pesticide Use Proposal (PUP) process is not a substitute for a compatibility determination where it evaluates whether there is "excessive risk" to refuge wildlife, rather than considering whether pesticide use detracts from or interferes with fulfillment of refuge purposes.

• The compatibility determination should consider impacts of pesticide use on species other than waterfowl, such as aquatic invertebrates, which are an important food source for waterfowl.

Response: The PUP process is not proposed or evaluated as a substitute for determining whether or not a particular use is compatible and contributes to meeting the Refuge purposes and overall Refuge System Mission.

Comment# 906-28: The FWS must ensure that pesticide treatments in the Lower Klamath and Tule Lake National Wildlife Refuge, specifically on federally leased land for agriculture, does not result in take of bald eagles and golden eagles, as defined in the Golden and Bald Eagle Protection Act.

Response: Effects of implementing the pesticide use program on lease lands at Tule Lake and Lower Klamath Refuges are evaluated through the PUP process and the 2007 Biological Evaluation and associated 2007 BiOp (Service 2007b, in Appx B, References to the CCP/EIS). The 2006 Programmatic Biological Evaluation (Service 2006) documents the pesticide risk assessment process employed by the PUP Committee, an interagency committee with expertise regarding pesticide use and its effects on fish and wildlife, and local knowledge of agronomic appropriateness of the requests. The Service recognizes that there are more in-depth and more improved processes available. The method we adopted for our PUP review process is a screening risk assessment similar to one used by the EPA to screen potential ecological risks associated with pesticide use (available online at https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/overview-risk-assessment-pesticide-program). This screening risk assessment is intended to be complemented by the National Pesticide Consultations done by the National Marine Fisheries Service, Service, and EPA.

Comment# 906-29: The FWS must ensure that pesticide treatments on agricultural lease lands and do not disturb bald and golden eagles that feed on waterfowl and rodents within the refuges. This requires FWS to ensure that PUPs and the IPM plan does not contribute to a build up of environmental toxins that would result in take of protected species. As explained below, there are gaps in monitoring and reporting requirements in the Draft CCP that contribute to a build-up of environmental toxins by pesticide activities, which may result in take.

Response: See response to comment 730-20.

Comment# 906-60: Pesticide contamination from agricultural point sources (e.g. aquatic pest treatment) and non-point sources is a major contributor to the impairment of Lower Klamath and Tule Lake Wildlife Refuge waters. Currently, California recognizes Tule Lake as impaired for nutrients (nutrient overload), mercury, dissolved oxygen (deficient); and the Tule Lake and Lower Klamath wildlife refuges as impaired for pH under section 303(d) of the CWA, 33 U.S.C § 1313(d).417 All identified impairments, except mercury (source unknown), are attributed to agricultural operations.418 The Service is responsible for ensuring that lease land farmers engage in pesticide and pest management practices that pose the least risk to organisms that are not the target for the pesticide application, especially in waters classified under the CWA 303(d) impaired waters list. The Service has must ensure that all animal and plant species present on the wildlife refuges, their food sources and their dependent habitat are protected from environmental stressors that may adversely affect their survival. Additionally, species listed under the ESA, Migratory Bird Treaty Act, and Golden and Bald Eagle Act are afforded a higher level of protection from environmental stressors.

Response: Please see the discussion of environmental contaminants in relation to ongoing pesticide monitoring in Section 5.1.5, and the discussion of the pesticide approval process in Section 5.2.6, Habitat/Water Management, as well as the discussion in Section 4.2.1 on IPM. The Service believes that the pesticide approval process ensures minimal risk to fish and wildlife on the Refuges. Also, see responses to comments 56-11, 730-29, and 793-12. Additionally, pesticides are not listed on the current TMDL. If they are listed on a future 303(d) list, they would be addresssed at that time under a separate process.

E. Baseline Data

Letter ID # 56-11, 56-12, 56-21, 56-22, 56-23, 730-23, 906-41

Public Concern Statement: Several commenters request that the Service disclose previous chemical use within the Refuge, including authorized pesticides on cooperative and lease land units, and monitoring efforts.

Comment# 56-11: Under no circumstances should chemical fertilizers and pesticides be used on Refuge lands. These chemicals may contaminate soil and water. They may accumulate and build up over time, and may harm many species of native wildlife and their food sources. Please provide full and detailed analysis of all the chemicals used over the past decade, their breakdown products, carriers, adjuvants, etc. All of these may act cumulatively or synergistically. Where, when and how has the Refuge monitored chemical use, effects on wildlife and water quality, and chemical load in waterfowl and other wildlife using the Refuge? What chemical residues have been detected.

Response: A variety of management techniques are used on the refuge cooperative farmlands to combat pests and help ensure successful crop yields, including pre-plant flood irrigation, rotation of crops, pre-plant tilling, pre-plant prescribed burning, and the application of pesticides. Pest management authorization is described in Section 2.0 of Appendix Q. Appendix Q also provides a structured procedure to evaluate potential effects of ground-based applications to Refuge biological resources and environmental quality. Pesticides can only be used on Refuge lands for habitat management as well as croplands or facilities maintenance after approval of a PUP. Potential effects to listed and non-listed species are evaluated with quantitative ecological risk assessments and other screening measures. Potential effects to environmental quality are based upon pesticide characteristics of environmental fate (water solubility, soil mobility, soil persistence, and volatilization) and other

quantitative screening tools. Ecological risk assessments as well as characteristics of environmental fate and potential to degrade environmental quality for pesticides are documented in Chemical Profiles (see Section 7.5 of Appendix Q). In general, only pesticide uses with appropriate BMPs (see Section 4.0) for habitat management and cropland or facilities maintenance on Refuge lands that would potentially have minor, temporary, or localized effects on Refuge biological resources and environmental quality (threshold values not exceeded) are approved. The types of pesticides that have been authorized for use on refuges within the Klamath Basin Complex are listed in Tables 5.16, 5.18, 5.25, 5.27, 5.33, and 5.34. The acreage of pesticides applied on Lower Klamath are listed in Tables 5.17, 5.19, 5.20, 5.26, 5.28, and 5.35. Information regarding pesticide monitoring and detections in 2007 and 2011 at Tule Lake Refuge has been added to Section 5.1.1, Environmental Contaminants. Additional information is provided in Chapter 6 of the CCP/EIS, in particular Sections 6.2.3 and 6.4.3. With regard to chemical fertilizers, while pesticides have a specific chemical makeup that can be identified through monitoring, chemical fertilizers are ubiquitous and not easily distinguishable from natural and other sources.

Comment# 56-12: The Refuge must develop a Plan that truly minimizes the use of chemical herbicides in treating weed infestations, and must rely on soils and Integrated Weed management practices. What herbicides and pesticides have been used in all areas of the Refuge in the past decade? Where, when and how has the refuge monitored for environmental effects and contamination of soils, water, wildlife, aquatic biota.

Response: See response to comment 56-11.

Comment# 56-21: The Refuge grazing scheme will promote exotic invasive species and undesirable species, likely resulting in substantially increased herbicide use in the future. How much herbicide is currently used on the Refuge? How much of each type? Where has it been applied? How much will foreseeably be used on the Refuge and surrounding lands as a result of grazing? What are the herbicides that are or will be used? What are their effects (active ingredients, breakdown products, degradates, bioaccumulation, impacts to non-target species, drift and potential impacts to the public) – and all direct, indirect and cumulative effects on soils, ground and surface water, plant and animal biota and human health. The Compatibility Determination claims no herbicides will be used. This simply cannot be true. Yes, the weeds the cows promote may not be germinated and growing tall during the grazing 2015 bout, but they will in the aftermath of it.

Response: Regarding preventing the introduction of invasive plants and weed infestation, see response to comment 56-2. Table 5.3 in the CCP/EIS lists the invasive plants on or near the Refuges. Information about the pesticides used on the refuges is presented by refuge in CCP/EIS Table 5.16-5.20 (Lower Klamath and Tule Lake), Section 5.3.5 (Clear Lake), Tables 5.25 through 5.28 (Tule Lake), Table 5.33 (Upper Klamath), and Tables 5.34 through 5.35 (Bear Valley). Effects of pesticides are discussed in CCP/EIS Chapter 6, Environmental Consequences. Ranchers grazing under special use permit at Upper Klamath, Clear Lake, and Lower Klamath are prohibited from applying any fertilizers, pesticides, or biological controls on Refuge land or waters. At Clear Lake and Lower Klamath Refuges, if there is a substantial outbreak of flies or other bothersome livestock pests, then the rancher may submit a completed PUP to the Service for consideration. All control actions are prohibited until the PUP is approved by the Service. Please see the Stipulation section in the Grazing Compatibility Determinations (in Appendix G).

Comment# 56-22: Where has grazing occurred on Refuge lands throughout the past 20 years (1994 to the present)? Where has herbicide use occurred throughout this period? What weeds are being sprayed, and with how what chemicals – both alone and in any combination? Have soils been tested for

residues? Please provide detailed mapping and analysis. What weeds are a significant concern on the Refuge? What new invasions are foreseeable? What vegetation is the Refuge seeking to establish in grazed areas? What non-target species may be impacted by herbicide use, drift, and contamination? The USGS publication Eagles-Smith and Johnson 2012 shows serious uncertainty and concern about biocide contamination in the Refuge lands and surroundings:
http://www.fws.gov/arcata/fisheries/reports/technical/Eagles-Smith%20and%20Johnson%202012_Klamath%20contaminants_Final_052312.pdf

Response: Regarding where grazing has occurred and mapping, the recently grazed areas on the refuges are shown in draft CCP/EIS Figures 4.3 (Lower Klamath), 5.11 (Clear Lake), and 5.21 (Upper Klamath). For herbicide use and weeds of concern on the Refuges, and effects of herbicide use, see response to comment 56-21.

Comment# 56-23: When, where and how has FWS tested contaminants and soil pollution/toxic residues at various depths in the lands targeted for this grazing scheme? Lands that appear to be most targeted by the proposal are recently acquired lands not previously part of the Refuge. There is no adequate baseline provided on various levels of ag activity and/or drainage from ag activity affecting the areas targeted for grazing.

Response: CCP/EIS Chapter 5 includes discussions of known environmental contaminants at each refuge. Chapter 6 includes discussions of the effects of known and potential contaminants at each refuge.

Comment# 730-23: First, the Draft CCP/EIS incorrectly or confusingly applies past use data in its analysis. In describing cooperative farming on the Lower Klamath NWR, the Draft CCP/EIS presents a table of pesticides used or proposed for use from 2011 to 2015 on both cooperative and lease land units. Draft CCP/EIS at 5-80–5-81. But, the discussion of the table treats it as a list of "pesticides used or proposed for use on the refuge cooperative farmlands" only. Id. at 5-80. This data is not clarified by the 2015 PUP Book, which approves only three pesticides for cooperative farming units (none of which appear in the table). 2015 PUP Book at 31, 47, 87, 91, 171, 175. When performing the same analysis for Tule Lake NWF, the Draft CCP/EIS contains a table entitled "Cooperative Lease Land Farmlands." Draft CCP/EIS at 5-125. Again, the text of the analysis claims this table lists those pesticides authorized for use on cooperative farming units only. These inconsistencies are not easily reconcilable and make it difficult for the public to accurately understand current management practices on these refuges in comparison with the proposed alternatives.

Response: See response to comment 730-24.

Comment# 906-41: There is no data regarding current pesticide use on the refuges; indeed, FWS admits that "current contamination threats and impacts are uncertain due to lack of monitoring data."457 Pesticides have been linked to wildlife deaths in the past458, so FWS cannot accurately estimate the impact of agricultural activities on wildlife without baseline information on pesticide use. FWS must include in the CCP/EIS:

• Year-by-year data regarding which pesticides were used, where they were used, and in what quantities they were used on Lower Klamath Refuge [ref. 5-80-87]; and

• Year-by-year data regarding which pesticides were used, where they were used, and in what quantities they were used on Tule Lake Refuge [ref. 5-125-136].

Response: See responses to comments 56-21 and 56-11.

F. Design Features
Letter ID # 730-8, 730-26, 906-31, 906-32, 906-36, 906-61

Public Concern Statement: In addition to measures mentioned in PUP comments, several respondents state that the Service should implement BMPs and application limits for pesticide use and monitor for impacts.

Comment# 730-26: The proposed IPM in Appendix Q and the PUP process allow the use of pesticides without any additional Best Management Practices (BMPs) where the half-life of the pesticide may persist in the soil for up to 100 days, may persist in water up to 100 days, and may have moderate bioaccumulation values.25 The PUP process allows the use of pesticides that exceed these levels, with additional BMPs. Given the Service has very little information and much uncertainty concerning the chronic effects of these pesticides on wildlife, the PUP process and Appendix Q do not support a compatibility determination for agricultural use of pesticides on the refuges.

Response: Appendix Q lists specific additional BMPs that are added into approved PUPs if the characteristics of the product exceed specific thresholds (e.g., half-life > 100 days for soil persistence triggers specific additional BMPs; see Appendix Q). However, BMPs are considered and potentially incorporated into every PUP based on the environmental fate and toxicity of a product. These BMPs are incorporated during the PUP review process.

Comment# 730-8: to the extent the Service allows the use of pesticides on the refuges, it must include a rigorous monitoring program for compliance and to better assess the impacts of the use of pesticides on refuge resources. For example, in 2006, the Service found evidence of pesticides that were prohibited on the refuges. The pesticide monitoring study conducted in 1998, 1999, and 2000 is outdated. The PUP process and the IPM cannot ensure the use of pesticides is compatible if the Service does not follow up its approvals with real-world monitoring and study.

Response: The results of more recent pesticide monitoring are disclosed in the CCP/EIS. See responses to comments 748-32 and 748-46.

Comment# 906-31: In assessing the presence of non-target stream bank species at risk for adverse incidents from pesticide pollution, FWS must to establish application limits to protect stream and stream bank associated wildlife species from adverse incidents. FWS must provide operators with a map or list of potentially affected non-target species consistent with the Klamath Basin. This resource will aid applicators in pest and water quality management efforts because it will give operators information of the non-target species present in correlative surface waters. Further, in developing the wildlife distribution resource, FWS must also consider the TMDL limits for each basin to develop a guide, list, or map of areas with stream and stream bank associated wildlife to avoid adverse incidents to non-target species.

Response: Regarding the application limits near water, see the 2016 PUP book, which includes the general restrictions in aerial application, ground application, chemigation, and buffer zones, as well the individual PUP containing specific BMPs. The potential to impact non-target species is considered in the individual PUP. It should be noted that pesticides are not listed on the current TMDL. If they are listed on a future 303(d) list, they would be addresssed at that time under a separate process.

Additionally, see responses to comments 730-29 and 793-12.

Comment# 906-32: The PUP program authorizes operators to apply 2,4-D for aquatic pest-management. In the Draft CCP, FWS does not offer pesticide application, dailyload, or water quality limitations for 2,4-D and many other persistent chemical compounds found in pesticides that reflect a chemical's degradation time in varying aquatic environments. This failure ignores the variability of application of pesticides per volume rate, and its corresponding chemical volatility, degradation rate, and time to disappearance. Monitoring sediment for toxicity to ensure compliance with refuge water quality standards should not be overlooked, especially when applicators are authorized to use highly persistent chemicals, such as copper-based pesticides or pesticides known to bio-accumulate in water.

Response: Though the Service permits several pesticides that are labeled for aquatic uses, no direct aquatic applications are permitted within the lease lands or cooperatively farmed units, and the Service requires buffers around water bodies ranging from 25 to 300 feet, depending on the toxicity of the pesticide and and the application method. Chapters 5 and 6 of the CCP/EIS have been revised to reflect the more current monitoring conducted by Reclamation in the Tule Lake sumps for the presence of pesticides. In addition, we have added an action under Alternatives B and C for Tule Lake Refuge to "Periodically conduct water, sediment, and fish and wildlife tissue monitoring in Tule Lake Sump 1A to ensure pesticides are at concentrations below those having an adverse effect to listed species and other wildlife." Also see responses to comments 730-26, 730-29, 793-12, and 56-11.

Comment# 906-36: the Draft CCP is currently inadequate to control pesticide discharge, pesticide bioaccumulation in waters and soils, and toxic effects from contaminating avian food sources with pesticide residues from pest treatments on the Lower Klamath and Tule Lake National Wildlife Refuge and federally leased land for agriculture. We urge FWS to increase the restrictive and protective measures of pesticide applications for pest control in the CCP to adequately meet these objectives.

Response: Comment noted.

Comment# 906-61: Pesticide treatment of aquatic systems largely occurs during the agricultural growing season, which coincides with breeding and larval development of many amphibian species.434 Effects of pesticides on the reproduction, immunity, maturation, and survival of amphibians are widely documented in ecotoxicological studies.435 These studies establish a strong, negative correlation between pesticide pollution to surface waters and the diversity and abundance of amphibians. In addition, studies show that only focusing on water chemistry for species abundance and diversity is not effective.436 Rather, an index of water quality and physical parameters is positively correlated with species richness.437 To ensure that pesticide pollution of surface waters does not decrease the water quality and species richness in refuge surface waters, FWS must ensure that operators are managing for all aspects of water quality in pest management measures, such as physical parameters such as grading, digging, adding/removing soils and mechanical brush/weed removal.

Response: The Service manages activities on Refuge lands to ensure minimal impacts to water quality. For example, please see the general restrictions and pesticide-specific BMPs listed in each of the PUPs approved for use on the Lower Klamath and Tule Lake Refuge lease lands in 2015 (Department of the Interior 2015). In addition, see the BMPs listed in Appendix L regarding work in water or riparian areas. In addition, see response to comment 793-12.

G. Pest Management
Letter ID # 906-34, 906-35

Public Concern Statement: One entity recommends that the Service use diagnostic and forecasting tools to mitigate the impact of pests and reduce reliance on pesticide treatments.

Comment# 906-34: The IPM (Appendix Q) and PUP approval processes use a range of factors to approve pesticide treatment activities in refuges and lease land agriculture areas. We suggest that these determinative factors include enhanced diagnostic and forecasting tools such as pest dispersion models, climate models, and pesticide risk mitigation measures.439 The Integrated Plant Protection Center (IPPC), a service of Oregon State University, combines the lasted geographic imaging models for pest dispersion based on location, topography, climate modeling, and strategic planning to identify areas of concern and treatment responses. In developing and implementing the IPM plan, we suggest FWS focus use the latest science and pest mitigation measures, outlined by the IPCC to abate the use of pesticides on Refuges.

Response: Comment noted.

Comment# 906-35: FWS should incorporate climate forecasting to anticipate the frequency and intensity of pest outbreaks. Climate forecasts, rather than weather forecasts are useful not only to plan for the effects of pest outbreaks (e.g. early pest attacks or early bloom), but also to gauge the short-term effects of climate change. In the Draft CCP, the FWS identifies the predicted impact of climate change in the Basin as an increase in averaged daily temperatures. Increased temperatures in the Basin may result in increased evaporation of surface waters. Combined, these two impacts may affect the frequency and intensity of pest outbreaks. The impact of increased and prolonged heat events in the Basin are already occurring. For instance, in the summer of 2015, the Basin suffered its fourth year of consecutive drought. Drought interrupts the refuge's ability to provide adequate resting and nesting grounds for migrating waterfowl, and the eutrophication aquatic habitats has resulted in increased outbreaks of avian cholera and botulism. Eutrophication is amplified on the refuges, since a major source of pollution from surrounding agriculture is runoff from fertilizers, namely nitrates and phosphates. Under drought conditions, the prospect of maintaining water intensive agricultural activities, let alone healthy wildlife habitat is slim without transitioning toward a self-sufficient and resilient water management system. The FWS must incorporate climate forecasting and modeling into the IPM to mitigate the impact of pests by preventative, biological and physical control – reducing reliance on pesticide treatments.

Response: Climate forcasting is not currently used to anticipate the frequency and intensity of pest outbreaks. We believe the adaptive approach described in the 1998 IPM plan for lease lands and the IPM plan for cooperative farming and other refuge uses (Appendix Q) is a sound approach to pest management, consistent with Service and Departmental policies, and adequate to protect Refuge resources.

H. Aquatic Pest Management
Letter ID # 906-25, 906-30

Public Concern Statement: One entity recommends that the Service include IPM measures for aquatic pest treatments.

Comment# 906-25: the CCP does not include an analysis of aquatic pesticide treatment measures in its

discussion of implementing measures listed in the Integrated Pest Management Plan for Leased Lands at Lower Klamath and Tule Lake National Wildlife Refuges Oregon / California (1998). FWS must include IPM measures for aquatic pest treatments that are absent from the Draft CCP in order to ensure pest management operations in the Lower Klamath and Tule Lake National Wildlife Complex and its lease lands meet the protective standards of the NWRIA, CWA, ESA, and Kuchel Act.

Response: Though the Service permits several pesticides that are labeled for aquatic uses, no direct aquatic applications are permitted within the lease lands or cooperatively farmed units, and the Service requires buffers around water bodies ranging from 25 to 300 feet, depending on the toxicity of the pesticide and and the application method. The CCP/EIS does evaluate and disclose potential effects that pesticide application could have to water quality and refuge resources (see for example, Section 6.2.3). The CCP/EIS incorporates by reference the 1998 IPM/EA for IPM on Lease Lands at Lower Klamath and Tule Lake NWRs. The alternative selected for implementation in the 1998 IPM/EA allows for the selection of new, less persistent pesticides, which we believed would reduce risk in both the short and long term. The process for evaluating the new pesticides is through the PUP Committee and the preparation and approval of a PUP.

Comment# 906-30: In the Draft CCP, FWS relies on an outdated resource for approving and enacting pest management policy in the Lower Klamath and Tule Lake National Wildlife Refuges, the IPM (1998). There are gaps in the IPM that prevent the FWS to adequately prevent "take" of protected predator and prey species from exposure to pesticides via direct or indirect exposure (e.g. consumption of environmental toxins in prey carcasses). Specifically, the IPM does not address pest control for aquatic pests, but instead focuses on the five major crops grown in lease lands on refuges and their weed and vertebrate pests (e.g. mice, vole). Insect pest management is considered in a crop-disease prevention section. The absence of aquatic pest management is a striking problem since the majority of protected species on these refuges are water-associated species. The failure of FWS to include an aquatic pest management consideration in the Draft CCP is contrary to the Kuchel Act's mandate that the refuges be "dedicated for wildlife conservation... for the major purpose of waterfowl management..

Response: The Service interprets the comment to apply to aquatic invasive species or weed plants in conveyance ditches. IPM techniques are discussed in the CCP/EIS. Appendix Q (IPM Program) applies to those activities involving habitat, cooperative farming lands, and maintenance activities.

I. <u>Removal</u>

Letter ID # 906-27

Public Concern Statement: One entity recommends that the Service include excessive nutrient and pesticide removal management strategies in the CCP/EIS.

Comment# 906-27: Effective management of water inflows for Lower Klamath and Tule Lake National Wildlife Refuges must include efficient removal measures for nitrate, phosphorus, and pesticides. FWS must ensure the CWA and refuge water quality standards are managed for D Plant pumping to Lower Klamath, and Tule Lake Sumps 1A and 1B. Efficient contaminant removal measures are consistent with the FWS's adaptive habitat management goals in the Lower Klamath refuge as mentioned in the Draft CCP. These removal measures should include green infrastructure to reduce contaminant transfer from agricultural landscapes. One example of a green infrastructure for contaminant removal from agricultural runoff and irrigation return flows are constructed wetlands (CW). CWs reduce the flow of agricultural contaminants such as nitrate and pesticides.421 In order to ensure TMDL limits are met in the Lower Klamath and Tule Lake National Wildlife Refuges, FWS must include excessive nutrient and pesticide removal management strategies in the CCP.

Response: Routing agricultural water return flows through management units such as treatment wetlands may potentially reduce nutrient loads and improve water quality prior to discharge into Tule Lake. The Service will explore water quality related activities through the TMDL process once this stakeholder-driven implementation process has begun. See response to comment 734-4 regarding the TMDL process.

J. Livestock
Letter ID # 56-98

Public Concern Statement: One entity asks what insects, pests, and pathogens are associated with livestock grazing.

Comment# 56-98: What insect pests, pathogens/disease-causing microbes, antibiotics. drugs, etc. will be associated with this extensive and intensive cattle grazing disturbance.

Response: The effects of the prescribed grazing program on the environment are presented in Chapter 6, Environmental Consequences. These items listed in the comment are not specifically called out in the CCP/EIS; however, the commenter is referring to the livestock health program of the grazing permittee, which is not under the purview of the Service and is outside the scope of the CCP/EIS.

12. Visitor Services - Hunting

A. Hunting Support
Letter ID # 10-1, 101-1, 102-1, 106-1, 108-1, 115-1, 116-1, 117-1, 119-1, 126-1, 128-1, 129-1, 133-1, 135-1, 138-1, 149-1, 157-1, 159-1, 163-1, 165-1, 178-1, 185-1, 192-1, 193-1, 195-1, 20-1, 203-1, 208-1, 210-1, 216-1, 218-1, 224-1, 226-1, 231-1, 234-1, 248-1, 258-1, 259-1, 261-1, 262-1, 264-1, 277-1, 278-1, 283-1, 285-1, 288-1, 289-1, 290-1, 291-1, 302-1, 303-1, 308-1, 309-1, 31-1, 316-1, 320-1, 32-1, 321-1, 323-1, 334-1, 337-1, 339-1, 340-1, 34-1, 350-1, 35-1, 353-1, 360-1, 36-1, 364-1, 365-1, 366-1, 371-1, 39-1, 41-1, 42-1, 425-1, 43-1, 436-1, 439-1, 467-1, 47-1, 48-1, 522-11, 57-1, 641-18, 647-3, 66-1, 681-7, 684-1, 693-1, 712-1, 72-1, 766-4, 78-1, 82-1, 85-1, 853-15, 853-16, 905-1, 905-6, Form Letter 1-1

Public Concern Statement: Many individuals request that the Refuges retain hunting opportunities for existing and future generations. In particular, some respondents note that hunting is a part of their family traditions and values, is compatible with Refuge objectives and goals, and provides funding and volunteers to support ongoing Refuge operation and conservation efforts, as well as money to the local economy.

Response: Comment noted.

Comment# 853-15: During the Services presentation to the Siskiyou County Board of Supervisors regarding the Plan, the Refuge Manager referred to $25,000 duck boats as if they are standard equipment to be found in the common family/hunter's garage. There has been a growing concern from many people that the Refuges cater to guides and makes family hunting nearly impossible unless they are able to spend large sums of money on hunting equipment. The vegetation condition and low water levels in many units (which were historically well maintained) have eliminated the family experience for many Siskiyou County residents. Please keep in mind that hunting is a traditional recreational experience in Siskiyou County and our residents are better represented by lower income brackets as compared to other counties in California. Seek out management practices that reduce the monetary burden for Siskiyou County residents.

Response: The hunt programs at the Klamath Basin NWR Complex provide a variety of opportunities for hunters from both local communities and the larger region. There are opportunities for motor boat, non-motorized boat, and walk-in only opportunities on Lower Klamath and Tule Lake Refuges. These are detailed in Sections 5.2.5 and 5.4.4 of the CCP/EIS. The Service is committed to maintaining these opportunities.

Comment# 125-1: I actively participate in, and support, hunting on all of the refuges and the plan should address continued hunting on the refuge and any attempt to expand hunting opportunities

Response: Comment noted.

B. <u>Expanded Hunting Opportunities</u>
Letter ID # 51-1, 98-3, 125-1, 185-5, 249-1, 296-1, 346-1, 905-3

Public Concern Statement: Some individuals request that the Refuges expand hunting opportunities in the future.

Response: Comment noted

Comment# 125-1: I actively participate in, and support, hunting on all of the refuges and the plan should address continued hunting on the refuge and any attempt to expand hunting opportunities

Response: Comment noted.

Comment# 51-1: Hunting and fishing by and large generates the largest portion of revenue for habitat management and conservation. Being an avid outdoorsman, I would really like to see hunting continued on all refuges, with a goal of increasing and improving hunting and fishing opportunities.. I believe it of utmost importance to continue a tradition of hunting on Klammath.

Response: Comment noted.

Comment# 98-3: Of course I support hunting opportunities on all the refuges, and would like to see more area open to hunting in the future.

Response: Comment noted.

C. <u>Hunting Opposition</u>
Response: Letter ID # 292-1, 431-1

Public Concern Statement: Two commenters request that the Refuges ban hunting.

Response: Comment noted.

D. <u>Guided Hunting Support</u>
Letter ID # 131-1, 134-1, 164-1, 232-1, 250-1, 250-3, 251-1, 282-1, 29-1, 338-1, 345-1, 543-1, 552-1, 581-1, 60-1, 602-1, 63-1, 647-1, 65-1, 65-2, 740-2, 74-1, 760-1, 760-2, 760-3, 77-1, 794-2, 895-2, 905-12, 905-8, 98-1

Public Concern Statement: Numerous commenters state that the Refuges should maintain professional guided hunting programs as part of visitor services.

Response: Comment noted.

Comment# 905-8: SCI supports Alternative B in part. Alternative B maintains existing hunting opportunities and provides new drive-in and boat-in mobility-impaired accessible hunting opportunities. Chapter 4 at 4-25. In addition, under this Alternative, "the Service would: evaluate the existing hunt guide program (i.e., maintain, modify, or eliminate); analyze hunt area and auto tour route (i.e., maintain or separate in time or space); and analyze cost-effectiveness of current hunt fees (i.e., maintain or increase fee)." SCI does not support reductions in the hunt guide program and hunt areas, and only would support an increase in fees if reasonable and necessary to provide quality hunting opportunities. During its evaluation of the hunt guide program, the Service should analyze these issues in a transparent public process with input from local residents and users of the Refuge. The Service should also keep in mind that any modification, such as an increase in fees, that discourages hunters or otherwise results in a future decrease in hunting opportunities could affect visitation, visitor spending, and related economic effects, which the Draft CCP projects to moderately increase. See Economic Analysis of the CCPfor the Klamath Basin NWRC, 18, Appendix P.

Response: Comment noted. We encourage the public to participate in the future evaluation of the hunt program.

E. <u>Guided Hunting Opposition</u>
Letter ID # 67-1, 288-3, 693-3

Public Concern Statement: A few individuals request that the Refuges either ban or alter the guided hunting program to eliminate the potential for inappropriate behavior by some guides.

Comment# 288-3: I'd like to see the guide program somehow changed or eliminated. The number one complaint I hear from other hunters about the hunting program (I'm considering the lack of water as a habitat issue, not a hunting issue) is always related to the guides. The majority of the guides operate in cooperation with the other hunters on the refuge. However, occasionally there are problems and conflicts between one or two guides and the other hunters using the refuge. Currently, there appears to be no way for the refuge to objectively deal with guides who are operating outside the bounds of normally accepted behavior. I've personally witnessed behavior from the guides on several occasions that should have resulted in immediate removal from the refuge (accessing the hunt area before entry time via an unauthorized entry point is just one example). I've heard complaint after complaint voiced to refuge staff but yet nothing has been done. It seems the guides can operate without accountability. I understand that the guides provide a service that many people utilize but that should not mean they get a free pass for poor behavior. I think if you look at the proportion of unguided hunters to guided hunters you will see that unguided hunters are the huge majority of the hunters using the refuge on any given day and or season. The questionnaires provided by Mr Brown in his public comments are compelling, however he has a financial motivation to get his clients to fill out those questionnaires. I personally believe commercial operations should be limited to private property unless otherwise required by law or if it somehow benefits the refuge as a whole (such as the agricultural program on the refuges). Why should my public hunting experience be diminished by someone who is financially

motivated to push the rules as far as they can to provide for his paying clients.

Response: See response to comment 67-1.

Comment# 67-1: as far as guides guiding on the refuges I am totally against it. I hope you ban themfrom guiding. I have come into contact with guides while out hunting and they are very confrontational wih the regularhunter. I have been verbally assaultedand felt threatened by them.

Response: Under the final CCP, the guided hunt program would continue, but would be evaluated in future visitor services planning to ensure goals and objectives are being met.

Comment# 693-3: I would like to see guiding phased out on the refuges. In my experience, it is the single greatest source of conflict between hunting groups. I see little need for guides on the refuges as there is no specialized equipment needed to hunt these refuges. People from all over the state and the west come to LK and TL to hunt and the huge majority do so without the help of a guide. The only real purpose I see in a guide is that it is someone that hunters can pay to get up early and hold their spot in line. I realize that a fair number of hunters use guides on the refuges but that by no means should suggest guides are vital to the continued success of the hunting program. I would like to see some type of penalty for guides that are caught repeatedly encroaching on others, violating refuge rules, and otherwise taking away from the experience of the unguided hunters. In years where the refuge is limited in available hunting habitat, such as in drought years, I would like to see the number of permitted guides reduced by the same percentage of unavailable hunting acres. For instance, if Lower Klamath and Tule Lake only have 50% of the hunt area in a huntable condition (ie flooded or grain) there should be a corresponding 50% decrease in the number of guides allowed. I realize that eliminating guides in the short term may have a very real negative economic impact on a small number of individuals. To offset this I would propose that in the long terms, as guides retire or decide not to renew their guiding permit that the refuge not allow any new guides to take their place. Additionally, I would suggest that all guiding be phased out over the next 5 or 10 years. That will allow the currently permitted guides to secure other hunting lands.

Response: See response to comment 67-1.

F. <u>Habitat Improvements</u>
Letter ID # 48-2, 125-2, 156-1, 185-3, 322-1, 188-1, 282-3, 288-2, 402-1

Public Concern Statement: Commenters state that the draft CCP/EIS should promote improvement of wetland/wildlife habitat, including securing additional water resources, to improve hunting opportunities.

Comment# 125-2: Care and consideration should be made in the plan to promote the enhancement of wetland habitat including attempts to secure additional water sources that help to engender such habitat and provide further hunting opportunities.

Response: Comment noted.

Comment# 156-1: I support continued hunting on the refuges.I support finding a way to get water to the refuge at the right time of the year and to make the refuge what it once was.Teddy Roosevelt is rolling in his grave as to what has happened to this very important refuge.

Response: Comment noted.

Comment# 185-3: I felt the information on hunting was limited. Both Tulelake and Lower Klamath offer dry field, flooded harvested grain field, marsh, and open water hunting. The key to these activities is the delivery of adequate water, and the ability for agricultural use of the field areas. While the water is a waterfowl draw, adequate food sources in the form of grain and seed producing plantsare required to hold birds in the basin. The Tulelake Marsh unit is losing both habitat for waterfowl, and access opportunities for hunters. For a number of years, the marsh has not experienced a flushing effect of water from Lost River into the northern end of the marsh. This has led to significant build up of silt within the channels and bays that make up the marsh area. In the years when we first began huntingthe marsh, many of the channels were navigable with a boat and an outboard motor. In past years, the silt level has increasedto the point that it is very hard to get through the marsh even with a small row boat. The resulting siltation has also led to fewer waterfowl utilizing the marsh channels and bays. In viewing aerial photography and internet mapping programs, it is clearly Visible that the vegetation is choking out the channels and bays within the marsh area, thus diminishing the available waterarea for both birds and hunters. Additionally, as these channels are choked down and diminished, water flow is slowed betweenLost River, the marsh, and the main Tulelake Sump. Maintenance of the channels within the marsh area would add water flowTo the marsh, making the unit more healthy for all species.

Response: The Preferred Alternative includes proposed drawdowns in both sumps 1A and 1B to enhance wetland habitat conditions.

Comment# 188-1: I think hunting access should be a focus in the future. Obviously, wildlife habitat restoration would be an important issue. A drive through Lower Klamath is all that needs to be done. Where did all the wetland units go? A long term solution to the water issue needs to be addressed. As if now, the complex has turned into a mediocre hunting experience. How many hunt zones had wetland habitat last year.

Response: Comment noted.

Comment# 282-3: The Basin Refuges have been called the "Jewell of the Pacific Flyway" and I have been coming here for 40 years as I said. The last several years I have been absolutely disgusted with the lack of water and resultant decline in waterfowl visiting the area, especiually in the early season. I would like to do all I can to insure that the refuge has priority in obtaining water for waterfowl. It is is too important a resource to loose because the burds are caught in a bureatic power play between farmers, native peoples and enviornementalists. I hunt locally the the Grasslands and have been involved in the Grasslands efforts to lobby and secure primary water rights for the local refuges as well as the private duck clubs. It is of critical importance that the current water allocation for the Basin Refuges be imporvesd such that they are assured of a reliable and adequate water delivery for BOTH the hunting areas and the closed zones.

Response: Comment noted.

Comment# 288-2: Aside from continued hunting we need to ensure that all the refuges receive the support they require to meet all of the stated goals. This includes increased funding to conduct habitat improvements, maintain the current facilities and infrastructure and most importantly, provide a reliable source of water for Lower Klamath. Without water, this one time jewel of the flyway, has withered into an embarrassment. We must find a way to ensure water reaches Lower Klamath in the fall. Not just for ducks and geese but for all the species that rely on water in the spring and summer

such as ibis, avocets, and cranes. Without water none of the 4 stated goals will ever be fully met.

Response: Comment noted.

Comment# 322-1: I am an avid waterfowl hunter and conservationist, along with several family members spanning 4 generations. I fully support continued hunting in the Klamath Basin, as well as updated wildlife habitat work.

Response: Comment noted.

Comment# 402-1: I was introduced to hunting on lower klamath and tule lake. It has become a lifestyle and I try to go every season. The lack of water is making it difficult to continue this tradition.

Response: Comment noted.

Comment# 48-2: I would encourage FWS and other supporting agencies to work together in finding solutions to the water issues and other related problems that affect hunting and public access in the Klamath Basin.

Response: Comment noted.

G. Boat Access
Letter ID # 185-4

Public Concern Statement: One individual requests that the CCP/EIS include motorless boat access to the Clear Lake NWR for waterfowl hunting.

Comment# 185-4: Has there ever been consideration of allowing motorless boat access to the Clear Lake NWR for waterfowl hunting? This would provide some additional access for hunting opportunities where there was water.

Response: This proposal may be considered in future visitor services planning.

H. Hunting Zones
Letter ID # 282-4

Public Concern Statement: One commenter recommends that closed and hunting zones identified in the CCP/EIS be uniformly and regularly rotated so as to afford the maximum use of the Refuges as well as disperse the bird population and reduce the spread of avian disease.

Comment# 282-4: it is important that the closed and hunting zones be uniformly and regularly rotated so as to afford the maximum use of the refuge as well as making sure the birds do not congregate in one area to the extent that the spread of avian disease becomes a realistic threat.

Response: Comment noted.

I. Refuge Specific Recommendations

Letter ID # 238-2, 641-4, 641-14, 641-19, 766-5

Public Concern Statement: Comments were provided for specific Refuges as follows:

- Two individuals asks that the CCP/EIS 1) discourage hunting on the Bear Valley Refuge for bear and cougar outside the normal deer season, or conversely, 2) allow all state authorized seasons be allowed within Bear Valley Refuge through end of October.
- For the Lower Klamath, it is recommended that an analysis be conducted for the hunting program for the Straits Unit on the Oregon side to improve hunting opportunities. The same commenter suggests increase signage for the Upper Klamath to improve awareness of hunting and closed areas. One additional comment requests that afternoon hunting opportunities for Tule Lake and Lower Klamath be provided after mid-November.

Comment# 238-2: Bear Valley Refuge - 3.2.6: Do not encourage hunting on the Refuge for bear and cougar outside the normal deer season. Populations in this area are not great and they are reasonably controlled by food availability and limited hunting on non-Refuge lands.

Response: Comment noted.

Comment# 641-14: The Department recommends that an analysis be conducted for the hunting program for the Straits Unit on the Oregon side (Lower Klamath Refuge). Current hunting opportunities allow all-day 7 days per week waterfowl hunting. There may be opportunities to implement changes which could help improve quality of hunting opportunities. Changes might include 1 pm shutdown similar to what occurs on the California portion of Lower Klamath Refuge.

Response: As part of the ongoing management of our Hunting Program, the Service would consider these options at a future public Hunt Program meeting.

Comment# 641-19: ncreased refuge signage is recommended to improve public awareness of hunting areas and closed areas within Upper Klamath Refuge.

Response: The Service concurs with the comment. Signage will be addressed in future visitor services planning.

Comment# 641-4: The Department was pleased the Service is considering allowing additional hunting opportunities within Bear Valley Refuge. Current refuge regulations only allow walk-in deer hunting. The Department recommends that all state authorized seasons be allowed within Bear Valley Refuge through end of October. Authorized seasons would include elk archery and rifle season, general fall bear, general cougar, California quail, mountain quail, and forest grouse. Because access is by walk in only, the Department believes allowing additional hunting opportunities will not dramatically increase public use of the refuge. Furthermore, because hunting will not be allowed after October 31st, there would not be any impact to wintering eagles.

Response: As indicated under Alternative B, the Preferred Alternative, the Service is willing to consider additional wildlife-dependent recreation in the future.

Comment# 766-5: Tule Lake and Lower Klamath were originally open to all day hunting. However, in the mid 1970s, hunting was reduced to a closure at 1:00 PM. Hunting license sales were at an all-time high at this time as well as hunter use in the Klamath Basin. However, the habitat of Tule Lake Marsh

was beginning to show signs of degrading habitat, and therefore, less bird use. Refuge management, the professional waterfowl guide services, and some in the hunting community thought it would help hunter success if the daily hunting hours were reduced. However, there were also major changes outside of the Klamath Basin that were impacting waterfowl distribution in the Klamath Basin. One of these was the increased population of waterfowl distribution in the Columbia Basin due to major water development projects and agricultural practices. About 10 years ago, to allow more recreational opportunity, the refuge expanded afternoon hunting hours to sunset on the California side (Tule Lake and Lower Klamath) after December 15th on Saturdays and Wednesdays only. Due to weather and wind conditions, many waterfowl simply don't fly until the afternoon in the Klamath Basin. Also, hunter numbers are so low at this time of year that hunting pressure is not as much of a concern as it may have been in the 1970s. Therefore, I would like to see afternoon hunting opportunities expanded to begin in Mid-November. This will help to spread hunters out because hunters have the option of hunting in the morning or afternoon.

Response: As part of the ongoing management of our Hunting Program, the Service would consider this option at a future public Hunt Program meeting.

J. Separation of Uses
Letter ID # 60-3

Public Concern Statement: One commenter states that the CCP/EIS should not separate bird watching areas from hunting areas in Refuges, since there is no conflict between these user groups.

Comment# 60-3: The Hunt Program on the refuge helps meet the criteria that stipulates the refuge promotes wildlife dependant public use. "Hunting is a wildlife-dependent general public use of the Refuge System and, by law, is to be given special consideration in refuge planning and management. "I would like to see the hunt program remain as it is , and do not see any reason to try to separate bird watching areas from hunting areas - As an avid refuge user since 1990 I have never seen any conflict between these two refuge user groups during the 3 month waterfowl season

Response: Comment noted.

K. Decoys
Letter ID # 255-2, 305-1

Public Concern Statement: Two commenters state that the CCP/EIS should eliminate the use of hunting decoys.

Response: Comment noted.

L. Non-toxic Ammunition
Letter ID # 641-5, 846-53, 846-76, 905-4, 905-10, 905-16

Public Concern Statement: Respondents are mixed on the CCP/EIS requirement for non-toxic ammunition for upland bird or big-game hunting. Some comments state that the requirement is inappropriate and would require further public involvement. Other comments state that the requirement is mandatory in California and should be enforced.

Comment# 905-10: SCI opposes the proposed action in Alternative 8 to require the use of so-called

"non-toxic" ammunition for upland hunting. Chapter 4 at 4-51. Hunters are generally well-informed about available ammunition types and make their choice based on a number of factors. In addition, the Service should not commit to adopt regulations and a hunt plan that requires "non-toxic" ammunition, as such changes would have to follow public comments and an open mind by the agency (i.e., no predetermined outcome). The comment opportunity for the CCP does not satisfy the Service's legal obligations to involve the public in this type of decision. The issue has not been sufficiently vetted in the CCP process for the Service to be in a position to make a final decision on ammunition use for this Refuge.

Response: For the Clear Lake Refuge, the CCP/EIS, has been revised to indicate pronghorn hunting not upland hunting. Consistent with the State of California, the Service will only allow the use of non-toxic ammunition for pronghorn hunting. We disagree with the commenter's assertion that the public involvement process has been insufficient. See Section 2.3 of the CCP/EIS for the public involvement process. The public will also have an opportunity to comment on changes to Refuge-specific regulations in 2018.

Comment# 641-5: The Department does not support requiring non-toxic ammunition for upland bird or big game hunting. Requiring non-toxic ammunition would further complicate hunting regulations as areas adjacent to Bear Valley Refuge do not require non-toxic ammunition. Bear Valley Refuge is likely little utilized by bald eagles for foraging, eagles are flying out from the winter roost to forage in the Klamath Basin on wintering waterfowl. Currently, no other NWRs in Oregon require non-toxic ammunition for big game hunting and refuges without waterfowl habitat which allow upland game bird hunting, (chukar at Hart Mountain NWR) do not require non-toxic shot. Thus, it would not seem appropriate to require non-toxic ammunition at Bear Valley Refuge.

Response: Although the Service recognizes the logistical challenges of implementing this change at Bear Valley Refuge, we supports the use non-toxic ammunition. The Preferred Alternative has not been revised and requires non-toxic ammunition. Response to comment 846-53 provides more information.

Comment# 846-53: C. Clear Lake Refuge Alternative B would "revise hunt plan to require non-toxic ammunition for pronghorn hunting." This should already be a requirement since Assembly Bill 711 was signed into law in 2013 banning lead shot in any hunting ammunition in the state of California.213 Non-toxic regulations must be strictly enforced.

Response: The non-toxic requirement for pronghorn hunting would not be phased in under Assembly Bill 711 until July 2019. The Service is implementing this requirement concurrent with the CCP in advance of Assembly Bill 711. Response to comment 641-5 provides more information.

Comment# 846-76: Bear Valley Refuge Non-toxic ammunition must be mandatory not only for deer hunting, but also for upland birds and mammals. This regulation must be effectively enforced.

Response: See response to comment 641-5.

Comment# 905-16: Bear Valley. SCI opposes requiring the use of so-called "non-toxic" ammunition for upland hunting. Chapter 4 at 4-99. Hunters are generally well-informed about available ammunition types and make their choice based on a number of factors. In addition, the Service should not commit to adopt regulations and a hunt plan that requires "non-toxic" ammunition, as such changes would have to follow public comments and an open mind by the agency (i.e., no predetermined outcome). The issue has not been sufficiently vetted in the CCP process for the Service to be in a position to make a

final decision.

Response: See response to comment 641-5.

Comment# 905-4: CI opposes any revisions to regulations or hunting plans that would require the use of so-called "non-toxic" ammunition on any of the refuges and requests that the Service consider any such proposal only after a full, public process.

Response: The Service supports the use of non-toxic ammunition and will continue to work with our State partners toward that end. Public involvement would be an important part of this process.

M. <u>Farming Stipulations</u>
Letter ID # 693-9, 693-10, 763-8, 763-9, 783-2, 783-3, 861-7, 861-8

Public Concern Statement: Several respondents express concern that farming stipulations proposed in the CCP/EIS, such as burning of standing grain or prohibitions on herding or harassing wildlife, may adversely affect hunting opportunities.

Comment# 693-9: Under Heading A .“Consistency with Waterfowl Management Needs” 2.c. Burning. (page 12). Will post burning of agricultural fields be done so as not to interfere with the Refuge hunting program? For example if standing grain in a cooperative field is burned during hunting season the field and a significant area around it can be closed to hunting by the California Department of Fish and Wildlife. Will the CCP include language to prevent burning of standing grain in or adjacent to approved hunting unit until after the hunting season is closed.

Response: The Service’s current standard practice is to burn grain units post harvest at its discretion for waterfowl management purposes. The stipulations in the lease land and cooperative farming Compatibility Determinations have been revised to clarify when fields may be burned.

Comment# 693-10: “Herding and harassment of waterfowl is prohibited from January 1 through April 30 each year.” (page16) Is the Refuge hunting program excluded from this proposed rule? The waterfowl hunting season in California usually ends in the later part of January. Could legal waterfowl hunting under this rule be considered” herding or harassment”? I request the waterfowl hunting program be excluded from this rule and that such exclusion be clearly stated in this rule.

Response: This stipulation is specific to farming operations and does not impact legal waterfowl hunting.

Comment# 763-8: Under Heading A .“Consistency with Waterfowl Management Needs” 2.c. Burning. (page 12). Will post burning of agricultural fields be done so as not to interfere with the Refuge hunting program? For example if standing grain in a cooperative field is burned during hunting season the field and a significant area around it can be closed to hunting by the California Department of Fish and Wildlife. Will the CCP include language to prevent burning of standing grain in or adjacent to approved hunting unit until after the hunting season is closed.

Response: See response to comment 693-9.

Comment# 763-9: “Herding and harassment of waterfowl is prohibited from January 1 through April

30 each year." (page16) Is the Refuge hunting program excluded from this proposed rule? The waterfowl hunting season in California usually ends in the later part of January. Could waterfowl hunting under this rule be considered" herding or harassment"? I request the waterfowl hunting program be excluded from this rule and that such exclusion be clearly stated in this rule.

Response: See response to comment 693-10.

Comment# 783-2: Another area that I did not think is right, or justified, is the burning of standing grain. The verbiage, led me to believe that the refuge could burn the ground at any time or place. This could create several problems during hunting season, such as baiting, or keeping birds in closed areas due to the abundance of food.

Response: See response to comment 693-9.

Comment# 783-3: Also the comments of no harassing or herding birds in January would eliminate 3 weeks of the hunting season. The season length is already mandated by several different laws and regulations.

Response: See response to comment 693-10.

Comment# 861-7: Under Heading A ."Consistency with Waterfowl Management Needs" 2.c. Burning. (page 12). Will post burning of agricultural fields be done so as not to interfere with the Refuge hunting program? For example if standing grain in a cooperative field is burned during hunting season the field and a significant area around it can be closed to hunting by the California Department of Fish and Wildlife. Will the CCP include language to prevent burning of standing grain in or adjacent to approved hunting unit until after the hunting season is closed.

Response: See response to comment 693-9.

Comment# 861-8: "Herding and harassment of waterfowl is prohibited from January 1 through April 30 each year." (page16) Is the Refuge hunting program excluded from this proposed rule? The waterfowl hunting season in California usually ends in the later part of January. Could legal waterfowl hunting under this rule be considered" herding or harassment"? I request the waterfowl hunting program be excluded from this rule and that such exclusion be clearly stated in this rule. Thoughts on Lease Land Farming:

Response: See response to comment 693-10.

13. Visitor Services – Other Uses

A. <u>Bear Valley Specific Recommendations</u>
Letter ID # 50-6, 238-1, 622-35, 622-47, 641-6, 641-7

Public Concern Statement: For the Bear Valley Refuge, several commenters ask that the Service to do one or more of the following:

1. Encourage walk-in photography, equestrian, and general hiking access during non-eagle dates;

2. Eliminate motorized vehicles and bicycle use;

3. Provide interpretative signage or kiosks and access to designated wildlife viewing areas; and

4. Establish parking areas and road signage along the Refuge boundary to improve access.

Comment# 238-1: Bear Valley Refuge - 3.2.6: Would like to strongly encourage walk-in photography, equestrian, and general hiking access during non-eagle dates. Strongly do not want motorized vehicles and prefer to not have bicycles due to their ability to damage dirt roads. We have proposed in the past to offer land at the south entrance for interpretive signage and observation of the eagle flyout, but interest from the Refuge has eroded. We are still interested in providing this on a formal basis. We currently work with visitors that come into our valley to help them with understanding and seeing the flyout, but would prefer to have some help and guidance from the Refuge.

Response: See response to comment 50-6. We look forward to working collaboratively with willing landowners to provide public access in the future.

Comment# 50-6: Regarding management of the Bear Valley NWR, one glaring omission concerning your proposals for public use is the lack of legal public access to a majority of this refuge, and in fact the lack of legal access for refuge management purposes. There is currently only one legal vehicular access point to the Bear Valley NWR and that is through a residential subdivision at the NE corner of the refuge. The main vehicular access point to the SE corner of the refuge is via a privately owned gravel road that is maintained by a residential landowner association. It is this access point where most of the bald eagle watching occurs, and has been a source of conflict in recent years. It is also this access route that the refuge uses for administering timber thinning sales, which necessitates purchasing a temporary access easement with the landowner for every timber sale. This is a highly inefficient way of conducting business. The north, south and west boundaries of this refuge are blocked by surrounding private lands with one small exception for foot traffic access from Hamaker Mountain on the NW corner. This refuge has been in existence now for 40 years, and this access oversight needs to be addressed.

Response: The Service concurs with the desire for public access at Bear Valley Refuge. The Service has identified Alternative B as the Preferred Alternative for the Bear Valley Refuge. Under Alternative B, the Service would investigate the potential for siting a viewing facility at the southern entrance of the refuge in order to provide opportunities for wildlife observation and photography, environmental education, and interpretation. Though we currently lack legal access for visitors to the refuge, we will explore options for an access easement or right-of-way.

Comment# 622-35: Bear Valley: Develop legal access for the public to participate in refuge sponsored outreach activities.

Response: See response to comment 50-6.

Comment# 622-47: Bear Valley Refuge has been used in the past for eagle viewing but recently has been closed to the public. Reopening the area with a kiosk and walking trail and signage off the Keno-Worden road would be welcome.

Response: See response to comment 50-6.

Comment# 641-6: The Department supports establishment of parking areas for designated access points on the north and south boundaries of the refuge.

Response: Comment noted.

Comment# 641-7: The Department supports new opportunities for wildlife observation and photography. A designated viewing area on the south entrance for bald eagle viewing would help reduce issues with residents along the access road (currently the public parks along the access road sporadically where no pull off exist making it difficult for residents to drive in and out of their residences).

Response: See response to comment 50-6.

B. Allowable Uses
Letter ID # 235-1, 793-68

Public Concern Statement: Commenters recommend that wildlife and wildlife viewing be the allowed uses of the Refuges and that the Service give compatible wildlife-dependent recreational uses priority over other non- conservation uses.

Comment# 235-1: Wildlife and wildlife viewing should be the ONLY uses of wildlife refuges.

Response: The Refuge Improvement Act of 1997 establishes priority public uses, where compatible, for NWRs, including the "Big 6": environmental education, wildlife observation, interpretation, photography, hunting, and fishing. Appendix G (Compatibility Determinations) documents the compatibility of wildlife-dependent recrational uses on refuges within the Klamath Basin Complex.

Comment# 793-68: Give compatible wildlife-dependent recreational uses priority over other non-conservation uses.

Response: See response to comment 235-1.

C. General Requests
Letter ID # 56-106, 622-43, 622-44, 622-45, 622-46, 622-48, 622-49, 622-50, 793-77, 853-10, 853-11, 853-12, 853-14

Public Concern Statement: Respondents provide a range of suggested general Refuge actions to improve visitor opportunities across Refuges. Actions include:

- Additional pullouts and signage on Refuge roads,
- Lowering speed limits and removing the weeds and brush along the auto tour routes to improve wildlife viewing,
- Developing wildlife viewing areas and access for Clear Lake,
- Additional environmental education and interpretation signage,
- Opening the visitor center daily and making walking trails Americans with Disabilities Act compliant with benches, and

- Improving the accuracy and readability of maps, including GPS coordinates.

Comment# 56-106: The following is particularly outrageous. It is the fault of FWS if it has not explored alternative "environmental education" – rather than claiming it needs to sing paeans to cows and beating the land to death. Minimal environmental education and interpretation opportunities currently exist on the Refuge …. THIS too must be corrected with the new Plan.

Response: Comment noted.

Comment# 622-43: State Line road is very hazardous for those that want to pull off the side of the road to observe or photograph birds in the area. Additional pullouts would be helpful.

Response: Currently there are four vehicle pull-off areas along State Line Road. Two are paved/improved and two are gravel pull-offs. The Service has identified Alternative C as the Preferred Alternative for the Lower Klamath Refuge. Under Alternative C, the Service intends to work with the California Department of Transportation to develop another vehicle pull-off on State Line Road. Public viewing areas need to be balanced with minimizing disturbance associated with wildlife viewing opportunities.

Comment# 622-44: The auto tour routes at Lower Klamath Lake and Tule Lake are used by everyone. Additional signage would be helpful to navigate the many choices to be made. Additional pullouts would also be helpful at the narrower portions that are single lane.

Response: The Service concurs. Under the Preferred Alternative, the Service will replace signs on the auto-tour route.

Comment# 622-45: Removing the weeds and brush along the auto tour routes would also be helpful so birds could be observed in the canals.

Response: Weed control is conducted when staffing is available and is delayed in some areas to avoid nesting birds.

Comment# 622-46: At this time, Clear Lake Refuge does not have viewing possibilities. Developing areas and opening those to the public on the water's edge with a watch post or hiking trail would be welcome. A sign off Highway 139 would help direct those accessing the area.

Response: The Service concurs. The Service has identified Alternative B as the Preferred Alternative. Under Alternative B, the Service would consider creating opportunities for wildlife observation and photography and the potential for siting a viewing facility on the southern boundary of Clear Lake.

Comment# 622-48: Interpretive signage brings a more welcoming atmosphere and educational opportunities.

Response: Comment noted.

Comment# 622-49: The Visitor Center is currently closed on Sundays which is a big family day for birding. KBAS would like to see the Visitor Center open on a daily basis with the help of volunteers or staff.

Response: Keeping the Visitor Center open 7 days a week is a priority for the Service. However, hours may be reduced when insufficient staff/volunteers are available.

Comment# 622-50: KBAS would like to see the walking trail at the Visitor Center more ADA compatible for wheelchairs and those that have trouble walking far. Benches could be placed along the trail as resting and observation spots. KBAS would also be willing to help fund the benches through their grant program.

Response: The Service concurs. The Service is committed to providing accessible wildlife viewing opportunities, and we look forward to working with our partners.

Comment# 793-77: Currently Stateline Road, a major commercial trucking route, bisects Lower Klamath National Wildlife Refuge, has a 55 mile per hour speed limit, and has inadequate shoulders to pull over for nature observation. As part of the CCP process the United States Fish and Wildlife Service should: · Consider routing commercial trucking off Stateline Road where it goes through Lower Klamath National Wildlife Refuge. · Consider lowering the speed limit through the refuge. · Consider improving wildlife viewing opportunities on Stateline Road.

Response: The Service has no jurisdiction over Stateline Road because it is a State Highway. Public safety is a Service-wide priority. See also response to comment 622-43.

Comment# 853-10: Refuge visitor maps provided both at the Refuges and on the websites are of a small scale which makes them difficult to read and interpret. Additionally, many maps are not accurate or have omissions of landmarks, making navigation difficult.

Response: The Service continually strives to improve our visitor materials and welcomes constructive feedback from the public.

Comment# 853-11: Many areas outlined on Refuge maps are not accurate. Examples include, open areas for pheasant hunting are not accessible as hunters discover some of these areas are flooded when arriving at the site.

Response: See response to comment 853-10. As described on the annual hunt maps, field conditions are dynamic and subject to change on short notice. Visitors are encourage to scout hunt areas prior to driving into fields.

Comment# 853-12: Many Siskiyou County residents drive long distances in the night and arrive to the Refuges before daylight. Intersections within the Refuges that are posted for bird watchers are not viewable in the dark. Siskiyou County suggests posting GPS coordinates on the Service's maps.

Response: The Service is working to improve the signage on the roads. The Refuge is open to the public during normal visiting hours from sunrise to sunset.

Comment# 853-14: Improve walking access on the overgrown dikes within the Refuges. Consider mowing and burning to facilitate a good hunting experience.

Response: Weed control is conducted when staffing is available and is delayed in some areas to avoid nesting birds.

D. <u>Livestock Impacts on Visitors</u>
Letter ID # 56-93, 56-105, 56-110, 56-111, 56-113

Public Concern Statement: One commenter expresses concern that livestock grazing is not a wildlife-dependent recreational use that is compatible with other public uses and may decrease some users' experiences or decrease their public safety.

Comment# 56-105: The grazing programs conflict with the existing wildlife dependent public uses on the Refuge that include wildlife observation, photography, hunting, fishing, environmental education and interpretation.

Response: The Service disagrees that targeted livestock grazing conflicts with wildlife-dependent public uses. Targeted grazing is an important habitat management tool used to achieve habitat management objectives. Although some visitors may find the sight of livestock grazing objectionable, the presence of livestock does not interfere with the public's opportunity to use the Refuge for hunting, fishing, wildlife observation, or photography.

Comment# 56-110: The proposed use is inconsistent with public safety; This is the case, as cows carry many diseases, pollute water with pathogens, and this is likely to increase herbicide and other contaminants that humans (including those with compromised immune systems or sensitivities to environmental pollution) may be exposed to in many ways – including through coming in contact with waste-fouled waters – such as through harvested waterfowl, dogs splashing water onto humans, while birdwatching, etc.

Response: The Service disagrees that livestock used for habitat management is a threat to public safety. Temporary fencing is used to confine livestock on the specific areas of the Refuge where prescriptive grazing is to occur. Grazing is only permitted in accordance with stipulations in Compatibility Determinations that minimize conflicts with visitors.

Comment# 56-111: The proposed use is a use other than a wildlife-dependent recreational use that is not manageable within the available budget and staff; or This is a private economic profiteering activity for a cattle ranch operation.

Response: The Service disagrees with the comment. As outlined in the Compatibility Determination, we have determined that adequate funding and staffing are available to manage this use. Furthermore, grazing is an important tool to meet Refuge habitat management objectives. More information about determining appropriate and compatible uses is provided in response to comment 56-18.

Comment# 56-113: The FWS CD guidance document repeatedly refers to "recreational use". Grazing cows and beating lands to death is not a recreational use. It is a private for-profit economic use.

Response: The Service's compatibility policy and regulations apply to all uses of refuges other than refuge management activities. This includes recreational uses as well as refuge management economic activities such as grazing and haying, which are used to achieve management objectives.

Comment# 56-93: FWS claims: Prescriptive grazing will only be for specific periods to achieve specific goals. What are the goals and what is the scientific basis for those goals? How is cattle-caused desertification, cattle amplifying the adverse effects of climate change, weed infestation and spread and subsequent herbicide use and contamination, water loss, habitat degradation and disturbance, trampling

destruction of nests and eggs and even cattle potentially eating eggs) addressed in these "goals"? Please answer these questions for the 'objectives" of the study as well. This use is clearly not compatible with the purposes of the Refuge. It will diminish public pursuits such as birdwatching for a wide diversity of migratory birds and rare and declining species tin areas that ARE accessible to the public that will be harmed by the adverse direct indirect and cumulative effects of this scheme. Thus, it will diminish recreational use and enjoyment, and promote ESA listing for rare species.

Response: Habitat management goals, objectives, and strategies for each Refuge are described in CCP/EIS Appendix F. See response to comment 56-2 regarding prevention of introduction of invasive plants and weed infestation. Appendix G contains the Compatibility Determination for grazing, including our justification for finding it compatible.

14. Land Use/Management

A. <u>Public land</u>
Letter ID # 44-1, 83-1, 448-1, 473-2, 474-2, 593-3

Public Concern Statement: Several individuals express a desire for the Service to follow laws and maintain lands for public use only.

Comment# 44-1: site is tipical goverment red tape, anything to frustrate the public and force them to give up on complaining about legal theift of public land. Get the thieves off public land and follow the law regarding public land. To many crooked politicians in goverment in bed with corporate slime.

Response: Comment noted.

Comment# 448-1: The parks are PUBLIC and do not belong to ranchers or others who feel that they can use, abuse and destroy because they wish to do so.

Response: Comment noted.

Comment# 473-2: As a bird watcher and hiker, I am one of thousands of Oregonians who treasure our public lands and want to see them protected by this and future generations. I believe that conserving water and wildlife in the Klamath would be an important step in the right direction, and I hope that you agree.

Response: The Service concurs with the comment.

Comment# 474-2: These lands and wildlife within are part of a public trust with the citizens of this country. They should never be leased or otherwise utilized for private business and profit.

Response: See response to comment 704-9.

Comment# 593-3: This taking away a public asset for the benefit of private interests exacerbates distrust and dislike of the national government

Response: Comment noted.

Comment# 83-1: Our national parks and wildland spaces are NOT the ownership of individual companies, whether mining, forestry OR agribusiness. It's ridiculous that they are being destroyed to support a for-profit making venture, instead of your agency doing it's job to protect them for every American in the nation!

Response: See response to comment 21-1.

B. <u>Agriculture - Support</u>
Letter ID # 5-1, 60-2, 98-2, 103-1, 241-1, 250-2, 282-2, 432-1, 581-2, 641-11, 641-13, 647-2, 766-2, 783-4, 794-1, 824-1, 887-1, 895-1

Public Concern Statement: Several commenters state that the Refuges should maintain agricultural practices to provide food sources for wildlife and humans. However, other comments provide more qualified support, saying the farming should only be allowed to produce food for fish and wildlife or should follow the regenerative model and be used only in conjunction with approved wildlife habitat standards.

Response: Comment noted.

C. <u>Agriculture - Opposition</u>
Letter ID # 1-2, 11-1, 14-2, 56-8, 56-116, 56-123, 97-2, 169-2, 171-1, 174-2, 275-1, 383-2, 401-1, 405-1, 409-1, 410-2, 411-2, 412-2, 423-1, 431-4, 431-6, 431-10, 432-5, 441-1, 492-2, 504-2, 517-2, 615-2, 636-1, 639-2, 643-1, 649-1, 660-1, 704-2, 704-4, 704-11, 734-24, 744-2, 757-1, 758-2, 791-1, 793-78, 833-2, 838-1, 842-1, 851-2, Form Letter 1-2, Form Letter 4-3

Public Concern Statement: In contrast, many commenters express concern that agriculture should not be conducted on Refuge lands.

Comment# 1-2: We are not anti-farming, but it is clear that the leased-land program is inimical to the purposes of a refuge.

Response: Comment noted.

Comment# 11-1: I want the Klamath Refuges managed for wildlife. That means no more farming/ranching on refuge lands .The primary goal of management should be to further public wildlife restoration and ecological processes like predation, wildfire, and other evolutionary factors that have shaped wildlife/plants for centuries.

Response: Comment noted.

Comment# 1001-2: Eliminate the leaseland agribusiness program and restore these lands to wetlands that are actually managed for wildlife.

Response: Comment noted.

Comment# 1004-3: Phase out the lease land farming program and restore these lands to wetland habitats for wildlife.

Response: Comment noted.

Comment# 14-2: I do not support leasing refuge acreage to agribusiness interests.

Response: Comment noted.

Comment# 169-2: The leaseland agribusiness program seems to be in opposition to the values of what needs to be a science based restoration of the refuge.

Response: Comment noted.

Comment# 171-1: The whole point of wildlife refuges is made clear in their name: it is supposed to be a safe haven for wildlife. Draining wetlands, spraying pesticides, decoys to deter and frighten wildlife, and water diversion for agribusiness is the precise opposite of what should be happening on these refuges. No wonder farmers and ranchers keep getting all hot-headed about their rights to refuge lands; who decided to lease to them in the first place? Agriculture is not a compatible use for land set aside to maintain wildlife habitat and numbers. Not only should the agriculture and ranching leases end immediately, great effort ought to be expended to restore both natural flora and fauna to these areas.

Response: The Service believes that the major purpose of the Kuchel Act is waterfowl management as indicated in the language of the Act (Sections 1, 2, 4, and 6), as well as the debate in Congress in formulating the legislation. While “proper waterfowl management” is the major purpose of the Act, there are additional secondary Refuge purposes related to agriculture derived from the Kuchel Act. The Kuchel Act directs that the Secretary continue the “present pattern of leasing,” maximize lease revenues in specifically identified areas of the Refuges, and optimize agriculture, all consistent with proper waterfowl management. The Service has determined that “proper waterfowl management” is defined as: “providing habitats sufficient to support waterfowl population objectives throughout the annual cycle while promoting the highest possible natural biological diversity of refuge habitats. A sufficient quantity and diversity of foraging resources should be provided that will meet the energy requirements and nutritional demands of all waterfowl species. Where feasible, natural foods should be given priority over agricultural crops” (Appendix M). The management alternatives for Lower Klamath and Tule Lake Refuges proposed in the CCP/EIS are consistent with this definition.

Comment# 174-2: Also, our public lands can't be taken over by agribusiness, and they're not for sale.

Response: Comment noted.

Comment# 275-1: Get agribusiness off of refuge lands.

Response: Comment noted.

Comment# 383-2: I eat onions and potatoes and enjoy them, but not at the expense of birds and wildlife. The purpose of the Klamath National Wildlife Refuge is clear-- and allowing refuge lands to be used as farm lands is not appropriate.

Response: Comment noted.

Comment# 401-1: Farming on the refuges should end, as it's causing contradictions to every agency involved and to the founder's of the refuges intentions. Refuges would be far more pleasurable to people if they were managed for fish and wildlife only, as intended.

Response: Comment noted.

Comment# 405-1: The Klamath refuge supports 80 percent of migratory birds on the Pacific Flyway and thousands of birds and fish are weakened, sickened, or die from inadequate water supplies each year that agriculture is prioritized over wildlife. The Klamath's stated purpose is to be a refuge for wildlife. It has been for millennia. It has become obvious that agricultural uses are no longer compatible, if they ever were. It's time to phase out agricultural use of the refuge and return the lands to the wetlands that serve birds and fish. A thoughtless and reckless human use precedent of a few decades is insufficient to countermand a precedent of thousands of years of safe haven this lake system has provided for migratory birds. The birds and fish are suffering and have no other choices. Farmers may suffer temporary setbacks as they move on and make other career or livelihood choices, but it's the right thing to do. There is no justification for them to remain on the refuge.

Response: See response to comment 643-1 regarding farming being compatible with Refuge purposes.

Comment# 409-1: The Klamath Basin NWR's used to be one of the best venues for early waterfowl hunting in the State of California: what happened? Please bring the various refuges in this Complex back to their original purposes that were spelled out at their creation. Do not share your water rights with local agribusiness (=as I recall, most farmers up there farm for hay and potatoes, in an area of poor soils and limited water resources; ergo, it is very inefficient farming. So, do not enable inneficient farming practices.

Response: The multiple purposes for which the Refuges were established are presented in Chapter 1 of the CCP/EIS. In addition to achieving refuge purposes and the Refuge System mission, Section 4(a)(4)(B) of the Refuge Improvement Act requires that the Service consider and protect the broad spectrum of native fish, wildlife, plant, and habitat resources found on a refuge (CCP/EIS Section 1.4.4 provides more detail). Regarding water rights, see responses to comment 634-3.

Comment# 410-2: Phase out farming, faster please.

Response: Comment noted.

Comment# 411-2: Any and all agriculture must be removed from the property.

Response: Comment noted.

Comment# 412-2: Industrial agriculture has no place in this critically important wildlife area and should be banned. Given our western drought it is imperative that citizens protect our natural environment before it is all destroyed. Onions have no place here and the leases ought to be terminated as soon as possible.

Response: See response to comment 643-1 regarding farming being compatible with Refuge purposes.

Comment# 423-1: The attached picture shows leased farm land at the Tule Lake refuge. How can this scene ever be considered managing for fish and wildlife? It's not. USFWS- do better.

Response: Comment noted.

Comment# 431-10: Rescind the rule that allows farming on the refuges.

Response: Comment noted.

Comment# 431-4: Respect the refuge founders.The refuges deserve a guaranteed water right-not for crops- for wildlife!USFWS should never kill endangered fish to water crops on leased out farm land. Never. Help farmers use sustainable methods, and grow high value crops, off the refuge.

Response: Comment noted.

Comment# 431-6: Quit allowing toxic farming and burning near refuges.Take a stand for wildlife, instead of catering to agribusiness. They don't make up the whole community.

Response: Comment noted.

Comment# 432-5: For-profit farming on U.S. government-owned wildlife refuge land, and irrigating the crops with the U.S. Government's water, is simply incompatible with the management of these refuges in this arid region of Oregon and California.

Response: See response to comment 643-1 regarding farming being compatible with Refuge purposes.

Comment# 441-1: Agriculture is not a suitable use of wildlife refuge land or water resources and it should not be allowed. The CCP should reflect this.

Response: See response to comment 704-9.

Comment# 492-2: There is no place in The Klamath National Wildlife Refuge Comprehensive Conservation Plan for the activities and needs of agribusiness. It is antithetical to the conservation of the refuge.

Response: See response to comment 704-9.

Comment# 504-2: The water currently used for agriculture should not be redirected from the refuge. It is a refuge for a reason and agriculture in the region is not really sustainable.

Response: Comment noted.

Comment# 517-2: We can get onions and potatoes from plenty of other places. ATTENTION PURCHASERS OF ONION & POTATO CROPS FROM KLAMATH BASIN: Think about NOT buying any this season or ever again. Big agriculture would then fail here and the birds would not have to die. Win win.

Response: Comment noted.

Comment# 56-116: Turning out herds of weed-causing, predation-increasing, polluting cattle (see Belsky and Gelbard 2000, Knick and Connelly 2009/2011) runs counter to the Refuge purposes and to the Refuge lands being "an inviolate sanctuary for migratory birds".

Response: Grazing is used as a tool to help achieve habitat objectives on the refuge. Refuge goals, objectives, and strategies are presented in Appendix F. See also response to comment 793-46. The commenter is correct in that one of the Refuge purposes for which both Lower Klamath and Upper Klamath Refuges were established is "…for use as an inviolate sanctuary, or for any other management purpose, for migratory birds" (Migratory Bird Conservation Act, 16 U.S.C. 715d). Although the other three Refuges have similar purposes to conserve refuge resources, "inviolate sanctuary" is not a Refuge purpose for the other three Refuges addressed in this CCP/EIS. CCP/EIS Chapter 1 lists the multiple purposes for which each Refuge was established.

Comment# 56-123: As part of the Comprehensive Plan process, we request that grazing be discontinued.

Response: Comment noted.

Comment# 56-8: We urge the Refuge to adopt a management plan that terminates grazing and haying on Refuge lands, and bans the use of Refuge lands for growing agricultural crops. We are dismayed to learn that these very important public lands have long suffered from a harmful commercial farmland leasing program. This appears to be another lavish federal subsidy program. It "displaces some 22,000 acres of wetland habitat in favor of agribusiness, regularly consumes nearly all of the refuges' available water supply, allows the use of toxic pesticides, and oversees the wholesale mechanized destruction of baby and adult birds in their nests each spring. To support this private activity - the federal government regularly denies water to parched refuge wetlands and instead directs the refuge's most senior water rights to supply commercial crops. This shameful practice undermines established refuge purposes and represents a regular death sentence for thousands of migratory waterfowl". All Refuge water rights and waters should be used for wildlife habitat purposes, and not agribusiness, grazing, haying, etc.

Response: Comment noted.

Comment# 615-2: Do not continue to lease land and water to such farmers.

Response: Comment noted.

Comment# 636-1: It is a travesty that so much of the Klamath Refuge has been leased to agribusiness. This is not the purpose of this area. It is critical habitat for migrating birds. We can grow potatoes and onions and whatever else is infesting these lands somewhere else. Pillaging them in this way for private profit is in no way appropriate. The leases should phased out, starting immediately, and the entire area of the Klamath Refuge be managed for the benefit of the wildlife we treasure. They must have their migrating sites preserved to survive. Mistaken past practices must not be allowed to influence present policy.

Response: See response to comment 704-9.

Comment# 639-2: I appreciate that it was the actions taken by the Federal Gov't in the past that encouraged use of the refuge system and areas near the refuges by farmers. Therefore, I believe that the farmers with longstanding claims should be bought out, as a matter of fairness.

Response: Comment noted.

Comment# 643-1: The current lease-land program is not consistent with the purposes of the refuges. The refuges must not be commercial farming operations that deprive the wetlands of water needed by refuge species. The refuges are key national resources; their use for private gain must be halted.

Response: The purpose for which the refuges were established are presented in Chapter 1 of the CCP/EIS. In additional to achieving refuge purposes and the Refuge System mission, Section 4(a)(4)(B) of the Refuge Improvement Act requires that the Service consider and protect the broad spectrum of native fish, wildlife, plant, and habitat resources found on a refuge (CCP/EIS Section 1.4.4 provides more detail). Before activities or uses are allowed on a refuge, uses must be found to be "compatible" through a written Compatibility Determination. A compatible use will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge. The Compatibility Determinations for Lease Land Farming (in Appendix G) found lease land farming to be a compatible use on Lower Klamath and Tule Lake Refuges.

Comment# 649-1: I am writing to urge, as strongly as possible, that the Comprehensive Conservation Plan for the Klamath Wildlife Refuges give clear priority to the needs of the animal and plant life residing in those refuges. When there is competition between leased-land industrial agriculture concerns and the flora and fauna supposedly protected in these refuges, there can be no question but that the needs of the wildlife trump all else. In fact, it's my opinion that such land-lease arrangements should be completely phased out and the wetlands returned to wildlife use only. I believe that water allocations for wildlife should be increased, wetlands restored, and industrial agribusiness involvement in the area substantially reduced if not eliminated. Please take care to make it unequivocally clear that it's the fish and wildlife that the "Fish and Wildlife Service" is protecting, and not commercial financial interest.

Response: See response to comment 704-9.

Comment# 660-1: Refuge lands belong to the wildlife that need them in order to survive, not the businesses that want them in order to turn a bigger profit. Stop allowing big business to profit off the deaths of migratory birds, wildlife, and fish by sucking refuge land dry. USF&W should begin a phase-out of the land-lease program and restore the acreage that's been used for farming to its original state.

Response: See response to comment 704-9.

Comment# 704-11: The Fish and Wildlife Service should make this long overdue finding and immediately take steps to terminate the harmful leaseland program, prioritize all water delivery to the refuges for specific wildlife purposes, and take steps to restore wetland and riparian habitat on leaselands.

Response: See responses to comments 704-4 and 704-9.

Comment# 704-2: Enumerated below are some of the reasons the commercial leaseland program isn't

consistent or compatible with proper refuge or waterfowl management, or current law:

1. Commercial farming on Lower Klamath Lake and Tule Lake Refuges land uses scarce water resources at the expense of refuge wetlands on Lower Klamath Lake, Tule Lake and Upper Klamath NWR's, as well as the fish and wildlife of Upper Klamath Lake and the Klamath River. Commercial farms on refuge land receive water even when adjacent refuge wetlands do not have sufficient supplies and are allowed to go dry. The intent of the Kuchel Act was certainly never to have these leaselands receiving water, while there was virtually no water for waterfowl or other wildlife, and certainly this is not the intent of the subsequent National Wildlife Refuge System Administration Act of 1966 and the National Wildlife Refuge System Improvement Act of 1997.

2. Leaseland farming also uses refuge land that could be used to store water naturally for refuge purposes. The refuges need an independent secure source of water. The water rights associated with the leaselands have a superior priority date and should be transferred to refuge purposes. Up to 100,000 acre-feet of water could potentially be stored naturally on refuge land currently leased for commercial agriculture. Under the National Wildlife System Improvement Act of 1997, the Secretary is required to "assist with the maintenance of adequate water quality and quantity to fulfill the mission of the System and the purposes of each refuge". The comprehensive plan for these refuges should reflect alternatives that fulfill the Secretary's duty.

2. Phasing out commercial farming on the refuges is the logical place to begin reducing the irrigation season water demand of the Klamath Project (a necessary step to solve the refuge's and basin's water crisis). Eliminating lease-land farming on the refuges could save up to 50,000 acre-feet (16 billion gallons) of water during the irrigation season thereby reducing Klamath Project irrigation water use by approximately 10%.

3. Commercial farming uses critical refuge lands that should be used for wetland and wildlife management. Eighty percent of the basin's wetlands have been drained for commercial agriculture. Keeping historic wetlands on our refuges drained to lease for commercial farming is incompatible with the purposes of our national wildlife refuges and a violation of public trust. The comprehensive plan should reflect alternatives that eliminate or phase out the leaseland program to improve and increase wetland and wildlife habitat, rather than embrace a program that has led and will continue to lead to the decline of the biological wealth of these once great National Wildlife Refuges.

4. Commercial farming activities (e.g. tilling, planting, mowing, cultivation, irrigation, harvesting, and pesticide/fertilizer applications) destroy nests and kill wildlife.

5. Heavy use of pesticides known to be harmful to wildlife are used on refuge lands leased for commercial agriculture including known carcinogens, neurotoxins, and endocrine disruptors. Some of these pesticides are so toxic EPA rules prohibit human entry into the treated fields for 24 to 72 hours after treatment. In addition, herbicide use may make it difficult to restore riparian areas and develop healthy ecosystems.

6. Row crops such as onions and potatoes that are grown on refuge lands leased for commercial farming provide little or no benefit to wildlife. Even waste grain from left over grain harvests on refuge land provide only about one-tenth to one-half the food per acre as wetlands and are used by only a small number of species. More land needs to be converted to wetlands rather than kept drained for commercial farming.

7. Managing the commercial farming activities on the refuges uses up time of refuge personnel and funds that should be used to manage the refuges for wildlife purposes. In fact a review of the draft CCP

has extensive language addressing and justifying harmful farming activities, rather than in creating a plan focused on wetland and riparian restoration and wildlife conservation in compliance with the mission of the National Wildlife Refuge System and the spirit of the law.

Response: The Kuchel Act is silent on the question of water management within the lease lands. Lease lands existed when the Kuchel Act was passed and provide a key component for waterfowl energetics. Our ability to provide wetlands is constrained by our water rights. See CCP/EIS Section 5.2.1 (hydrology) and response to comment 634-3 for more details on the water supply challenges. Regarding phasing out commercial farming on the Refuges, see CCP/EIS Section 4.2.7. The Service believes the farming programs are compatible with the Refuges' purposes and the Refuge System mission. We acknowledge that farming affects wildlife, but we believe that the benefits to waterfowl from the farming program outweigh the impacts. These are described both in the Compatibility Determinations for farming and haying and also in Chapter 6 of the CCP/EIS. Regarding the use of pesticides on the Refuges, this management tool is highly regulated and follows an IPM program. We evaluate the environmental risk of each pesticide before approving it, and we re-evaluate every 5 years. Regarding the presence of row crops on Tule Lake Refuge, we believe this practice is consistent with provisions of the Kuchel Act. See Sections 4.4.1 and 5.4.5 in the CCP/EIS, and the Compatibility Determination in Appendix G. As described in the Compatibility Determination (Appendix G), the resources are available to manage agriculture and the use is compatible with Refuge purposes and is a needed component to provide sufficient resources for waterfowl.

Comment# 704-4: The Fish and Wildlife Service should develop a CCP that: Eliminates commercial farming of refuge land as incompatible uses of the refuges and develops a habitat restoration plan for these old lakebeds. Consideration could be given to honoring the existing term for outstanding leases, but no new leases for commercial farming or extensions should be allowed.

Response: Regarding elimination/phase-out of farming, see response to comment 704-9. Regarding compatibility, see CCP/EIS Chapter 1 and response to comment 643-1.

Comment# 734-24: We also support the retiring of refuge lease lands and grazing allotments that significantly contribute to poor water quality in the Straits Drain.

Response: Comment noted.

Comment# 744-2: Deny permits to raise crops on this land. They are wetlands first and last.

Response: Comment noted.

Comment# 757-1: We have to keep agribusiness out of Klamath! It is a crucial part of wildlife preservation.

Response: Comment noted.

Comment# 758-2: we should phase out lease-land agribusinesses.

Response: Comment noted.

Comment# 791-1: I urge the Fish and Wildlife Service to phase out the lease-land agribusiness

program in the Klamath National Wildlife Refuge and restore the area's wetlands. The Service should not be directing water to industrial agriculture and its environmentally damaging farming practices at the expense of wildlife. Conservation and restoration of migratory birds, fish, wildlife, plants and their habitats is the Service's mandate and should be its priority.

Response: See response to comment 704-9.

Comment# 793-78: Ten Reasons Why Leasing 22,000 Acres of Klamath Basin National Wildlife Refuge Land for Commercial Farming Should be Terminated.

1. Commercial farming on refuge land uses scarce water resources at the expense of refuge wetlands, and the fish and wildlife of Upper Klamath Lake and the Klamath River. Commercial farms on refuge land receive water even when adjacent refuge wetlands are forced to go dry.

2. Commercial farming uses critical refuge lands that should be used for wetland and wildlife management. Eighty percent of the basin’s wetlands have been drained for commercial agriculture. Keeping historic wetlands on our refuges drained to lease for commercial farming is incompatible with the purposes of our National Wildlife Refuges and a violation of public trust.

3. Commercial farming uses refuge land that could be used to store water naturally for refuge purposes. The refuges need an independent secure source of water. Up to 100,000 acre-feet of water could potentially be stored naturally on refuge land currently leased for commercial agriculture.

4. Phasing out commercial farming on the refuges is the logical place to begin reducing the irrigation season water demand of the Klamath Project (a necessary step to solve the basin’s water crisis). Eliminating lease-land farming on the refuges could save up to 50,000 acre-feet (16 billion gallons) of water during the irrigation season thereby reducing Klamath Reclamation Project irrigation water use by approximately 10%. This reduction could be achieved on land already owned by the federal government and would reduce the need to purchase private lands in order to reduce demand.

5. Phasing out commercial farming on the refuges would save taxpayer dollars. The federal government currently is paying out more money per acre to Klamath Project farmers not to irrigate each year as part of a water bank than it receives from leasing refuge land to farmers to irrigate. The government could save money in meeting water bank requirements by simply not renewing leases for refuge lands for irrigated agriculture when the current leases expire.

6. Leasing out refuge lands for commercial farming unfairly competes with Klamath Reclamation Project landowners who lease their private lands for commercial farming.

7. Row crops such as onions and potatoes that are grown on refuge lands leased for commercial farming provide little or no benefit to wildlife. Even waste grain from left over grain harvests on refuge land provide only about one-tenth to one-half the food per acre as wetlands and are used by only a small number of species.

8. Heavy use of pesticides known to be harmful to wildlife are used on refuge lands leased for commercial agriculture including known carcinogens, neurotoxins, and endocrine disruptors. Some of these pesticides are so toxic EPA rules prohibit human entry into the treated fields for 24 to 72 hours after treatment.

9. Commercial farming activities (e.g. tilling, planting, mowing, cultivation, irrigation, harvesting, and

pesticide/fertilizer applications) destroy nests and kill wildlife.

10. Managing the commercial farming activities on the refuges uses up time of refuge personnel and funds that should be used to manage the refuges for wildlife purposes.

Response: See responses to comments 634-3 and 846-4 regarding water rights and the use of agriculture in meeting Refuge purposes. We disagree with the commenter's description of pesticide use. The use of pesticides is a tool in IPM on each of the Refuges. The Service only allows application of a pesticide after a PUP is developed and approved. Through the PUP, the Service considers a variety of factors before approving the application. These factors include but are not limited to: whether or not non-chemical controls were considered; the IPM strategy; BMPs; the treatment site conditions; the potential to impact non-target species; and whether or not any federally listed species or critical habitat would be affected. We acknowledge that farming activities can disturb and kill wildlife and have considered these types of effects both in the compatibility determinations and in the impact analysis contained in Chapter 6. The Service believes the benefits in meeting Refuge purposes outweigh the impacts. Regarding the cost of Refuge personnel to manage farming activities, please see the Availability of Resources section in the Compatibility Determinations for farming and related programs on the Refuges. We do not believe these costs are excessive considering the fish and wildlife benefits derived from these programs.

Comment# 833-2: Too much water goes to support low-value commodity products like potatoes. The fact that a 10-pound bag of potatoes cost only 50 cents more than a 5 pound bag in Winco is an indication that the supply of potatoes is simply too large compared to demand. To divert scarce water to grow potatoes that sell for 10 cents a pound is ridiculous. The USFW's giving free or nearly-free water to low value crop producers is a reason the market is over-supplied with products like potatoes. The USFW should use the water rights it controls to protect habitat for Fish and Wildlife, not contribute an oversupply of potatoes and onions.

Response: Comment noted.

Comment# 838-1: I am imploring the agency to make the morally and ethically correct decision. The birds and water have a relationship that is thousands of years old. Climate change is affecting everything in nature and we need to ensure that the current resources are there to support our co-species. While I understand the needs of the farmers, I believe a buy-out is an appropriate strategy.

Response: See response to comment 704-9.

Comment# 842-1: Please remember that you are government employees, and WE THE PEOPLE are your government. You must consider our wishes over that of agribusiness. Commercial operations should not have the power to make policies over the people. It is imperative that this area be maintained as a refuge, without agricultural interference.

Response: See response to comment 704-9.

Comment# 851-2: Letting the leases run out for agribusinesses in the area around the refuge is also requested.

Response: Comment noted.

Comment# 97-2: Please consider that there are other areas more suitable for farming, just not for the ones farming here.

Response: See response to comment 21-1.

D. Agriculture – Not Compatible Use

Letter ID # 56-2, 56-18, 56-109, 56-112, 64-2, 431-3, 653-13, 663-1, 663-8, 663-12, 704-10, 734-16, 734-27, 734-29, 734-30, 793-24, 793-36, 793-37, 793-38, 793-39, 793-45, 793-69, 793-70, 846-79, 846-89, 846-90, 906-1, 906-3, 906-8

Public Concern Statement: More specifically, some commenters state that agriculture, including leaseland farming, row crops, or grazing are incompatible with the purposes of the Refuges. One comment specifically asks the Service to modify the present pattern of leasing on Tule Lake NWR and Lower Klamath NWR to the extent necessary to make agricultural uses consistent with proper waterfowl management, including cancelling leases altogether, if necessary.

Comment# 431-3: Cows should not be in refuges. Ever.

Response: Comment noted.

Comment# 56-109: The proposed use has already been considered in an approved refuge management plan and was not accepted; There is no approved management plan for these lands, and this has never been considered and still has not even gotten to the Draft stage. The public was promised land restoration, not cattle degradation.

Response: The May 2016 draft CCP/EIS and its appendices are considered to be a draft management plan for the five refuges in the Klamath Basin Refuge Complex. See also responses to comments 56-96 (regarding the Interim Compatibility Determination) and 56-40 (regarding the Williamson River restoration).

Comment# 56-112: In these comments, and as shown in the scientific literature provided, this use conflicts with a welter of resource and management objectives.

Response: See response to comment 56-18.

Comment# 56-18: This action- grazing by large numbers of half ton predation-promoting, weed-causing, manure-spewing and habitat destroying privately owned exotic bovines, on lands expensively acquired for conservation and restoration, for which no Land Use Plan exists – cannot qualify for a CD. This, and other grazing, is incompatible with the purposes of the Refuge. As described below, this use overlaps nesting, young rearing and other sensitive habitats, and adversely modifies escape cover, and the residual cover that provides nesting habitat for rare migratory birds during the next year. It also promotes long-term and irreversible weed infestations through disturbance from hundreds of half ton exotic bovines churning soils, potentially disturbing toxic residues and contaminants, and leaching tons of waste into shallow water aquifers in systems with already serious water quality and water scarcity problems. This violates nearly all provisions of the FWS CD policies. This, and other grazing and the farming program, is incompatible with the purposes of the Refuge.

Response: As described in the Appropriate Use Justifications (in Appendix G) for Grazing at Lower Klamath, Clear Lake, and Upper Klamath Refuges, grazing on Refuge lands complies with all applicable laws and regulations. Restrictions to protect Refuge resources and public safety are specified in the Special Use Permit or cooperative land management agreement (CLMA) that the Service issues to each grazing operator. Grazing was determined to be compatible with the purposes for which the Refuges were established. Regarding compatibility: The purpose for which the Refuges were established are presented in Chapter 1 of the CCP/EIS. In addition to achieving Refuge purposes and the Refuge System mission, Section 4(a)(4)(B) of the Refuge Improvement Act requires that the Service consider and protect the broad spectrum of native fish, wildlife, plant, and habitat resources found on a refuge (CCP/EIS Section 1.4.4 provides more detail). Before activities or uses are allowed on a refuge, uses must be found to be "compatible" through a written Compatibility Determination. A compatible use will not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the refuge. The Compatibility Determinations for Grazing (in Appendix G) found grazing to be a compatible use on Lower Klamath, Clear Lake, and Upper Klamath Refuges. See also response to comment 56-62. See response to comment 56-2 regarding prevention of introduction of invasive plants and weed infestations.

Comment# 56-2: Livestock grazing is incompatible with developing and maintaining ecologically sound and sustainable management on the Wildlife Refuge. Domestic livestock cause exotic weed infestations (resulting in increased use of polluting drift and volatilization-prone herbicides) Belsky and Gelbard 2000, Chuong et al. 2015. Livestock adversely alter the composition, function and structure of native vegetation communities (Fleischner 1994). Grazing compacts soils reducing water infiltration. Trampling creates further sites for potential breeding by West Nile virus-harboring mosquitoes. Livestock trample and destroy nests and eggs of nesting birds (and even eat eggs at times). Cattle typically require extensive fencing that is injurious and lethal to a wide range of migratory birds, waterfowl and raptors. Livestock release copious amounts of methane, a potent greenhouse gas that promotes global warming and climate change impacts, along with making lands more vulnerable to the impacts of climate change (lack of ecosystem resilience and loss of buffering ability, weed expansion and site dominance, water use and loss, physical disturbance to vulnerable species, injurious and lethal infrastructure, etc.). For climate effects of grazing livestock and growing livestock food crops, please consider Steinfeld et al. 2006, Beschta et al. 2012, 2014 http://www.uwyo.edu/law/directory/_files/donahue.pdf). Livestock reduce, alter and destroy protective nesting cover for migratory birds and waterfowl and have many other adverse effects. Coates et al. 2016 recently found increased presence of ravens (nest and egg predators of a wide range of species) in areas where cattle were being grazed. Livestock management activities may also disturb and displace birds both during nesting as well as during wintering and non-nesting periods, placing stress on migrating or wintering birds. Livestock grazing disturbance and the presence of livestock results in super-abundant food sources = dead livestock, afterbirth, manure, etc. – that increase mesopredators that prey on waterfowl and other birds, and that attract avian nest and egg predators. When taken together, the cumulative adverse effects of livestock grazing on the Refuge are very great and pervasive.

Response: We disagree with the commenter's conclusion regarding the cumulative adverse effects of livestock grazing. Please see Chapter 5, Sections 5.2.6, 5.3.5, and 5.5.6 that include a description of how grazing is used on Lower Klamath, Clear Lake, and Upper Klamath Refuges. The Service uses grazing to control invasive plant species and to set back decadent vegetation in order to improve habitat. The use of grazing is targeted to specific units for a limited period of time. For example, at Lower Klamath Refuge, lease land grazing is allowed on less than 3% of the Refuge from September through November in post-hayed fall-pasture lots. Cooperative grazing is also permitted on Lower Klamath to set back decadent vegetation and to control invasive plant species such as reed canary grass

and perennial pepperweed. Cooperative grazing will be permitted on up to 22% of Refuge lands. Currently, most of the grazing on Lower Klamath is conducted outside the nesting season. However, in order to create short-grass browse for geese, grazing may be permitted as early as May 1 on a very limited basis and in areas that have little nesting cover. On Clear Lake Refuge, grazing will be used on approximately 23% of the Refuge to create short-grass areas for spring foraging by geese; reduce the extent of exotic annual grasses; help rehabilitate previously burned sagebrush habitats by providing native shrubs, perennial bunchgrasses and forbs a competitive edge; and reduce the quantity of fine fuels and the potential for future wildfires. Grazing is used between mid-August and mid-November. On Upper Klamath Refuge, grazing will be used on 6% to 10% of the refuge to achieve habitat objectives. The mix, acreage, locations, and timing of grazing are based on an assessment of current and likely future habitat conditions and wildlife needs. A number of restrictions are placed on ranchers in order to minimize adverse effects of grazing. See the Stipulation section of the Compatibility Determinations for grazing on Lower Klamath, Clear Lake, and Upper Klamath Refuges. The Service manages grazing to minimize effects described by the commenter. The Service concluded that grazing is compatible with Refuge purposes and is a valuable tool to control invasive species and improve habitat. The Service believes that the potential adverse effects of grazing have been disclosed in Chapter 6 of the CCP/EIS. The Service also regularly evaluates the effects of prescribed grazing (see Sections 5.2.6, 5.3.5, and 5.5.6).

Comment# 64-2: Please keep the cows off the marsh.

Response: Comment noted.

Comment# 653-13: The draft CCP is clouded by ill-conceived, poorly described and poorly documented proposals to continue and even expand the recent introduction of livestock grazing on the refuge - proposals that will do more harm than good and that will require extensive and costly supervision and monitoring - before the Service has even determined either “the distribution, migration patterns, and abundance of fish, wildlife, and plant populations and related habitats within the planning unit” or “the archaeological and cultural values of the planning unit”. Modoc National Forest will be allowed to continue to authorize livestock grazing under term permits with no oversight provided by the CCP. [1] Some kind of prescribed grazing (it is never clearly defined in the documents) will be allowed at some time of year (the compatibility determination focuses on a spring season, the CCO on a fall season) even on the Clear Lake “U” without any ties to monitoring to protect the last lek and remnants of the once flourishing Devil’s Garden/Clear Lake greater sage-grouse PMU. [2] There is no evidence presented that the prescribed grazing will result in long term improvement of the burned areas of sage-grouse. More likely the opposite will occur – sagebrush recovery will be impaired. The entire grazing proposal seems to be politically motivated rather than science-driven. Comprehensive Conservation Plans are important tools that provide direction for Refuge management. Comprehensive Conservation Plans describe the desired future conditions of a refuge and provide long-range guidance and management direction to achieve refuge purposes; help fulfill the National Wildlife Refuge System mission; maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System; help achieve the goals of the National Wilderness Preservation System; and meet other mandates. (602 FW 3). [3] The Service has no basis for even considering allowing this incompatible use on the Refuge.

Response: 1. Regarding the details of the proposed prescribed grazing on the Refuges, see responses to comments 56-59 and 663-6. 2. In 2015, the Service recognized that “Grazing of various intensities can degrade habitat conditions and exacerbate sage-grouse” and “that well-managed grazing practices can be compatible with long-term [sagebrush ecosystem and] sage-grouse conservation.” “For example, grazing can reduce excess shrub cover conditions for sage-grouse; increase habitat heterogeneity...”

(Service Mountain-Prairie Region, February 5, 2015 Memorandum, Subject: Service Position on Livestock Grazing and Working with Rangeland Owners to Conserve Sage-Grouse). The potential effects of grazing to previously burned areas and sage-grouse are addressed in CCP/EIS Chapter 6. 3. Regarding how grazing was determined to be compatible with the purposes for which the Refuges were established, see response to comment 56-18.

Comment# 663-1: WWP does not support the authorization of any livestock grazing, haying, or other commercial agricultural uses on the Klamath National Wildlife Refuge Complex, a spectacular group of Refuges designated for the purpose of protecting migratory birds and other wildlife. These private economic uses are not compatible with protection of native species and are inappropriate on these public Refuge lands. We strongly urge you to use the CCP process to make the Upper Klamath, Lower Klamath, and Clear Lake Refuges unavailable for livestock grazing and haying for the next 15 years. The compatibility findings for livestock grazing and haying on the Upper and Lower Klamath and Clear Lake Refuges do not justify grazing and related uses in those areas.

Response: Comment noted.

Comment# 663-12: WWP is strongly opposed to the proposal for prescriptive grazing and urges that you decline to issue a special use permit for prescriptive grazing now and in the future.

Response: Comment noted.

Comment# 663-8: The EIS lists some of the negative impacts from grazing: Potential adverse effects of grazing on grasslands and riparian areas include the introduction of non-native and invasive species; trampling sensitive species; trampling of vegetation; trench creation; wallowing during resting; habitat fragmentation; creating gaps for invasive species; overgrazing; habitat fragmentation; soil disturbance (compaction, disruption of soil crusts, and exposure to erosion discussed previously); reduction in soil mycorrhizae; preferential grazing of perennials over annuals; adverse effects from feces that can smother plants; and riparian damage. EIS at 6-161. Haying has many negative consequences as well, for example: [H]aying would reduce nest cover thereby increasing vulnerability to predation, the most common cause of nest loss by cranes (Ivey and Dugger 2008). Haying could also generate other conflicts with wildlife. Cutting hay could potentially flush, injure, or kill ground-nesting birds, their eggs, chicks, and other terrestrial wildlife. Id. at 6-167. Further, "[h]aying in one year reduces the area of tall nesting cover sought by some wildlife during the following year." Id. at 6-168. The compatibility determinations note that "Grazing livestock could also prevent nesting attempts; cause nest abandonment; trample nests, eggs, and young; and otherwise disturb ground-nesting birds (Ivey and Dugger, 2008; Littlefield and Ivey, 2001; Sutter and Ritchison, 2005)." These uses are not compatible with the major purposes of the refuge and should not be allowed.

Response: See response to comment 663-2. The Service believes the haying and prescribed grazing are compatible with the Refuges' purposes and the Refuge System mission. We acknowledge that haying and grazing affects wildlife, but we believe that the benefits to waterfowl from these programs outweigh the adverse effects. These are described both in the Compatibility Determinations for haying and grazing and also in Chapter 6 of the CCP/EIS.

Comment# 704-10: The declines in the productivity of Tule Lake NWR shows that the large-scale, row crop and pesticide intensive leaseland farming program is not consistent or compatible with waterfowl management or wildlife conservation.

Response: The Service disagrees and has found the lease land farming program to be consistent with waterfowl management and compatible with Refuge purposes (CCP/EIS Chapter 1). See also response to comment 21-1.

Comment# 734-16: Grazing likewise should be phased out anywhere where it is having an impact on water quality, habitat or creating noxious weed production.

Response: Comment noted.

Comment# 734-27: Grazing and herbicide use should be banned within this refuge (Upper Klamath Lake) as these activities greatly add to water quality impairments within UKL.

Response: Comment noted.

Comment# 734-29: We are opposed to grazing being used as a management tool within the refuges within nutrient and temperature impaired watersheds. Grazing animals such as cows have been shown to spread (not inhibit), noxious weeds, which leads to more grazing and chemical use. Grazing has also been shown to heavily impact wetland and riparian habitat and displace animals, trample important fisheries habitat, add nutrients to waterways, and release sediments into waterway. The refuges should be managed to protect water quality and wildlife, therefore the reliance on grazing and chemical use as its primary management tools, with no support science, is unacceptable.

Response: Regarding noxious weeds, see response to comment 56-2. Regarding nutrients in waterways, see responses to comments 653-4 (Clear Lake Refuge) and 663-9 (Upper Klamath Refuge).

Comment# 734-30: Cattle grazing has been identified by the Klamath Tribes of Oregon as one of the top limiting factors for fisheries habitat and one of the leading causes of nutrient and sediment pollution within many of the tributaries of the Klamath River. It is unscientific and irresponsible to rely on grazing as a management tool within the Klamath Refuges.

Response: See response to comment 793-46.

Comment# 793-24: The Service preliminarily concludes that the leaseland farming program is compatible with refuge purposes on both Lower Klamath and Tule Lake Refuges, provided certain stipulations are met. In reaching this conclusion, the Service failed to consider the full range of anticipated impacts of the leaseland farming program. Moreover, the Service fails to articulate how the facts in the record regarding impacts from the leaseland program support its compatibility determinations. Based on the factual record, the leaseland farming program on Tule Lake and Lower Klamath Refuges is not compatible or consistent with the refuge purposes of wildlife conservation and waterfowl management. The Service fails to adequately explain how its proposed stipulations will ensure that the leaseland program is compatible with refuge purposes.

Response: We disagree. We believe the stipulations in the Compatibility Determinations adequately ensure that the lease land program is compatible with Refuge purposes.

Comment# 793-36: The Tule Lake Leaseland CD states that horseradish and onions “have no food value for waterfowl.”80 Despite this, in 2014, 1,564 acres of the Tule Lake leaselands were planted with onions and horseradish, while zero acres were used as flood fallow or wetlands.81 How can the

Service, on the one hand, acknowledge that agricultural crops do not meet the dietary or habitat needs of waterfowl, and on the other, justify the continued planting of the leaselands with crops that provide absolutely no wildlife or waterfowl benefit?82 The primary purposes of the Refuge under the Kuchel Act are wildlife conservation and waterfowl management.83 Maximizing lease revenues is not identified by the Service as a refuge purpose.84 Thus, where the needs of wildlife and waterfowl are not being met on the Refuge, the planting of row crops on the leaseland is not compatible with refuge purposes.

Response: The Compatibility Determination for Lease Land Farming Program on Tule Lake NWR (Appendix G) further states, "As described in Appendix M of the CCP/EIS, these crops have been allowed on the Refuge in the past to obtain maximum lease revenues while consistent with proper waterfowl management.... The Service believes it was the intent of Congress to maintain the leasing program on the refuges to the extent consistent with proper waterfowl management to support the economies of local rural communities and to provide revenue to adjacent Modoc, Siskiyou, and Klamath Counties. Some flexibility in crop types and the desire to maximize revenues both serve this intent; however, this intent is subject to the primary intent (major purpose) of proper waterfowl management. Thus, the needs of waterfowl are first assessed, and then lease contract stipulations regarding acreage, cropping patterns, and requisite management practices on the lands will need to be developed consistent with this assessment." Chapter 4, Section 4.4.1, Farming, states, "Typically, annual row crops, onions or potatoes, are grown in a three-year crop rotation with small grains (e.g., small grain–row crop–small grain)."

Comment# 793-37: Crops grown on Lower Klamath Refuge leaselands are limited to small grains and hay; no row crops are grown in Area K.85 As discussed in detail in other sections of these comments, the focus on food sources for a limited set of waterfowl guilds does not render the leaseland program compatible or consistent with the overall purposes of the Refuge for wildlife conservation and waterfowl management. The Lower Klamath CD notes, "the crops and associated farm lands do not provide for the needs of other waterfowl guilds such as diving ducks and other dabbling duck species."86 Additionally, as discussed above, refuge wetlands receive little water while the leaselands continue to receive needed water. Where continuation of the present pattern of the leaseland program detracts from, or interferes with, proper waterfowl management on the refuge as a whole, due to diversion of water resources necessary for diverse wetland habitat, the use is not compatible with refuge purposes.

Response: See response to comment 701-28.

Comment# 793-38: The Lower Klamath and Tule Lake Leaseland CDs conclude, "the lease land program will contribute to meeting the Refuge purposes and the overall Refuge System mission."87 However, the Service acknowledges, Although agricultural lands do not provide habitat for some waterfowl species and do not provide a nutritionally balanced diet, these lands do provide a rich source of carbohydrates, particularly important for migrating dabbling ducks and geese.88 In other words, while the leaseland program may not be consistent with the wildlife conservation or overall proper waterfowl management purposes of the refuge, because the use provides some food resources to a limited set of waterfowl species, it is deemed compatible with refuge purposes. However, "proper waterfowl management," as required by the Kuchel Act, applies to all species and guilds of waterfowl and wildlife, not only those that feed on agricultural crops. Where the leaseland program consumes the majority of available water resources on the refuge, while wetland habitat goes dry, the leaseland farming program is "materially interfer[ing] or detract[ing] from the fulfillment of the National Wildlife Refuge System mission or the purposes of the refuge."89 The Service has not demonstrated that the leaseland farming program on Tule Lake and Lower Klamath Refuges is compatible and

consistent with refuge purposes.

Response: See responses to comments 701-30 and 634-3.

Comment# 793-39: Expanded grazing is not compatible or consistent with wildlife conservation and waterfowl management. Grazing provides limited waterfowl and wildlife benefits and thus should only be permitted where the primary refuge purposes are being met on all refuge lands, including adequate diversity of wetland habitats and diverse and abundant food resources.

Response: See response to comment 56-18.

Comment# 793-45: We were dismayed to read the content of the grazing, leaseland, and some of the cooperative farming applications, because the applications seemed to absolve responsibility for harmful impacts of operations for the beneficiary of the Federal Land use and subsidized infrastructure, and contained hyperbole and outdated science to describe the impacts of the activities to be pursued. In contrast, the Compatibility Determination applications for hunting, boating, and environmental education were acceptable and well documented.

Response: Comment noted.

Comment# 793-69: Over 22,000 acres on LKNWR and TLNWR are leased for commercial farming. Commercial farming provides little or no wildlife benefits and prevents these former wetlands from being restored and managed for the fish and wildlife that our national wildlife system was created to protect. In addition, the former lakebeds and wetlands that are being farmed are an ideal place to store winter water to help meet the refuges' water needs. A number of pesticides, herbicides and fertilizers are used on the refuges in connection with commercial farming, including many that are known to be harmful to birds and other wildlife. Herbicides use also inhibits the growth of plants and trees that would be beneficial to wildlife. A high percentage of row crops and other crops that provide little or no wildlife benefit are grown on the refuges. (See Attachment B for a summary of why commercial farming on the refuges should be phased out.) It needs to be noted that these lands are leased for commercial farming purposes, which is very different from cooperative farming practices sometimes used as a management tool on these and other refuges (e.g. another 9,000 acres of Lower Klamath NWR is farmed cooperatively).

As part of the CCP process the United States Fish and Wildlife Service should:

· Identify the affects that commercial farming has on the populations and habitats of fish, wildlife, and plants in the refuges and the actions necessary to correct such problems.

· Assess whether this commercial farming program is consistent with refuge purposes under the Kuchel Act and compatible with refuge purposes and the mission of the National Wildlife Refuge System under the National Wildlife System Improvement Act of 1997.

Response: See Sections 6.2.5, 6.2.6, 6.4.5, 6.4.6 of the CCP/EIS and the Compatibility Determinations in Appendix G.

Comment# 793-70: Make a determination that this harmful activity is not consistent with or compatible with the purposes of these refuges or with the mission of the National Wildlife Refuge System. The CCP should contain a plan to phase out these leases by prohibiting any new leases from

being made.

Response: The Service has determined that lease land and cooperative farming are compatible with the Refuge purposes, as specific to each Refuge and described in the Compatibility Determinations (Appendix G).

Comment# 846-79: The Service preliminarily concludes that the leaseland farming program is compatible with refuge purposes on both Lower Klamath and Tule Lake Refuges, provided certain stipulations are met. In reaching this conclusion, the Service failed to consider the full range of anticipated impacts of the leaseland farming program. Moreover, the Service fails to articulate how the facts in the record regarding impacts from the leaseland program support its compatibility determinations. Based on the factual record, the leaseland farming program on Tule Lake and Lower Klamath Refuges is not compatible or consistent with the refuge purposes of wildlife conservation and waterfowl management. The Service fails to adequately explain how its proposed stipulations will ensure that the leaseland program is compatible with refuge purposes.

Response: The Service believes the Compatibility Determinations, including the stipulations, are consistent with Service policy. See also response to comment 643-1.

Comment# 846-89: The Tule Lake Leaseland CD states that horseradish and onions "have no food value for waterfowl."293 Despite this, in 2014, 1,564 acres of the Tule Lake leaselands were planted with onions and horseradish, while zero acres were used as flood fallow or wetlands.294 How can the Service, on the one hand, acknowledge that agricultural crops do not meet the dietary or habitat needs of waterfowl, and on the other, justify the continued planting of the leaselands with crops that provide absolutely no wildlife or waterfowl benefit?295 The primary purposes of the Refuge under the Kuchel Act are wildlife conservation and waterfowl management.296 Maximizing lease revenues is not identified by the Service as a refuge purpose.297 Thus, where the needs of wildlife and waterfowl are not being met on the Refuge, the planting of row crops on the leaseland is not compatible with refuge purposes.

Response: The Kuchel Act directs that the Secretary continue the "present pattern of leasing," maximize lease revenues in specifically identified areas of the Refuges, and optimize agriculture, all "...consistent with proper waterfowl management..." Row crops are permitted under the Kuchel Act (see CCP/EIS Appendix M). Additional information is provided in responses to comments 21-1 and 221-5.

Comment# 846-90: n light of this duty, the Service not only has the right, but the obligation to modify the present pattern of leasing on Tule Lake NWR and Lower Klamath NWR to the extent necessary to make agricultural uses consistent with proper waterfowl management, including cancelling leases altogether, if necessary.

Response: Comment noted.

Comment# 906-1: Crops grown on Lower Klamath Refuge leaselands are limited to small grains and hay; no row crops are grown in Area K.298 As discussed in detail in other sections of these comments,the focus on food sources for a limited set of waterfowl guilds does not render the leaseland program compatible or consistent with the overall purposes of the Refuge for wildlife conservation and waterfowl management. The Lower Klamath CD notes, "the crops and associated farm lands do not provide for the needs of other waterfowl guilds such as diving ducks and other dabbling duck

species."299 Additionally, as discussed above, refuge wetlands receive little water while the leaselands continue to receive needed water. Where continuation of the present pattern of the leaseland program detracts from, or interferes with, proper waterfowl management on the refuge as a whole, due to diversion of water resources necessary for diverse wetland habitat, the use is not compatible with refuge purposes.

Response: See response to comment 643-1.

Comment# 906-3: while the leaseland program may not be consistent with the wildlife conservation or overall proper waterfowl management purposes of the refuge, because the use provides some food resources to a limited set of waterfowl species, it is deemed compatible with refuge purposes. However, "proper waterfowl management," as required by the Kuchel Act, applies to all species and guilds of waterfowl and wildlife, not only those that feed on agricultural crops. Where the leaseland program consumes the majority of available water resources on the refuge, while wetland habitat goes dry, the leaseland farming program is "materially interfer[ing] or detract[ing] from the fulfillment of the National Wildlife Refuge System mission or the purposes of the refuge."302 The Service has not demonstrated that the leaseland farming program on Tule Lake and Lower Klamath Refuges is compatible and consistent with refuge purposes.

Response: See response to comment 643-1. Also, as described in the Appropriate Use Justifications (in Appendix G) for Lease Land Farming at Lower Klamath and Tule Lake Refuges, lease land farming on Refuge lands complies with all applicable laws and regulations.

Comment# 906-8: Grazing has been implicated as a key factor in population declines of dozens of bird species.331 Livestock production negatively affects many western bird species in multiple ways particularly during the nesting period when nest survivorship can be negatively impacted.332 Wetland habitat studies have documented negative impacts including trampling of nests333 and reduction of habitat structure.334 Peer-reviewed experimental studies have found increased abundance and species richness in areas excluded from cattle grazing.335 Grazing in wetlands also can lead to high soil compaction resulting in reduced water infiltration336 and negatively affects water quality.337 Cattle also have played a key role in spreading invasive plants across the West.338 Even though Service requires feeding livestock weed-free feed for 48 hours before letting them on refuges (see Appendix G), this does not prevent the spread of seeds through feces once the livestock are let loose in an area with invasive vegetation for more than a few hours. Expanded grazing is not compatible or consistent with wildlife conservation and waterfowl management. Grazing provides limited waterfowl and wildlife benefits and thus should only be permitted where the primary refuge purposes are being met on all refuge lands, including adequate diversity of wetland habitats and diverse and abundant food resources.

Response: See response to comment 56-18.

E. Agriculture and Livestock Effects Analysis

Letter ID # 56-1, 56-3, 56-4, 56-5, 56-6, 56-7, 56-9, 56-10, 56-15, 56-17, 56-19, 56-26, 56-27, 56-31, 56-34, 56-37, 56-38, 56-41, 56-42, 56-51, 56-52, 56-75, 56-76, 56-77, 56-87, 56-89, 56-100, 56-121, 56-126, 653-18, 653-20, 663-2, 663-3, 663-18, 704-1, 734-28, 748-26, 793-40, 812-2, 812-4

Public Concern Statement: Several entities specifically request that the CCP/EIS include additional analysis of agriculture and grazing direct, indirect, and cumulative impacts, including disclosing

1. Refuge areas grazed by livestock;
2. How much water is used for grazing purposes;
3. Monitoring efforts and findings with regard to runoff, soil permeability, water quality, and retention of water;
4. Costs associated with grazing activities;
5. How permits/leases are obtained, how many livestock have been grazed, for how long, for how much, and where;
6. How have Refuge lands been altered (ditched, diked, graded, etc.) to promote watering hay or other crops fed to livestock, or for pastures and suggestions for restoration;
7. Impacts to species of birds, eggs, and nests, and effects to population trends;
8. Impacts to aquatic species;
9. Impacts to vegetation community composition, function, and structure and spread of invasive species;
10. Information on upland site locations that have been reseeded with exotic plant species for agriculture purposes (and states that the CCP/EIS should emphasize restoration in these areas); and
11. Current linear length and density of fencing on and surrounding the Refuge and data on bird and bat injuries or death from this fencing load or location relative to important avian nesting areas, staging areas, or other avian use areas (his commenter asks the Service to develop a plan to reduce fencing load in the CCP/EIS).

Comment# 56-1: We ask that you carry forward all of the concerns and issues raised in WLD's 2015 comments on a Klamath NWR proposal to graze a newly acquired property. The ecological Concerns apply to livestock grazing in general on the Refuge, and other agricultural uses. Full consideration and analysis of these concerns is essential to properly assess all direct, indirect and cumulative impacts. It is necessary to fully understand the impairment of wildlife, waters, and other resources managed by USFWS in the Klamath region. It is also necessary to a Plan can be developed significantly changing course from the current damaging and impairing management taking place across the Refuge – where wildlife is given a backseat to agricultural and grazing interests. This analysis is also necessary to effectively mitigate and restore the damage that has been done to the land to provide for what in reality are incompatible uses of Refuge lands and waters., i.e. grazing, haying and other agricultural activities.

Response: See response to comment 56-18 regarding compatibility with Refuge purposes. See response to comment 56-96 regarding responses to WLD's 2015 comments.

Comment# 56-10: What sensitive, rare and endangered species have been affected – for example, rare rails that require abundant residual vegetative cover for nesting? Who are the parties who have benefited financially from these practices and these ag. activities? What are terms of leases? How can the USFWS immediately cancel leases? We urge that this be implemented.

Response: Sensitive, rare, and federally protected species potentially affected by CCP activities are discussed in Chapter 5, Environmental Consequences, Sections 6.1.2, 6.2.5,, 6.2.6, 6.3.5, 6.3.6, 6.4.5, 6.4.6, 6.5.5, 6.5.6, 6.6.4, and 6.6.5. The Compatibility Determinations (Appendix G) describe the uses and the stipulations that apply to permittees.

Comment# 56-100: Please promptly provide us with the information requested in our earlier e-mail on the grazing scheme, as well as information requested in these comments.

Response: This comment was originally submitted in 2015 on an Interim Compatibility Determination for Grazing on the Upper Klamath NWR. This comment is not relevant to the CCP/EIS.

Comment# 56-121: WHAT would most mimic natural hydrology? Increasing the branching nature of channels beyond that which is proposed? What is the natural role of beavers in this system – we note the grazing scheme proposes to have cows devour woody vegetation – precluding beaver recovery on those targeted lands. Removal of fish barriers, water control structures, etc. are all beneficial. However, we oppose the continued haying – is this the real reason that more "anastamose" features are not include

Response: Haying at Upper Klamath NWR is used to create openings in vegetation and thereby enhance habitat diversity. As explained in the Compatibility Determination for haying, in the absence of natural or human-created environmental disturbance, grass and marsh vegetation can become tall, dense, and decadent, resulting in reduced wildlife values for diversity, foraging, and nesting. Haying can be used to create openings in such areas creating a more diverse mosaic of habitats, revitalizing vegetation and reduce the spread of some invasive plant species. In hayed areas, birds and other wildlife can readily loaf, court, travel, and access various foods, yet remain vigilant to approaching terrestrial predators. Hayed areas are attractive to species such as the greater sandhill crane, egrets, ducks, and geese.

Comment# 56-126: The FWS tries to claim there is no hydrological connectivity – that there are dikes and cows won't get in the water. Yet FWS also appears to describe emergent and other wetland/riparian vegetation being present. Plus cows frequently break through fences and trespass areas where they are not supposed to be. In areas with high water tables, pollutants will leach into ground water. Dikes erode and get breached, water levels are highly unpredictable from one year to the next (what would the equivalent of a very high water year look like in the Basin marsh and surrounding country)? Even though there may not be a surface flow hydrological connection, this does not mean that subsurface water movement is not occurring, or there are not pools and puddles and small ponds that will become grossly trampled and fouled. This action is likely to pollute waters with livestock waste seeping into marsh soils/or alter that movement.

Response: Comment noted.

Comment# 56-15: Indirect and Cumulative Effects of Federal State, and Private Land Uses in Surrounding lands and Region The Klamath Refuge system must also take a careful and hard look at the full range of environmental degradation and ecological stressors impacting the watersheds that feed the Refuge system lands. This includes such concerns as: Ecological footprint of grazing in reducing sustainable and perennial flows and habitat for important, rare and sensitive biota; ecological footprint of deforestation and vegetation treatments in reducing sustainable and perennial flows and affecting habitats and populations of important, rare and sensitive biota; land use and disturbances affecting water quality and quantity. For example, are headwaters on public land logged, heavily grazed etc. and

if so how is that affecting watersheds and water yield? How has this changed over time.

Response: Comment noted.

Comment# 56-17: FWS forsakes necessary in depth current NEPA analysis with this opaque proposal. Grazing will materially interfere with and detract from a wealth of wildlife and other native biota concerns in this area. Without a much harder and current ecological science-based look being taken at a range of alternatives and measures to minimize adverse impacts, the Manager cannot conclude that this will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of the national wildlife refuge.

Response: Information about determining appropriate and compatible uses is provided in responses to comments 56-18 and 56-62.

Comment# 56-19: The draft interim CD is often contradictory and confusing, and fails to adequately describe the ecological baseline to determine compatibility with the Refuge mission. It fails to critically examine a host of current ecological literature showing significant adverse impacts of cattle grazing on ecological processes and habitat for wildlife and other native biota; attempts to shoehorn grazing in on lands where no CCP has ever been finalized – thus there is no management plan that has undergone NEPA; ignores full consideration of the reasons the very expensive Barnes-Agency lands (new acquisition lands) were acquired. These new acquisitions appear to be the primary grazing disturbance targets of the FWS grazing scheme, but the unclear CD may also be attempting to bundle in other lands. The FWS attempts to rely on provisions of an old, nearly substanceless 1994 Grazing CD for lands elsewhere. There is a great amount of new scientific information – ranging from studies of toxics in the Klamath ecosystem to knowledge of adverse herbicide effects on amphibians, to the stresses of climate change on the region, and knowledge of how grazing exacerbates adverse climate change effects – drying out and desiccating lands, decreasing sustainable perennial water flows, more violent and erratic weather including potential drought, increasing weed invisibility, etc.

Response: See response to comment 56-96.

Comment# 56-26: WLD is mailing you a cd with extensive scientific literature on the serious adverse direct, indirect and cumulative impacts of this grazing, grazing management and livestock facilities like fences and water developments that would be imposed under this proposal. This includes Literature mentioned in our comments, as well as other pertinent current ecological science that the Refuge appears to have ignored. The sage-grouse Literature is highly relevant to understanding these effects (disturbance, predation, facilities – fence collision and death, predator travel corridors, perches for avian predators and cowbirds, fragmentation, weed invasions, etc.) and establishing a proper environmental analysis in an EIS here.

Response: Comment noted.

Comment# 56-27: The ecological literature is replete with studies of the adverse effects of livestock grazing and facilities on western ecosystems. Fleischner (1994) describes livestock grazing alteration of the composition, function and structure of ecosystems, habitat and vegetation communities; Belsky and Gelbard 2000 describe livestock as weed causes through a host of adverse disturbance impacts and as vectors for weed dispersal and spread; riparian impacts as described in Belsky and Blumenthal 118, Tewksbury et al. 2002, Kauffman et al. 2004, Herbst et al. 2012 as well as Sada et al 2001 BLM Tech. Bull on Springs, Sada and Pohlman and others. See also Dobkin and Sauder 2004 describing the

absence of many native animals from areas that appear superficially suitable as habitat. Please fully consider all of this information. Please pay careful attention to the recent USFWS Sheldon National Wildlife Refuge Plan, and its discussion of the adverse impacts of exotic ungulate grazing, and livestock facilities/developments and management activities. See: http://www.fws.gov/pacific/planning/main/docs/NV/docssheldon.htm.

Response: Comment noted.

Comment# 56-3: Livestock grazing also wastes and fouls tremendous amounts of water – an exceedingly scarce commodity in the area. How much has current livestock grazing polluted waters? Where, when and how have you monitored this? How much water is diverted and used to water fields grazed by livestock? Where are all areas currently grazed by livestock? Please provide detailed mapping and analysis. How much is this costing the refuge.

Response: See response to comment 653-4.

Comment# 56-31: What migratory birds are present within a 10 mile radius, and may be harmed by the disturbance, mesopredators, weeds, potentially toxic substances and pollution caused by the Refuge's Proposed Grazing.

Response: CCP/EIS Appendix H includes birds and other wildlife documented on each of the five Refuges.

Comment# 56-34: Before any mowing would be conducted, need must be fully verified with scientific studies. We are very concerned that Refuges claim birds require mowing/grazing in order to justify catering to local interests. For example, Malheur NWR has long claimed that Sandhill cranes need cows removing grass, but there are no studies to back this up.

Response: The Service strives to optimize habitat values. If appropriate to optimize habitat values, a mosaic of different seral stages of vegetation is reflected in the habitat objectives for each Refuge described in CCP/EIS Appendix F, Goals, Objectives, and Strategies. The CCP/EIS and Compatibility Determinations (Appendix G) contain detailed descriptions of the proposed grazing program and the potential effects on refuge resources. See also response to comment 56-125.

Comment# 56-37: We are concerned that this proposal is really about the Refuge currying favor with local livestock interests by providing subsidized grazing for privately owned cattle. Yet, there is greatly inadequate and often contradictory information provided on the site-specific grazing scheme itself. FWS claims: All activities associated with grazing including locations, acres, timing, and other special conditions are directed by the Refuge Manager to the permittees thru signed Special Use Permits (SUP). So what are these for the 2015 proposal, and what is the scientific basis for them? Please see Fleischner 1004, Belsky and Gelbard 2000, Manier et al. 2013 (Greater Sage-grouse Baseline Ecological Report), the latter detailing a litany of failures of various livestock grazing schemes.

Response: See response to comment 56-96.

Comment# 56-38: In past years, permittees have bid on an AUM (animal unit month) basis for grazing opportunities that are provided by the Refuge. Refuge Managers may also used a fixed price for grazing based on fair market rates in accordance with procedures outlined in the Refuge Manual. Currently a SUP is issued for approximately 400 AUMS/season. Grazing was last conducted on the

Refuge in 2011. The FWS must clarify precisely what it means here, and detail the history, levels, monitoring results, stocking, etc. regarding grazing. Does the FWS mean 400 head of cattle per month (and will there be big fat calves, too?) - or exactly what is meant here? Does it mean 400 AUMs as the sum total of cow months imposed over the course of the grazing year? The numbers provided do not correspond with FWS info on-line. A FWS on-line source states: http://www.fws.gov/refuges/profiles/index.cfm?id=81662 The Klamath Marsh Refuge wetlands are primarily wet meadows with some open water wetlands. This natural plant community is maintained by a program of cattle grazing, haying and prescribed fire. Approximately 1,100 Animal Unit Months of permitted cattle grazing occurs on 3 refuge units. So – how does this mesh with the claim that a current SUP is issued for 400 AUMs, and that grazing has not occurred since 2011.

Response: AUM is defined in the Glossary (Appendix A of the CCP/EIS) as "[t]he amount (780 pounds) of air-dry forage calculated to meet one animal unit's requirement for one animal unit for one month. Or, the amount of air-dry forage necessary to maintain one 1,000-pound animal for one month." Regarding the link provided and based on our understanding of the comment, the 1,100 AUMs found online seem to pertain to Klamath Marsh Refuge. Klamath Marsh Refuge is not one of the five Refuges addressed in the 2016 CCP/EIS. A separate CCP and planning process was completed for the Klamath Marsh Refuge in 2010. More information is provided in Section 1.1 of the subject CCP/EIS addressing the other five Refuges in the Refuge Complex.

Comment# 56-4: Where has livestock grazing led to increased runoff, decreased soil permeability and also lowered retention of water? How have Refuge lands been altered (ditched, diked, graded, etc.) to promote watering hay or other crops fed to livestock, or pastures on which livestock are being grazed? How can such lands be restored.

Response: Effects to the physical environment are described in CCP/EIS Chapter 6. Characteristics of the physical environment are described in CCP/EIS Chapter 5. While the characteristics of the physical environment may influence effects, the purpose of the NEPA document (EIS) is to focus on the issues that are truly significant to the action in question (CEQ 1500.1(b) and (c) Purpose of NEPA). Regarding restoration, as stated in Sections 4.5.3 and 4.5.4 of the CCP/EIS, in the future, the Service plans to evaluate options for restoring wetland habitat on Barnes-Agency Unit of Upper Klamath Refuge under a separate NEPA analysis.

Comment# 56-41: Returning to the Refuge CD claims about grazing: What is the length of a lease? Who has expressed interest, and where have they grazed before? What has been paid? What are the 2015 Fair Market rates? How much has it already cost taxpayers in preparing this document? How much will the entire process including admin costs, monitoring, weed spraying, etc. cost? What will be the conservation cost to adversely impacted species, and what will be the alternative uses foregone? Please provide detailed baseline information on all areas grazed in the past two decades. Before and after, including longer term vegetation community composition, function and structure. Effects on mesopredator population and predation rates. Effects on all target and non-target species. What will be the cost to administer this program? Including to address the longer-term degradation.

Response: At Upper Klamath Refuge, in recent years, Special Use Permits for grazing have been issued on an annual basis, if needed to help meet habitat objectives. Regarding where grazing has occurred, see response to comment 56-136. The cost to administer each use or program is included in a table in each of the Compatibility Determinations (CCP/EIS Appendix G). Economic analysis is provided in Appendix P. Costs to implement the CCP actions are addressed in the final CCP/EIS.

Comment# 56-42: The Draft Klamath CD states: Associated uses and facilities: Grazing may require

the use of trucks, ATVs, horses, dogs, electric and barbed-wire fence, watering facilities, and mineral blocks. THIS REPRESENTS A WELTER OF HUMAN INTRUSION AND DISTURBANCE TO MMANY RARE, SENSITIVE AND IMPORTANT SPECIES HABITATS. All of these adverse impacts must be thoroughly assessed in an EIS.

Response: The effects described in the comment were addressed in CCP/EIS Chapter 6, Environmental Consequences.

Comment# 56-5: Where has all livestock grazing taken place in the past ten years? How many livestock have been grazed, for how long, and where? How much has been paid? How are permits/leases obtained? How have effects on Refuge resources been monitored and controlled.

Response: Habitat management practices on the Refuges, including grazing, were described in the draft CCP/EIS Chapter 5, Habitat/Water Management, Sections 5.2.6 (Lower Klamath), 5.3.5 (Clear Lake), and 5.5.6 (Upper Klamath). Grazing is also described in the Compatibility Determinations for Grazing (Appendix G) in the Description of Use sections. See also response to comment 56-22.

Comment# 56-51: It is alarming to see that the Refuge may be grazing across areas that may be extremely muddy. While claiming at one point that cattle will be kept out of water, elsewhere FWS refers to vegetation present as apparently to having cattle graze even so-called “decadent” emergent and other vegetation. What is the depth to the water table? Will cows will be standing in the water, defecating and urinating in it, too. Where will waste runoff to? Will it seep into the likely very shallow water table? What drugs, hormones, antibiotics, insecticides, etc. may be on them or in their systems and contaminate waters? What is the current drainage system and network on the Refuge lands/areas to suffer grazing, and where does water from this area flow into? Where will pollutants that enter shallow aquifers end up? What may be downstream effects.

Response: See responses to comments 56-56, 653-4, and 663-9. Text has been added to the CCP/EIS to clarify that the standard practice of grazing decadent emergent marsh vegetation is allowed when the units are dry.

Comment# 56-52: What native aquatic species (fish, amphibians, invertebrates, etc.) may suffer reduced habitat quality and quantity due to the grazing and all of its adverse effects? Please describe effects of sediment, manure, urine, potential chemical contamination, linked foreseeable herbicide use, chemicals in “supplement”, etc. Please also describe how this may affect fish and/or amphibian egg masses? Amphibian travel corridors? Overwintering sites? Etc..

Response: See responses to comments 56-96 and 663-9.

Comment# 56-6: Where have upland areas been seeded to exotic species like crested wheatgrass that provide suboptimal cover for native wildlife, and also very seriously out-compete native vegetation species? Please target these sites for restoration with sagebrush and/or western juniper.

Response: No areas on Clear Lake or Upper Klamath Refuges have been seeded with exotic grasses by the Service or permittees.

Comment# 56-7: What is the current linear length and density of fencing on and surrounding the Refuge? How has the Refuge monitored bird and bat injuries or death from this fencing load? Where is fencing located in relation to important avian nesting areas, staging areas, or other avian use areas?

Please develop a full and integrated pan for drastic reductions in the fencing load.

Response: The linear footage of fencing does not directly correlate to effects of grazing. Further, fences related to grazing operations may change annually. In August 2016, on Service-owned lands, the linear footage (lf) of fencing on and surrounding the Refuges (including boundary fencing) was: Lower Klamath 68,640 lf; Clear Lake 163,680 lf; Tule Lake 13,200 lf; Upper Klamath 74,360; and Bear Valley 0 (none). See also response to comment 56-4.

Comment# 56-75: Why isn't the Refuge considering alternatives to "improve" the Refuge through large-scale removal of lethal and injurious fences? What species of migratory birds, bats, etc. are being injured and killed by fences, and how is this being monitored? How much would herbiciding these acres to kill weeds caused by the cows cost over time – and doesn't this cost dramatically increase with different types of weeds? The FWS abjectly ignores the requirements of NEPA for a hard look and use of credible scientific analysis in making sweeping assumptions such as: Anticipated Impacts of the Use Effects: Grazing supports the purposes and goals of the Refuge and the Mission of the National Wildlife Refuge System by maintaining and enhancing Refuge habitats to benefit wildlife species. The new Plan must fully review the full body of current scientific literature on the ecologically devastating effects of livestock grazing. Those effects are made worse by amplifying the effects of climate change, and making lands less resilient.

Response: See responses to comments 793-46 and 56-4.

Comment# 56-76: The FWS blindly embraces rosy claim after rosy claim about cattle grazing – but fails to provide any critical hard look at a broad range of adverse effects discussed throughout these comments.

Response: We disagree and direct the commenter to the impact analysis contained in Chapter 6 of the CCP/EIS.

Comment# 56-77: The Forest blithely ignores a large body of science showing just the OPPOSITE effects from what it claims here. Example: Belsky and Blumenthal 2000, Belsky and Gelbard 2000, Kauffman et al. 2004. The FWS ignores any candid analysis of all the threats faced by CSF that may be increased, amplified or intensified by cattle grazing and management activities:

Response: The Service assumes that the comment is referring to "OSF" (Oregon spotted frog) instead of "CSF". Oregon spotted frog is unlikely to occur on the Refuges because there is no suitable habitat, nor are there any known observations. More information about federally protected species is provided in Appendix S of the CCP/EIS.

Comment# 56-87: Future effects: The future magnitude and/or frequency of prescriptive grazing will be evaluated as part of the refuge CCP and any Refuge habitat management plan. Additional research on the habitat needs for various Refuge species may result in changes in the …Collect the data upfront for informed decisions and to alleviate uncertainty.

Response: While conducting exhaustive inventories of the Refuges prior to beginning the CCP would be ideal, the Service has not had, and does not expect to receive, sufficient funding or personnel to conduct resource surveys prior to developing CCPs for each Refuge. Acquiring scientific information about Refuge resources through surveys is a priority for the Service and is included in the CCP for each of the Refuges to help inform management decisions. Additionally, monitoring of Refuge resources is

included in the strategies and the future Habitat Management Plans for the Refuges.

Comment# 56-89: Please compare the discussion of livestock facility and adverse grazing effects found in the newer Sheldon NWR plan, vs. the 2010 Klamath Plan.

Response: The grazing effects discussed in the 2012 Sheldon NWR final CCP/EIS are not relevant to the Klamath CCP/EIS effects analysis since they are related to grazing by feral horses and burros. The grazing effects analyzed in the Klamath CCP/EIS are from livestock, primarily cattle. The facilities for and effects of domestic livestock grazing are different from those from feral horses and burros. See Hanley, Thomas A. 1982. The Nutritional Basis for Food Selection by Ungulates. *Journal of Range Management* (35)2:146–151.

Comment# 56-9: How has the Refuge monitored impacts of agricultural and haying activities in the past? What species of birds, eggs and nests have been lost or destroyed due to this? What is the status of these local and regional populations? What are population trends? Such practices must be immediately ended. There is no effective way to mitigate such senseless destruction.

Response: Effects of agricultural and haying activities are monitored in several ways. On Upper Klamath Refuge, Refuge staff qualitatively (visually) monitor vegetation on the Refuge on an ongoing basis, typically up to 3 times per month. Grazing is used to reach a habitat objective to provide spring browse. Objectives are provided in Appendix F. Habitat is evaluated annually to determine the most beneficial methods to reach habitat objectives; therefore, grazing may not be used every year. General conditions (stipulations) are included in the Special Use Permits for each operator on Refuge lands. See also response to comment 56-102.

Comment# 653-18: The Service should not propose incompatible actions such as cattle grazing that may impact and degrade wildlife and plant resources, without first establishing that it is indeed compatible with the conservation of all the Refuge resources.

Response: Grazing was evaluated as a use on Lower Klamath, Clear Lake, and Upper Klamath Refuges in the Compatibility Determinations included for each of these Refuges in the CCP/EIS Appendix G. At this time, grazing is not being proposed on the other two Refuges addressed in the CCP/EIS.

Comment# 653-20: Under Alternative A, the Service states “Continue present program of intensively managed cattle grazing, herbicide application, combination cattle grazing/herbicide treatments, and juniper removal to promote sage-steppe habitat.” But the EIS never establishes that this is the present program nor does it establish that “intensively managed cattle grazing, herbicide application, combination cattle grazing/herbicide treatments, and juniper removal” actually “promote sage-steppe habitat”. It never establishes that “intensively managed cattle grazing, herbicide application, combination cattle grazing/herbicide treatments” is better than passive management because it never makes the appropriate and necessary comparison to a “no action” alternative.

Response: See response to comment 653-4 regarding the potential effects of cattle near Clear Lake.

Comment# 663-18: Please provide the public with the price that the grazing permittee would pay per AUM of livestock use and how the money would be spent by the agency.

Response: Grazing fees are based on fair market value in the area. Grazing fees are deposited directly

into the U.S. Treasury, a small portion of which is returned to the Refuge.

Comment# 663-2: Without exception, the major purposes for these Refuges are to provide a sanctuary and habitat for migratory birds and other native wildlife. Livestock grazing is not a use upon which wildlife actually depend, and it does not contribute to the Refuge purposes. In order to authorize livestock grazing, the Service must determine that it is both an appropriate and compatible use of the Refuges. 603 FW 1 and 2. A determination must be consistent with principles of sound fish and wildlife management and administration, available scientific information, and applicable laws. Id. Much of the Service's justification for allowing livestock grazing on Klamath Refuge lands is based on its assertion that grazing can be "prescribed" to reduce undesirable plant species. However, the compatibility determinations overlook a large body of scientific literature that describes livestock grazing itself as one of the most important causes of introduction, spread, and increase of noxious, invasive, and non-native plant species (e.g. Belsky and Gelbard 2000). The compatibility determinations do not discuss whether livestock are likely to target undesirable species, whether livestock will disturb sensitive habitats, which will actually promote increased weeds, and whether livestock will spread weeds to areas where they are not present currently by transporting seeds in their coats, hooves, and digestive tracts (e.g. Bartuszevige and Endress 2008). For sagebrush steppe habitats particularly, such as those found on the Clear Lake Refuge, the Service fails to acknowledge literature that shows livestock grazing has no beneficial impact on reducing invasive annual grasses, and in fact, contributes to increases in cheatgrass, medusahead, and others by destroying soil crusts and selectively targeting large native bunchgrasses (e.g. Reisner et al. 2013).

Response: More information about determining appropriate and compatible uses is provided in the response to comment 56-18. Analysis of the effects of grazing on Refuge resources (by Refuge) is provided in CCP/EIS Chapter 6, Environmental Consequences.

Comment# 663-3: [1] The Service also fails to acknowledge that using livestock grazing as a means to prevent fire requires removal of vegetation to a such a degree that the landscape loses significant value for native wildlife, and that grazing should not be used as fuels reduction unless no native perennial plant communities remain (Diamond et al. 2009). [2] It also ignores the realities of fire dynamics. Fires are largely driven by climatic conditions, especially high temperatures, low relative humidity, and high winds. Fires can and do burn readily, even when fine fuels are removed, if weather conditions are conducive to burning. [3] The Service should manage these habitats so that they are resilient, and recover following fires because they are intact systems. Livestock grazing lowers the resilience of sagebrush steppe habitat so that they are less likely to recover after fire naturally occurs.

Response: 1. The Service is not using or proposing to use grazing for the purpose of preventing fires or reducing fuels on the Klamath Basin Refuges; fire prevention and fuel reduction are only recognized as potential secondary benefits of grazing. 2. The Service concurs with these statements concerning drivers of fire behavior in sagebrush habitats and decreased influence of fine fuel continuity under extreme fire weather conditions. However, the Service is not using or proposing to use grazing for the purpose of fuel reduction on the Klamath Basin Refuges. 3. The Service recognizes that well-managed grazing practices can be compatible with long-term (sagebrush ecosystem and) sage-grouse conservation. The Conservation Objectives Final Report identifies that fire should be managed to "retain and restore healthy native sagebrush plant communities within the range of sage-grouse." The Service is committed to applying the best available science and working with other federal, state, and private partners to improve existing habitat conditions and therefore increase resilience to fire. Measures to reduce and avoid potentially adverse effects from grazing are included as stipulations in the Compatibility Determinations for grazing (in Appendix G).

Comment# 704-1: the alternatives being considered in the plan for Lower Klamath and Tule Lake NWR's fail to seriously address the impacts of leaseland farming on wetland and riparian habitat, refuge water supply, refuge management resources, and on wildlife affected by farming activity and pesticide use.

Response: We disagree. Please see Chapter 6 of the CCP/EIS.

Comment# 734-28: The EIS should include an Cumulative Impacts Analysis of the impacts of grazing on and off of the refuge system when coupled with other management impacts, including irrigated agriculture activities, water diversions, Concentrated Animal Feeding Facilities (CAFO), chemical use and logging. We believe that such an analysis will show that most of the refuge lands are unsuitable for continued grazing.

Response: See response to comment 793-40.

Comment# 748-26: 5.2.1 forbs… perennial pepperweed Reclamation hasn't observed livestock grazing on pepperweed. Please include citation to the data to support this.

Response: The Natural Resources Conservation Service's Ecology and Management of Perennial Pepperweed (*Lepidium latifolium* L.) states, "Cattle, sheep, and goats will graze perennial pepperweed, but the effects on population fitness of long-term grazing with these animals are not known." "Cattle and sheep will utilize perennial pepperweed where it grows with other plants but they will not graze in dense, pure stands. In one study, grazing reduced perennial pepperweed in a pasture by 78 percent for one year" (NRCS 2007).

Comment# 793-40: We would like the final CCP/EIS to include a "Cumulative Impacts Analysis" of the impacts of grazing for lands both on and off of the refuge system. Because the impacts of grazing are compounded with other activities including irrigated agriculture, water diversions, Concentrated Animal Feeding Facilities (CAFOs), chemical use, and logging, the analysis is critical. And it is an essential requirement of NEPA. We believe a cumulative analysis will illustrate how the negative impacts of grazing outweigh the limited wildlife benefits and are unsuitable for much of the land within the Klamath Refuge Complex.

Response: The impacts of human actions and climate change on habitat at the Refuges and surrounding areas are described in the existing cumulative impacts section (Section 6.7) of the CCP/EIS. The effects of the actions the commenter describes are laid out for appropriate geographic areas, which vary depending on the resource. For example, water quality and hydrology are analyzed for the watershed of the Upper Klamath Basin; impacts to waterfowl are considered over the entire California and southern Oregon Pacific Flyway. These boundaries are stated for each resource in CCP/EIS Section 6.7.

Cumulative Impact Conclusion sections for each resource indicate that for the most part management at the Refuge has either contributed a very small amount to historic or current impact or has counteracted it. For example, even though cropping and grazing at the Refuges represents only about 1% of soil erosion within the counties in the Klamath Basin, the walking wetlands program at Tule Lake and the flood/fallow program on Lower Klamath Refuge decreases even this small contribution to erosion. While urban development, agriculture, and diversion and degradation of available water have so reduced waterfowl wetland habitat in California and southern Oregon portions of the Pacific Flyway that the number of birds has fallen dramatically, habitat on the Refuge is managed to provide abundant

high-quality food sources, particularly seeds, green browse, and invertebrates that support waterfowl. The Refuge continues to have concentrations of ducks and geese numbering in the hundreds of thousands during fall migration. The CCP proposes modifying habitat management practices to address energetic needs and ensure that food resources are sufficient to support Refuge population objectives throughout the year (see Appendix F) over the next 15 years.

In short, the approach by the Service in using agricultural techniques (e.g., grazing)) to achieve proper waterfowl management and follow agricultural requirements of the Kuchel Act has shown it can achieve success, including exerting a noticeable and substantial positive cumulative effect on waterfowl populations along the Pacific Flyway, as well as a lesser beneficial impact on other resources.

Comment# 812-2: The final CCP/EIS would also benefit from additional analysis of the potential environmental ramifications of grazing and haying on the Refuges.

Response: We disagree. Please see Chapter 6 in the CCP/EIS.

Comment# 812-4: The CCP/EIS discusses grazing alternatives for Lower Klamath, Clear Lake, and Upper Klamath Refuges, but fails to engage in a meaningful examination of many grazing variables, instead deferring analysis to a later date or pledging to delineate various requirements in individual grazing contracts. For instance, discussion of the Lower and Upper Klamath Refuges' no-action alternatives state grazing and other habitat management techniques, "as appropriate, would continue to be used on varying acreages and be rotated around different parts of the refuge," and that [t]he mix, acreage, locations, and timing of management techniques deployed during any particular year would be based on an assessment of current and likely future habitat conditions and wildlife needs, including the potential availability of water; the availability of adequate funding, staff, and equipment; air quality restrictions; the availability of local farmers, ranchers, and livestock; forage quality; and site conditions (e.g., access, roughness of the terrain, fencing, and other infrastructure). CCP/EIS 4-14, 4-82. Although mainly cattle graze on the Lower and Upper Klamath Refuges, other animals may already or could in the future graze on these lands as well. CCP/EIS 4-14, 4-81, 4-82. In addition, the Lower Klamath Refuge's draft Compatibility Determination states grazing "would be pursued under a leased-land contract between [the Bureau of] Reclamation and a private rancher(s)" and that "[t]hese contracts describe what is to be done, when, where, and how; and include incentives (potential lease extensions) for selected grazing practices," as well as "numerous conditions associated with this work, addressing for example, genetically engineered crops . . . and pesticides . . . ." CCP/EIS App. Pt. 1 at 307.15 In the same vein, the CCP/EIS vaguely states in Alternative C for the Lower Klamath Refuge that "additional areas of the refuge would be considered for grazing in the future as dictated by habitat management needs," and that "the actual area grazed would depend on water deliveries . . . ." CCP/EIS 4-27. Although the grazing alternatives for Clear Lake include some additional details concerning time frames and possible rotations, variables such as the "number of cattle, duration, timing, etc." may change subject to the results of experimental grazing on certain plots. CCP/EIS 4-51. FWS has postponed presenting important details of the parameters of grazing on the Refuges to some uncertain point in the future, making it difficult to meaningfully assess grazing's possible environmental effects on the Refuge's resources. Although FWS discusses grazing's function as a management tool to accomplish goals such as controlling the spread of invasive plant species and preventing wildfires, see, e.g., CCP/EIS 4-27, 4-48, grazing can also have detrimental environmental consequences. Grazing can degrade water quality in wetlands and neighboring bodies of water, as well as diminish soil quality by decreasing soil infiltration and carbon storage while increasing erosion and runoff.16 Grazing impacts also differ based on the type of grazing animal, which vary in the types of land areas they utilize, the amount and species of plants they graze, and the manner in which they graze.17 As FWS acknowledges

in the CCP/EIS, grazing also necessarily entails certain infrastructure and logistical requirements on the Refuges, such as having various vehicles; temporary and permanent structures like barns, watering facilities, and fences; and personnel present on the Refuges. CCP/EIS 4-14, 4-48. The amount, location, and duration of this infrastructure would vary depending on the details of the grazing program. The myriad of variables and corresponding environmental consequences of grazing illustrate why it is important to outline various grazing scenarios for different circumstances in detail. Although the Service needs to respond to conditions on the ground in the Refuges, the agen

Response: The Service believes the CCP/EIS adequately analyzes the environmental effects of grazing on Lower Klamath, Clear Lake, and Upper Klamath Refuges.

F. Control of Lease Land Program

Letter ID# 522-9, 622-11, 622-16, 681-5, 681-12, 735-1, 735-2, 735-6, 774-2, 778-4, 778-10, 846-21

Public Concern Statement: Numerous comments suggest that the Service should directly manage all lands in the Klamath Refuges, including lands leased for agriculture and currently managed by Reclamation, to ensure maximum protections for the primary purposes of the Refuges.

Comment# 522-9: While we acknowledge that certain interest groups perceive that agricultural production on refuge lands is an incompatible use, we believe those perspectives to be in error. We assert that the lease lands program can provide for, under proper oversight and management, a significant increase in carrying capacity for migratory birds within the complex. However, we believe that this objective is nearly impossible to achieve with the USFWS ceding this responsibility to the BOR. A variety of foraging and energetics models created by Ducks Unlimited and Dr. John Eadie (UC-Davis) can empirically describe the food resources necessary to sustain the large number of ducks, geese and other migratory birds that utilize the complex .As a result, current deficits in food resources can be augmented with management of lease lands to significant ly increase available food and maintain ample carrying capacity. We urge the Service to reclaim control of the lease land program from BOR and manage lease lands in a manner that works proactively with participating farmers to ensure good agricultural production for the partners, while adding to the food resources of the Refuges. Additionally, the Service should be the sole beneficiary of a ll funds generated by the lease land agreement which would add dollars for enhanced management and or operations and management on the Refuge.

Response: Comment noted.

Comment# 622-11: Tule Lake NWR: A. The Service should assume direct control of the leasing program. 1. As stated in item 4 above, the Service has full authority over administration of the leased agricultural lands. Research and modeling conducted by Oregon State University, Ducks Unlimited, and the Service has identified, for the first time, waterfowl population objectives for this refuge. These objectives were developed in coordination with the North American Waterfowl Management Plan through the Intermountain West Joint Venture. You have identified how these were determined in Appendix N. Population Objectives are extremely important because once the Service has these objectives, they can estimate the amount of water and habitat required to support those numbers of waterfowl using the Energetics Model (also Appendix N). The Kuchel Act requires the refuge be managed primarily for waterfowl so there is a direct link here between objective science and law. The Service can then determine how the leased lands as well as other habitats must be managed to achieve waterfowl population objectives. Recent research indicates that the current agricultural program does not supply sufficient foraging resources to support waterfowl population objectives. In addition, there

are practices that should be implemented or expanded that will further improve the attractiveness of the agricultural lands to both waterfowl and other wetland dependent species (such as shorebirds). These include incorporating more wetlands within the leasing program (Walking Wetlands), increasing the amount of unharvested grains, and fall and winter flooding of the agricultural lands. The draft Compatibility Determination (Appendix G) outlines these practices. There are two potential strategies needed to implement the proposed changes to the leasing program. The Draft CCP advocates for a Special Use Permit (SUP) requiring that Reclamation adhere to the Service's conditions for management of the program. Currently, a 1977 Cooperative Agreement between the Service and Reclamation also requires Service oversight of the program. KBAS believes that utilizing the proposed SUP outlined is essentially approaching the problem with the same strategy as used presently, and thus is likely to achieve similar results (i.e., the refuge will continue to supply insufficient foraging resources for waterfowl and wetland dependent species). Having the Bureau of Reclamation implementing the lease land program on behalf of the FWS has proven to be an extremely inefficient and awkward method of administration. KBAS advocates for a strategy that eliminates the BOR as the "middle man" from the administration of the leased lands. Putting the Service in direct control of the program will ensure required changes are implemented. In addition, the Service should work with Reclamation to transfer funds for administration of the program to the Service.

Response: Comment noted.

Comment# 622-16: Lower Klamath NWR: A. Lease Lands As with Tule Lake NWR, the Service should assume direct control of the leased land agricultural program.

Response: Comment noted.

Comment# 681-12: The need to lease certain lands within the Tule Lake and Lower Klamath NWRs is not subject to change under existing law,but there are a number of ways that the Service could manage the leased lands and still provide management opportunities to improve waterfowl habitat. Some of these are explored in the CCP, others may be found through adaptive management evaluations .

Response: Comment noted.

Comment# 681-5: To improve the waterfowl management characteristics of the leased land,the Service should take full control of the leasing programs in both the Tule Lake and Lower Klamath NWRs. Revenue from the leases should accrue to the Service. The Service should have discretion to determine the mix of crops that will provide the optimal benefit to waterfowl, while still providing an incentive to farmers to farm the leased lands.

Response: Comment noted.

Comment# 735-1: Lease lands administration. Much of the general public erroneously believes that not farming the lease lands will free up water for wetlands. Under the Kuchel Act the main purpose of the refuges are for waterfowl management but with agricultural use that is consistent therewith. Changes are needed in the lease lands administration and the primary way to get changes accomplished is to have the FWS fully administer the leasing program. There is no need for Bureau of Reclamation (BOR) to be a middle-man. In the CCP it is proposed that a Special Use Permit be issued to BOR for the lease program. This will solve nothing and will continue to hinder needed changes in the program. In 1997 I was refuge manager and worked on the Cooperative Agreement. FWS could have taken over the leasing then but FWS was not in a position to do so. In the intervening years the refuge has bocce

capable of doing the leasing and should. Funds should follow to FWS to cover the cost of the program.

Response: Comment noted.

Comment# 735-2: In Appendix N the nutritional needs of waterfowl are presented. The leasing and cooperative farming programs on Tule Lake and Lower Klamath need to be adjusted to meet these needs. This will require changes in the leasing program that FWS should administer. Getting BOR out of the leasing program will greatly assist in this effort (see #1 above). Unless these nutritional needs are met the FWS is not living up to the letter and intent of the Kuchel Act wherein "proper waterfowl management" is to guide management of the refuges.

Response: Comment noted.

Comment# 735-6: There are two specific areas that need to be addressed for the refuges to be properly administered under provisions of the Kuchel Act. They are to have the lease land program under the administration of the FWS, and to get the water rights granted to the refuges delivered. These are not terribly difficult things to do if the will and determination by FWS is there. Sadly, both have been lacking in recent years. Endangered species management and refuge management can co-exist, just like irrigated agriculture and refuge management do. BOR and irrigators will certainly object to changing the status quo. So be it. The refuge cannot be properly and legally managed under the status quo. In my more than 40 years working on Klamath Basin issues, both as a refuge manager and as in interested and concerned private citizen, I believe the basic changes necessary can be accomplished. It is largely a matter of leadership, especially in the FWS, at all levels.

Response: Comment noted.

Comment# 774-2: Regardless of water distribution, the Refuge must control management of the agricultural lease-lands. The Fish and Wildlife Service (FWS, the Refuge) rather than the Bureau of Reclamation (BR) should be the entity to deal with the farmers on lease-land agriculture. Proper cropping is critical to ensure that the energy requirements of waterfowl are met. The bioenergetics information should provide the guidance for lease-land management.

Response: Comment noted.

Comment# 778-10: Finally, the Service should be given the authority to manage refuge lands and sit at the table during negotiations about water, endangered species and the like, and it should do so with the support of its sister agency, the Bureau of Reclamation, and the full backing of the Interior Department.

Response: Comment noted.

Comment# 778-4: Directly manage all lands in the Klamath refuges, including lands leased for agriculture and currently managed by the Bureau of Reclamation. [1] The Service has full authority to manage all lands leased for agriculture on the refuges and it should do so directly. Management responsibilities should not be shared, even by Special Use Permit, with the Bureau of Reclamation or other entities that lack the expertise, commitment and legal mandate for conservation of migratory birds. [2] Moreover, any revenue realized from leased lands should be returned to the Service to cover its management costs and reinvested in on-the- ground habitat protection and restoration. Anything less than full and direct control of refuge lands by the Service sends the signal that the purposes for which

the refuges were established are not really a priority.

Response: The lease land program is implemented consistent with Sections 3 and 4 of the Kuchel Act.

Comment# 846-21: The Service should assume control of management of the leaseland farming program. As a component of the CCP, the Service should consider reasserting authority over the leaseland framing program. Leaseland farming is subservient to waterfowl and wildlife purposes on the Klamath Refuge Complex, and the Service should retain authority to regulate those activities as efficiently as possible to ensure maximum protections for the primary purposes of the Refuges.

Response: Comment noted.

G. Farming Description

Letter ID # 732-2, 743-19, 743-21, 743-23, 743-27, 743-81, 743-84, 743-85, 743-94, 743-102

Public Concern Statement: Several individuals note that the CCP/EIS lacks a clear description of proposed agricultural practices under considered alternatives and how the Service will implement each action. Comments request that the CCP/EIS provide details on how alternatives will change current agricultural acreage and practices, and that the CCP/EIS should not allow for potential future changes in the agricultural program. Comments also request that the Service provide analysis of potential impacts associated with any proposed changes in the lease land program.

Comment# 732-2: OFB agrees with TID that the DCCP and associated Environmental Impact Statement (EIS) lack a clear description of the alternatives and their relationship with the compatibility determinations. The amount of acreage that the FWS is proposing to fallow is not clear, nor could we understand how FWS is proposing to meet the requirements around farming near wetlands. The DCCP and associated EIS should be revised to clarify what each alternative requires and how FWS would implement its proposed actions.

Response: The CCP/EIS text has been revised to address the comment.

Comment# 743-102: Page 6-129, “Farming Programs”: This paragraph states that under Alternative B, “The harvested grain acreage would be effectively reduced to zero on the Refuge.” This statement does not appear in other descriptions of Alternative B and the basis for the statement is not clear. Nor is there any environmental impact analysis for such a change in the lease land program

Response: This sentence has been deleted from the CCP/EIS.

Comment# 743-19: Fundamentally, with respect to the agricultural management section, it is difficult to discern exactly the actions that the Service proposes to take with each alternative and how the Service proposes to accomplish each objective.

Response: The actions the Service proposes to take are described in both CCP/EIS Chapter 4 (Alternatives) and in CCP/EIS Appendix F (Goals, Objectives, and Strategies).

Comment# 743-21: Confusion also results from inconsistency between chapters, and even sections within chapters, related to issues such as the amount of acreage that the Service is proposing to fallow. Page 4-68 states that 1,380 acres each year would be needed to achieve the one-mile distribution

scheme as set forth in Alternative B. Other sections in the Draft CCP/EIS state that a minimum of 1,380 acres would be required for Alternative B,5 an average of 1,380 acres,6 and in at least two places, 8,000 acres.7 It is not at all clear what the Service expects to implement if it decides to adopt Alternative B.

Response: The CCP/EIS text has been revised to address the comment.

Comment# 743-23: The Draft CCP/EIS should be revised to clarify exactly what each Alternative requires and how the Service intends to implement the associated actions. In order for the public to understand the proposed action, and in order for there to be an adequate evaluation of impacts, there must be a clear project description.

Response: The Service believes that the alternatives are clearly described in Chapter 4.

Comment# 743-27: The ambiguous incorporation of the bioenergetics model in Appendix N further demonstrates the absence of an adequate project description to discern what the Service proposes for the planning and management of TLNWR lands. Alternative B would require all the stipulations listed in the draft compatibility determination to be included as part of the lease contracts. In turn, the draft compatibility determination requires the agricultural lease lands to provide "sufficient food resources to support the population objectives of migratory dabbling ducks and geese . . . estimated using the bioenergetics modeling similar to Dugger et al. (2008)." Nowhere does the description of Alternative B state what that means or may mean with reference to change in current agricultural acreage and practices.

Response: We disagree. The habitat objectives that support proper waterfowl management as defined in Appendix M are clearly summarized in Table 4.8, Summary of Alternatives for Lower Klamath Refuge. In particular, please see the summary of actions listed under Wetland Habitat Management, Upland Habitat Management, and Agricultural Habitat Management, as well as the discussion of Alternative B in Section 4.2.3.

Comment# 743-81: Page 4-63, "Agricultural Habitat Management": This paragraph does not discuss lease land farming/leasing, which is definitely part of the no-action alternative. The paragraph should be modified to include lease land farming. Note that the description of Alternative B on page 4-60 states that farming would be the same under Alternative B as Alternative A, except for specific modifications. This is an additional reason that lease land farming should be fully described under Alternative A.

Response: Lease land farming is not included on the page listed in the comment because it is included under Section 4.4.1, under Features Common to All Alternatives.

Comment# 743-84: Page 4-68 and TLNWR Alternative B, Generally: As explained in section I.C, Alternative B is not sufficiently defined. There must be a clear project description, with details on the interspersion of wetlands within the agricultural fields and the standing grain requirements and other elements.

Response: The CCP/EIS is a programmatic document. Consistent with the Preferred Alternative, the Service will develop and implement a Habitat Management Plan that will more specifically identify how this will be implemented.

Comment# 743-85: Page 4-69, ending paragraph at top of the page: The final sentence of the ending paragraph at the top of page 4-69 suggests that, under Alternative B, there could be further change in the agricultural program. Any such open-ended action would be improper and there is an inadequate project description and NEPA analysis.

Response: This is consistent with the adaptive management approach described in the CCP/EIS at the beginning of the section for each alternative. We concur that in some cases additional NEPA analysis may be needed in the future.

Comment# 743-94: Page 6-102, first full paragraph: The text of this paragraph states that the aerial extent of farming would not change under Alternative B. TID submits that, at minimum, the portion of Alternative B that provides a minimum of 1,380 acres of walking wetlands, and all fields being within one mile of a wetland, reflects a reduction in the aerial extent of farming. The Draft CCP/EIS also creates uncertainty and ambiguity as to other potential effects.

Response: Walking wetlands/flood fallow is an established agricultural practice. We believe the current text accurately reflects the changes proposed. See also response to comment 693-12.

H. GE Crops and other types
Letter ID # 730-6, 734-14, 734-17, 793-72, 812-7, 812-8, 812-10, 812-11

Public Concern Statement: It is requested that the Service specifically prohibit the planting of genetically engineered crops or row crops on Refuges. These commenters also state that land use, crop types, and contamination sources need to be analyzed in the CCP/EIS and that recommendations for land retirement and land use changes to mitigate Proposed Action impacts should be identified and implemented.

Comment# 730-6: The Service should not allow row crops, which require the greatest number and amount of pesticides and provide little to no benefit to wildlife. As the Service acknowledges, "[c]rops on the Refuge under lease agreements, in particular onions and potatoes, can be treated with a variety of pesticides. Row crops such as onions, potatoes, horseradish and sugar beets are of minimal wildlife use and require more pesticides and fertilizers."29

Response: Use of row crops and the relative amount of row crops on the lease lands are specifically addressed within the Kuchel Act. Row crops provide an important technique for reducing crop pests and improving soil health.

Comment# 734-14: we do not argue with the proposition that some types of on-refuge farming could be considered appropriate under the Kuchel Act. However, for the reasons as stated above, potato and alfalfa farming (haying) in particular appear to be inconsistent with the Kuchel Act and therefore an analysis on how these non-consistent farming practices should be phased out should be include in the range of alternatives.

Response: See response to comment 730-6.

Comment# 734-17: There is no question that the poor water quality and accumulation of toxins in wetlands and poor water quality on the refuge lands is not consistent with the prioritization of these

lands for fish and wildlife needs outlined in the Kuchel Act, and therefore land use, crop types and contamination sources need to be analyzed in the Final EIS and recommendations for land retirement and land use changes to mitigate these damages need to be outlined and adopted.

Response: See response to comment 734-4 regarding the TMDL process and the discussion of environmental contaminants in Section 5.1.1 in the CCP/EIS.

Comment# 793-72: Prohibit growing row crops and other crops that provide little or no benefit to wildlife.

Response: Comment noted.

Comment# 812-10: To protect the Refuges' natural resources, in the final CCP/EIS, the Service should specifically prohibit the use of pesticides on grazed plants, as well as the planting of GE crops for grazing on the Refuges.

Response: Regarding genetically engineered or genetically modified crops, see response to comment 812-7.

Comment# 812-11: CFS also urges the Service to explicitly ban the use of synthetic pesticides and GE crops for haying in the final CCP/EIS, in light of pesticides' proven negative consequences on wildlife and its habitat, including food availability, water quality, and soil health, as well as GE crops' demonstrated propensity to exacerbate these harmful outcomes.

Response: See response to comment 812-7.

Comment# 812-7: As previously discussed, the draft CCP/EIS references the possibility of cultivating GE crops for grazing and haying on the Refuges. CCP/EIS App. Pt. 1 at 307 (stating grazing contracts would address the use of GE crops); CCP/EIS App. Pt. 1 at 331 (stating contracts for haying would address use of GE crops). It was CFS's understanding that as of January 2013, GE crops were not used on the Refuges, and if the Service has altered its position on this point, it should perform a full environmental analysis examining this change.22 In light of the numerous negative environmental ramifications of GE crops, FWS should ban their cultivation on the Refuge for all agricultural uses. GE crops pose many potentially harmful and uncertain consequences to the health and quality of the environment.

Response: Genetically engineered or genetically modified crops will not be permitted on the Refuges. The CCP/EIS and compatibility determination text were corrected to reflect this.

Comment# 812-8: the final CCP/EIS should prohibit the use of genetically engineered (GE) crops on the Refuges.

Response: See response to comment 812-7.

I. Farmed Grain
Letter ID # 641-12

Public Concern Statement: One commenter supports the increase in acreage of unharvested cooperatively farmed grain by 500 acres and the decrease in acreage of harvested grain.

Comment# 641-12: The Department supports the increase in acreage of unharvested cooperatively farmed grain by 500 acres and the decrease in acreage of harvested grain accordingly. In addition, subject to water availability, an additional 2000 acres of grain would be converted to pasture/green browse. Approximately 700 acres would come from cooperatively farmed grain and the remainder would come from Area K leased farming units. This change in management should help alleviate some of the crop damage from spring migrant geese that occurs to surrounding private agricultural lands in the Lower Klamath Basin.

Response: Comment noted.

J. Cooperative Farm Lands
Letter ID # 906-4, 906-7

Public Concern Statement: Per one entity, Compatibility Determinations in the CCP/EIS should consider adverse impacts on water quantity as a result of the cooperative farming program. It is also recommended that stipulations included in the Compatibility Determinations for the leaseland farming program also be included for the cooperative farming program.

Comment# 906-4: The Compatibility Determinations for the cooperative farming program on Lower Klamath and Tule Lake Refuges suffer from many of the same deficiencies as the leaseland farming program CDs. Both compatibility determinations are missing any discussion of adverse impacts on water quantity as a result of the cooperative farming program. As discussed above, indirect impacts include the taking away or diverting of resources from an activity that would achieve refuge purposes, such as water delivery for wetland habitat.309 The Service must consider these impacts in the compatibility determinations.

Response: The purpose of the Compatibility Determinations is to evaluate whether the use is compatible with Refuge purposes.The Service believes the Compatibility Determinations accurately analyze the anticipated impacts of each of the refuge uses. The proposed uses are subsequently evaluated in the NEPA document (EIS).

Comment# 906-7: there are several stipulations that were included in the Compatibility Determinations for the leaseland farming program that are not included in the CDs for the cooperative farming program. For instance, both the Tule Lake and Lower Klamath Refuge Leaseland CDs include the stipulation that, All lease farm lands must be managed such that all agricultural fields are within one mile of wetland habitat. Close proximity to wetlands not only increase the attractiveness of agricultural fields to waterfowl, it also reduces energetic costs of obtaining food resources. This provision also insures better bird distribution and utilization of agricultural lands, thereby dispersing birds and reducing the negative effects of density dependent waterfowl diseases (particularly avian cholera).317 Similarly, the Lower Klamath Leaseland CD includes a stipulation to “flood seasonal wetlands to ensure sufficient balance of wetland and agricultural habitats during drought years.”318 The Tule Lake Leaseland CD includes a stipulation that “field work is prohibited from April 15 through May 31 of each year to avoid wildlife disturbance.”319 Additionally, “herding and harassment of waterfowl is prohibited from January 1 through April 30 of each year.”320 These stipulations are not

included in the cooperative farming program compatibility determinations.

Any stipulations related to waterfowl, wildlife, and wetland habitat protection that are necessary for compatibility of the leaseland farming program must also be necessary for the cooperative farming program. The Kuchel Act's mandate to manage the refuges for "wildlife conservation" and "waterfowl management" applies with equal, if not greater, force on the cooperative farming lands where there is no directive to "maximize revenues" or continue the "present pattern" of farming.321 Thus, the Service should include the same protective stipulations in the cooperative farming compatibility determinations.

Response: The Service disagrees with the comment. Due to the nature of the cooperative farming program, farmed units are already interspersed with wetland units. We believe the stipulations for cooperative farming are sufficient to ensure compatibility.

K. Farming Stipulations

Letter ID # 693-5, 693-7, 693-8, 693-12, 732-1, 743-11, 743-13, 743-20, 743-38, 743-40, 743-43, 743-44, 743-46, 743-47, 743-48, 743-49, 743-50, 743-51, 743-52, 743-55, 743-56, 743-57, 743-97, 743-100, 763-1, 763-2, 763-4, 763-5, 763-6, 763-7, 773-1, 783-1, 861-1, 861-2, 861-4, 861-5, 861-6, 861-10, 897-1

Public Concern Statement: Several respondents state that farming stipulations in the CCP/EIS will adversely impact agriculture on lease lands and are unjustifiable. Specific concerns include the following:

- Annual review of leases will disrupt longer-term farm planning and planting schedules
- Restrictions on alfalfa cutting before July 15 will render production uneconomical.
- Burning standing grain reduces site productivity and will require more field work to prepare for spring planting.
- Refuge approval for fall tillage exceeds Service authority and prohibits planting winter wheat, which can reduce soil erosion and manage pests.
- Prohibition of field work during April and May will prevent lessees from conducting necessary farming operations.
- Proposed prohibition on the herding and harassment of waterfowl from January through April will significantly impair the lessees' ability to produce crops and reduce agricultural viability and lease revenues.
- The stipulations that lease farm lands must be managed such that agricultural fields within 1 mile of wetland habitat is arbitrary.

Comments also state that the CCP/EIS fails to evaluate the impacts of farming stipulations and changes in management to area resources, such as water use and supply or increased noxious weeds and soil erosion, as well as the water and infrastructure that would be needed to support some actions. It is requested that the Service demonstrate why proposed stipulations are necessary.

Comment# 693-12: It seems the Refuge proposed CCP changes to Lease Land Farming as outlined and discussed above are shocking. Why after 60 years (1956 to 2016) does the Refuge think the Lease Land Farming Program needs to be changed so as to interfere with normal farming practices? Row crops are limited to 25% of allowable crops. That is spelled out in the Kuchel Act of 1956. That was negotiated. The proposed CCP changes seeks to reopen negotiations to modify normal farming practices to prohibit the planting of potatoes, onions and grains from April 15 to June 1, and all harvesting of alfalfa until July 16 each year. The Refuge simply lacks jurisdiction to unilaterally make

such changes to the Kuchel Act of 1956. And the attempt to do is by reference to "consistent with good wildlife management" in the Kuchel Act or to find that Lease Land Farming is subject to "compatibility determination" that seeks to prohibit normal farming practices is unconscionable and not legally sustainable. No legal references cited in the proposed CCP cite wording or intent to overrule, change, modify or amend the Kuchel Act of 1956. And without such wording clearly stated cannot be done through the CCP proposed rule changes alone.

Response: The Compatibility Determinations for farming have been revised to correct and clarify the stipulations and address the comments. Also see response to comment 693-7.

Comment# 693-5: "Alfalfa is also an attractive crop to ground nesting- birds. To prevent nest destruction, alfalfa cutting will be delayed until after July 15." (page10) Why use a sledge hammer to deal with nest destruction? Why not implement an egg gathering program (possible volunteer or Youth Conservation Corp projects?) rather than eliminate up to two alfalfa cuttings? 2. Does the Fish and Wildlife Service really believe they have jurisdiction to forbid the normal harvesting of alfalfa? Lease Land Farming is required by law as per the Kuchel Act of 1956.

Response: Comment noted.

Comment# 693-7: Farming is beneficial to wildlife along with wetlands. (page 1 A.2.b.) "All lease Lands must be managed such that all agricultural fields are within one mile of wetland habitat." Another over reaching rule applied to the Lease Land Farming Program. It is true that farming on the Refuge is utilized by wildlife but it is overreaching to try and limit farming by such a new rule/requirement. If the Refuge desires to place a wetland next to agriculture fields then the rule/requirement is to be clearly stated to be the burden of the Refuge, not the contract farmer. Wetlands are the jurisdiction of the Refuge. The refuge lacks jurisdiction to place this burden on the Lease Land Farming program. This type of approach by the Refuge is simply another apparent harassment of the Lease Land Farming Program.

The Lease Land Farming program has been going on for 60 years and now the CCP plans to make dramatic and significant changes by bootstrapping jurisdiction by reinterpreting NWRSA of 1966, as amended, to allow compatibility determinations that prohibit normal farming practices? (page 2 last paragraph and top of page3). No wonder the public is so concerned with government takeover of public lands to the destruction of agriculture! The proposed CCP analysis fails to overcome the rights granted to the farmers by the Kuchel Act of 1956 after 60 years of normal operations.

Response: We disagree. The Kuchel Act gave the Service full administrative jurisdiction over the lease land program (see Appendix M). Prior to allowing a use, the National Wildlife Refuge System Administration Act requires the Service to find existing or proposed uses of a refuge compatible with the refuge purposes and Refuge System mission. Flood/fallow management provides both important habitat and energetic resources for waterbirds, and also many agricultural benefits, including: increasing nitrogen and phosphorous in the soil, nematode control, quackgrass suppression, and Canada thistle control. This method is a widely used practice that is essential for agricultural systems (especially for organic agriculture) in the Klamath Basin. The Refuge will strive for a better interspersion of wetland habitat within the lease lands, and will focus on fields with pest management issues for the flood/fallow program.

Comment# 693-8: Farming is beneficial to wildlife along with wetlands. (page 1 A.2.b.) "All lease Lands must be managed such that all agricultural fields are within one mile of wetland habitat." Another over reaching rule applied to the Lease Land Farming Program. It is true that farming on the

Refuge is utilized by wildlife but it is overreaching to try and limit farming by such a new rule/requirement. If the Refuge desires to place a wetland next to agriculture fields then the rule/requirement is to be clearly stated to be the burden of the Refuge, not the contract farmer. Wetlands are the jurisdiction of the Refuge. The refuge lacks jurisdiction to place this burden on the Lease Land Farming program. This type of approach by the Refuge is simply another apparent harassment of the Lease Land Farming Program.

Response: See response to comment 693-7.

Comment# 732-1: we are at a loss to understand why the U.S. Fish and Wildlife Service (FWS) is proposing a number of curtailments in agricultural leases in the southern Oregon refuge system that would effectively render the land inoperative for production agriculture. These curtailments include restrictions on season when farming can take place, restrictions on locations where farming may occur, and requirements to leave certain portions of crop unharvested. Perhaps most troubling, FWS seeks to make farming optional under the leases, despite clear statutory instruction to continue agricultural leases. OFB believes that these restrictions and modifications are unwarranted, exceed the legal authority of the FWS, and violate the intent and spirit of the refuge program. As extensively outlined by the Tulelake Irrigation District (TID) in their comments, Section 4 of the Kuchel Act requires that FWS continue the agricultural leasing program. That provision was enacted because leasing was determined to be more consistent with waterfowl management than homesteading. Section 4 of the Kuchel Act therefore required that the Secretary continue the present pattern of leasing land for agricultural use. The Kuchel Act made agriculture a purpose of the Tule Lake and Lower Klamath National Wildlife Refuges, and FWS must act consistently with that mandate. FWS's arguments to the contrary selectively quote portions of the Kuchel Act and seek to interpret the Act outside of its statutory context and intent. This strained interpretation is outside the scope of FWS's authority and is contrary to the plain language of the Act. The Kuchel Act plainly requires that the FWS maintain the current leasing patterns on the landscape, and not enact requirements that either make leasing optional or make the leases unable to be used for normal agricultural operations.

Response: See responses to comments 693-12 and 693-7.

Comment# 743-100: Pages 6-117 to 6-118, "Farming Programs" and "Pesticide Application": TID's comments in section I.E, supra, apply equally to these sections. The sections should begin by noting there are no documented adverse impacts from nutrients within TLNWR. Pages 6-119 to 6-122, Vegetation and Habitat Resources for Alternatives B and C: Both Alternatives B and C would require an increase in acreage for standing grain. As Appendix N notes, waterfowl do not consume all the unharvested grain that is left on a field. Frequently, unless the fields are appropriately managed, due to the high soil moisture, the remaining grain will sprout and grow. The foreseeable impacts of removing this vegetation as well as the impacts to hydrology should be discussed in the environmental consequences section.

Response: Regarding effects on vegetation and habitat resources, we believe the existing description of effects is accurate. The Service's understanding of normal agricultural practices within lease lands and cooperatively farmed lands is that fields are tilled prior to planting regardless of whether the field has been harvested or has volunteer grain; typically, the soil is tilled prior to planting, which eliminates volunteer grain.

Comment# 743-11: Largely missing from the Draft CCP/EIS is any discussion of the 1956 Contract between TID and the United States.59 Although the Draft CCP/EIS implicates many provisions of the 1956 Contract, these comments focus on two sections and the potential breach of contract that the

alternatives for the lease land program create. Article 8 of the 1956 Contract capped the acreage of land farmed by the Service in TLNWR. The 1956 Contract specifically provides that the "approximately two thousand five hundred (2,500) acres presently farmed by the United States in the Tulelake National Wildlife Refuge will not be increased but may be shifted during the term hereof . . . ." Those 2,500 acres are, of course, carried forward in the Draft CCP/EIS. But the Alternatives presented in chapter 4 for agricultural management increase the restrictions on the lease land program such that the Service would effectively be increasing the acreage that it farms in TLNWR. For example, Alternative B proposes to implement the measures set forth in the compatibility determination and would require the following stipulations, among others, for the lease land program:

• All agricultural fields must be within one mile of wetland habitat;

• The Service will increase the acreage of unharvested grain from 1,100 acres to 1,500 acres, with at least 750 acres of unharvested grain occurring on the leased lands;

• All lease lands will be flooded post-harvest to February 15 at the Service's discretion;

• Alfalfa cutting must be delayed until after July 15; and

• Field work is prohibited from April 15 through May 31. The degree of restrictions on the lease lands suggested by the Service in these and other stipulations effectively increases the acreage that the Service farms. At the Service's direction, the lessees would not be able to work in their fields at a crucial point in the season or prevent crop destruction during critical times, the lessees would be required to leave grain and other crops unharvested, and additional land would be fallowed or converted to non-agriculture if necessary to achieve the one-mile buffer. The Draft CCP/EIS proposes to create waterfowl and wildlife habitat in the lease lands, beyond the 2,500 acre limit provided for in the 1956 Contract.

Response: See responses to comments 693-7 and 693-12.

Comment# 743-13: although the Draft Plan/DEIS reflect an intention to continue agricultural leasing at some level, they, and the related draft compatibility determinations, would unjustifiably and unreasonably constrain, and even effectively eliminate, farming practices. For example, and almost unbelievably, the draft "compatibility determination" for TLNWR lease lands would disallow field work from April 15-May 31, which is exactly the time that field work is essential, both for agricultural purposes and for production of food sources for waterfowl considered important in the Draft Plan/DEIS. Similarly, the draft compatibility determination would preclude cutting of alfalfa until mid-summer, effectively eliminating the viability of this crop theoretically considered important in the Draft Plan/DEIS.

Response: See response to comment 693-12.

Comment# 743-20: the descriptions and analyses of effects of Alternative B include some but not all of the stipulations of the draft compatibility determination. For example, the draft compatibility determination would impose constraints that are not mentioned in the descriptions of Alternative B, and there is no analysis of environmental impacts of imposing conditions or program changes such as those reflected in the draft compatibility determination. The un- analyzed or inadequately analyzed conditions or changes from current practices include: unspecified provisions to be added to farming contracts (TLNWR Lease Land Farming Program CD at 9), proposed limitation on alfalfa cutting (id.

at 10), stipulations A (id. at 12-13) and I (id. at 16), and others.

Response: See response to comment 693-12.

Comment# 743-38: beyond the legal authority questions, stipulations included draft compatibility determinations for the lease lands in TLNWR, which are incorporated by reference in Alternatives B and C, would make it impossible to continue agriculture and agricultural practices on lease lands. This outcome cannot be intended, at minimum because throughout the Draft CCP/EIS and the draft compatibility determination, the Service acknowledges that the food resources produced by the agricultural lands are "an integral part of achieving waterfowl population objectives."16 But the requirements of the bioenergetics approach and stipulations in the compatibility determinations for the farming programs are mutually exclusive. The lessees and the participants in the cooperative farming program cannot grow food used by waterfowl under stipulations that make it impossible or impractical to grow food. Also, the stipulations run afoul of Kuchel Act requirements and the TID contract, and TID perceives from some other sections of the Draft CCP/EIS that it is expected that effects on agriculture would be more limited. The stipulations have not been justified. TID hopes that certain matters resulted from oversight or haste, but in any event, these matters require attention.

Response: See response to comment 693-12.

Comment# 743-40: The determinations also mischaracterize statutes such as the Kuchel Act. For example, the "Justification" section of the lease lands determinations states: ". . . the Kuchel Act provides that agricultural leasing will continue in specific areas of the refuge if consistent with proper waterfowl management . . . ."19 The Kuchel Act does not say that, and there is no basis or authority for the Service to "continually evaluate" agricultural uses and cropping patterns or make some sort of ongoing compatibility determination. These issues are also addressed in other comments being submitted by TID. In addition, even if a compatibility or consistency determination is required or authorized, the determinations do not provide adequate logic or evidence to support the "stipulations" proposed for conditioning leases or the lease land program generally. These conditions are also inconsistent with the Kuchel Act and the 1956 Contract between TID and the United States.

Response: See response to comment 693-7.

Comment# 743-43: The draft compatibility determination for TLNWR lease land farming, and various descriptions of Alternative B, refer to a condition that lease farm lands must be managed such that agricultural fields are within one mile of wetland habitat. The proposal is to accomplish this through the Walking Wetlands program, which would need to be modified.22 Respectfully, TID submits that the one-mile limitation is arbitrary. Aside from legal issues related to its appropriateness, none of the stated justifications support a fixed one-mile rule. The condition is also unattainable. It would also have environmental impacts that have not been disclosed, and causes inconsistencies with the Kuchel Act and TID contract.

Response: See responses to comments 693-12 and 693-7.

Comment# 743-44: In Alternatives B and C and the draft compatibility determination, the Service proposes the interspersion of wetlands such that all agricultural fields are within one mile of wetland habitat. What is missing from the Draft CCP/EIS is any discussion of how to accomplish this condition. For example, in the Southwest Sump and a significant portion of the Frog Pond unit, there is no infrastructure at all to implement walking wetlands. Elsewhere, infrastructure would also have to be

established or modified. As described above, the existing program relies on infrastructure that supports blocks of 200-300 contiguous acres. To create more, or more dispersed, acreage, would require additional dikes and berms, which would also eliminate agricultural acreage and less revenues.

Response: See responses to comments 693-12 and 693-7.

Comment# 743-46: There are similar issues related to the proposed lease term that would state that all lease fields will be flooded post-harvest until February 15, at the Service's discretion. Again, there are no findings or analyses as to why this is needed. Practically speaking, TID believes that current practices likely achieve any purposes that the Service intends to serve, but there is no explanation of the reason for the stated condition.

Response: See response to comment 693-12.

Comment# 743-47: as with the one-mile interspersion condition, there is no discussion of the impacts of winter flooding or the actions that are necessary to accomplish the proposed condition. As to the former—the impacts of flooded fields in the winter months—a flooded field means that lessees cannot plant winter grain. This, of course, would result in less food for waterfowl, which is relevant to the bioenergetics approach and the one-mile to wetlands condition. As a practical matter, lessees create farm plans years in advance in order to manage the seasonal rotation of the fields. The flooding stipulation would upset that planning process because the Service, in its discretion, may require fall flooding even if it is inconsistent with the lessee's farm plan. Again, this lack of coordination with the lessees would disrupt the planting schedule and plans, result in less food for waterfowl, and reduce lease revenues.

Response: See response to comment 693-12.

Comment# 743-48: As to the requisite actions for accomplishing fall and winter flooding, the Draft CCP/EIS does not explain the water or infrastructure that would be necessary to flood "[a]ll lease farm lands" from "post-harvest to February 15." There would be water supply constraints, pumping costs, and attendant energy consumption. Additionally, there would be effects on water quantities in the Klamath River, Upper Klamath Lake, LKNWR, and on other agricultural areas that have not been considered or analyzed. The Service proposes to flood as much as 15,000 acres for three to four months and then return that land to agricultural production instantaneously. This would not be reasonable or realistic, and within the context of an EIS, the impacts of such a condition have to be analyzed. That analysis has not occurred.

Response: Our post-harvest flooding on Tule Lake Refuge would be subject to the availability of water, taking into consideration crop types, and in coordination with Reclamation and TID.

Comment# 743-49: TID submits that the proposed stipulations regarding farming and harvesting practices are entirely unreasonable and unjustified. Specifically, the prohibition on field work from April 15 through May 3123 would prevent lessees from conducting ordinary and essential farming operations. These activities are necessary to produce crops and lease revenues. They are also necessary to support the population goals for migrating waterfowl. Among other things, this is the time period during which lessees plant grain, potatoes, onions, and other crops. Similarly, the proposed prohibition on the herding and harassment of waterfowl from January through April24 would significantly impair the lessees' ability to produce crops, greatly reduces agricultural viability and lease revenues, and also adversely affects production of food resources for migrating waterfowl. This is the period in which

lessees must prevent crop depredation in order to sustain the crop at all. Theses prohibitions on field work and waterfowl herding during growing seasons are not justified or appropriate and must be removed.

Response: See response to comment 693-12.

Comment# 743-50: TID also submits that the proposed stipulation that requires "Refuge approval" for fall tillage of small grains is an overreach that is not justified, not based in the Kuchel Act and, like other proposed stipulations, violates TID's Contract with the United States. The draft compatibility determination states that "[i]n most cases, fall tillage has the potential to decrease the availability of waste grain for waterfowl and increase the susceptibility of the soils to wind erosion."25 However, a lessee tills land in the fall if he or she is planning to plant winter wheat. Restricting fall tillage effectively trades standing grain in the fall for planting winter wheat, which provides food resources at other times. The latter reduces soil erosion and manages weeds and pests on the agricultural land. These issues are not acknowledged in the Draft CCP/EIS.

Response: See response to comment 693-7.

Comment# 743-51: Burning fields post-harvest is akin to baiting. This only occurs in the closed area and is subject to other restrictions on hunting in the refuge. This impact to the hunting use is overlooked. Further, although burning standing grain creates an attractive resource for waterfowl, it causes major problems for the agricultural lessees that affect productivity and lease revenues. Standing grain that is not eaten by birds sprouts in the spring. This creates the need for more field work or requires the farmer to use other means to break up the growth. The fields must be cultivated to accommodate spring planting, and allowing the Service to burn standing grain at its discretion would frustrate careful planning and field management by lessees.

Response: Prescribed burning is a standard agricultural practice that the Service uses within the parameters of federal regulations. Baiting means the direct or indirect placing, exposing, depositing, distributing, or scattering of salt, grain, or other feed that could serve as a lure or attraction for migratory game birds to, on, or over any areas where hunters are attempting to take them (50 CFR Subpart B, § 20.11 (k)).

Comment# 743-52: If alfalfa cutting cannot occur on the lease lands before July 15, lessees will not grow alfalfa on the lease lands. Three to four cuts of alfalfa fields must occur to make the crop economical for lessees. Two of the cuts occur prior to July 15. This hidden proposed stipulation greatly reduces alfalfa crop production and makes production uneconomical. Growers therefore will not plant alfalfa, eliminating a valuable crop and reducing lease revenues, and adversely affecting the waterfowl habitat and foraging resource altogether. The goal of increasing alfalfa acreage and the restriction of delayed alfalfa cutting until after July 15 are mutually exclusive. The delay in cutting would foreseeably result in less planted alfalfa, and adversely affect the ability to maintain organic alfalfa. These issues have not been addressed.

Response: See response to comment 693-12.

Comment# 743-55: The draft compatibility determination and Draft CCP/EIS state in multiple places that the lease land farming program will be subject to continual evaluation by the Service to ensure agricultural uses and cropping patterns are consistent with proper waterfowl management.29 This is unnecessary and counter to the direction in the Kuchel Act to continue the existing pattern of leasing,

without continual adjustment by the Service that is not related to the agricultural purpose. Even under the 1997 Improvement Act, compatibility determinations need only be reviewed every 10 or 15 years.30 Given the inapplicability of that law and these circumstances, the Service should reconsider this statement. The annual review is even more problematic given the practical operations of lessees, which create farm plans and planting schedules years in advance. Leases may be renewed annually up to a five-year term or longer in some circumstances. Thus, lessees' farm plans will extend beyond one year. Subjecting leases to an annual review, which may result in new conditions or stipulations, injects a level of uncertainty into the agricultural operations that is not necessary, and will reduce lease revenues, and has not been justified in the draft documents.

Response: See response to comment 693-7.

Comment# 743-56: TID believes the same stipulations (which interestingly do not include the field work and herding/harassment prohibition) would significantly impair agriculture on the lease lands in LKNWR and could jeopardize the waterfowl food resources as well. Overall, TID encourages the Service's consideration of comments and information supplied by Klamath Drainage District or LKNWR lessees.

Response: See response to comment 693-12.

Comment# 743-57: Although TID believes that the compatibility or consistency decisions are not applicable or appropriate as explained elsewhere, it is also important that the Service understand and analyze all environmental impacts that could result from changes in current management. Depending on the management change in question, there could be fallowing or conversion to non-agricultural use, or non-irrigation of certain lands. The potential effects include increases in noxious weed growth. The lease lands are low- lying, including land below Tule Lake, with high groundwater and organic soils. Organic soils have a high capacity for holding moisture that can be used later by the weed or crop. The existence of a high groundwater table in good capillary movement within the root zone creates a situation where even if a summer crop is not grown, nuisance vegetation can consume that component of the soil moisture contributable to groundwater. Weeds can reach four or five feet tall on fallowed lands. Weed growth can also affect neighboring lands and adversely affect habitat. Any action that could lead directly or indirectly to fallowing or non-irrigation could also lead to soil erosion of dry topsoils, particularly if actions were also being taken to control growth of noxious and poisonous weeds. Loss of topsoil due to wind erosion would both be a nuisance and diminish the quality of the agricultural resource.

Response: To our knowledge none of the alternatives suggested would directly result in an upland fallow field. In the past, extreme drought situations have resulted in parts of the lease land being a dry fallow field. However, these type of climatic events are beyond the control of the Refuge.

Comment# 743-97: Pages 6-106 to 6-107, "Farming Programs" for Alternatives B and C: Both Alternatives B and C incorporate the stipulations in the draft compatibility determination, which include fall flooding of all lease lands until February 15, at the Service's discretion. The hydrology section of the environmental consequences chapter fails to discuss the impacts of this stipulation, including impacts on water use and supply. Such an analysis must be added to the CCP/EIS.

Response: The CCP/EIS is a programmatic document, which means generally, rather than analyzing impacts associated with site-specific actions (like changing flooding timing on some lease lands), impacts of program actions are analyzed. The CCP/EIS describes the types of effects that would occur if more acres are placed into the Walking Wetlands program and the timing is slightly changed (see the

Farming Program section under Section 6.4 of Chapter 6) and concludes that impacts to hydrology would be negligible or minor.

Comment# 763-1: Appendix G Compatibility Comments Lease Lands: Farming: In plain language Lease land farming is required by the Kuchel Act of 1956 on the Tule Lake National Wildlife Refuge (Refuge) in an amount of approximately 2,500 acres each year. A lease is at common law a contract whereby the landowner, lessor, for a specified amount of money gives their land to the lessee for a specified period of time, example one year. Once the contract is agreed upon in a farming situation the lessee is within his rights to plant, irrigate, till, harvest and otherwise use the land consistent with normal farming practices as he sees fit unless the contract specifies an agreed upon exception. Why does the CCP Lease Land Compatibility Determination try to undermine the lease land farmers contractual rights granted by the Kuchel Act of 1956.

Response: See response to comment 693-12.

Comment# 763-2: "Alfalfa is also an attractive crop to ground nesting- birds. To prevent nest destruction, alfalfa cutting will be delayed until after July 15." (page10) Why use a sledge hammer to deal with nest destruction? Why not implement an egg gathering program (possible volunteer or Youth Conservation Corp projects?) rather than eliminate up to two alfalfa cuttings? Does the Fish and Wildlife Service really believe they have jurisdiction to forbid the normal harvesting of alfalfa? Lease Land Farming is required by law as per the Kuchel Act of 1956.

Response: See response to comment 693-12.

Comment# 763-4: Farming Program 2. "Field work is prohibited from April 15 through May 31 each year to avoid wildlife disturbance." (page 16). Is this section written so as to prevent practical Lease Land Farming operations on the Refuge in an attempt to circumvent the Kuchel Act of 1956? Most crops are planted on the lease lands during April 15 through May 31.

Response: See response to comment 693-12.

Comment# 763-5: The rules discussed above constitute tortuous interference with the Lease Land Farming program enacted in 1956. Why does the CCP attempt to effectively end Lease Land Farming on the Refuge? If all Lease Land Farmers cannot prepare and plant their contracted fields from April 15 through May 31 and others cannot harvest alfalfa until or after July 15 each year how can these contracts be considered feasible? Normal weather patterns in the Klamath Basin offer short windows to farmers to get their fields prepared and planted in April and May. This rule/requirement would basically end the Lease Land Farming Program. Is this the intent of the Refuge proposed CCP.

Response: See response to comment 693-12.

Comment# 763-6: The Lease Land Farming program has been going on for 60 years and now the CCP plans to make dramatic and significant changes by bootstrapping jurisdiction by reinterpreting NWRSA of 1966, as amended, to allow compatibility determinations that prohibit normal farming practices? (page 2 last paragraph and top of page3). No wonder the public is so concerned with government takeover of public lands to the destruction of agriculture! The proposed CCP analysis fails to overcome the rights granted to the farmers by the Kuchel Act of 1956 after 60 years of normal operations.

Response: See response to comment 693-12.

Comment# 763-7: Farming is beneficial to wildlife along with wetlands. (page 1 A.2.b.) “All lease Lands must be managed such that all agricultural fields are within one mile of wetland habitat.” Another over reaching rule applied to the Lease Land Farming Program. It is true that farming on the Refuge is utilized by wildlife but it is overreaching to try and limit farming by such a new rule/requirement. If the Refuge desires to place a wetland next to agriculture fields then the rule/requirement is to be clearly stated to be the burden of the Refuge, not the contract farmer. Wetlands are the jurisdiction of the Refuge. The refuge lacks jurisdiction to place this burden on the Lease Land Farming program. This type of approach by the Refuge is simply another apparent harassment of the Lease Land Farming Program.

Response: See responses to comments 693-7 and 693-12. Also, costs associated with flood/fallow wetlands would be paid by the Service or Reclamation, unless otherwise specified in a mutually agreed upon cooperative farming agreement (specific to Refuge Cooperative Farming Program). However, farmers may choose to utilize a flood fallow wetland on their lease land for pest control purposes; this is at the discretion of the lessee.

Comment# 773-1: You have totally distorted the language in the Kuchal Act, which specifies that agriculture is a mandated purpose of the Tule Lake lease land, land which was initially slated to be homesteaded. So your analyzing every crop for it's food value is nowhere within the Act, nor is your random proposal of needing every field to be within a mile of a wetland. For your information, the migratory birds eat from the fields we farm, and can fly more than a mile to get wet. According to CWA/California Waterfowl Association, "...Klamath Basin is the most important waterfowl area in North America. Waterfowl eat 70 million pounds of food here, and more than half comes from the farms." When the Kuchal Act was written, the authors, working with the farmers, understood the importance of farming part of the refuge. Your proposed regulations of not farming in the spring at the time crops here are planted or harvested, and other proposals you presented, would basically end this huge asset to our region and end maintaining the wildlife migrations that have occurred here for decades. We have a Tule Lake lease that grows certified organic horseradish, a perennial crop. We have gone to great time and expense to farm this organically and sustainably for people and wildlife. 1/2 of the field is harvested every spring in March-April, and the other half in September. The half with a standing crop provides pheasant habitat, and the half recently harvested provides feed of (organic) insects and worms. I have photos of hundreds of geese on bare-looking horseradish ground after harvest. We have had numerous bird hunters driving illegally on the crop to kill the birds in that field, along with pheasant hunters wanting to kill the adult pheasants that need a "refuge" in the standing crop. Your proposed regulations would eliminate the spring harvest, and flooding this perennial crop all winter would kill the crop. Your suggestion to eliminate crops that don't feed birds (when in fact the birds do find feed in the horseradish and also the onion fields you mentioned) is not only incorrect. It ialso is contrary to the entire Kuchal Act that you brutally edited to propose an anti-agriculture, thus anti-wildlife agenda.

Response: See responses to comments 693-7 and 693-12. The Service believes that the actions in the CCP/EIS are consistent with the Kuchel Act.

Comment# 783-1: I am in complete support of the Tulelake Irrigation District's comments regarding the draft CCP and EIS. The comments on not allowing alfalfa to be harvested until a certain date, or not allowing anytime type of farming practices during a certain period of time, would eliminate farming all together from the Lease Lands. Farming provides food, shelter and water for all the wildlife in basin

and without the leases being farmed I feel we would be looking at a complete disaster.

Response: See response to comment 693-12.

Comment# 861-1: Appendix G Compatibility Comments Lease Lands: Farming: In plain language Lease land farming is required by the Kuchel Act of 1956 on the Tule Lake National Wildlife Refuge (Refuge) in an amount of approximately 17,000 acres each year. A lease is at common law a contract whereby the landowner, lessor, for a specified amount of money gives their land to the lessee for a specified period of time, example one year. Once the contract is agreed upon in a farming situation the lessee is within his rights to plant, irrigate, till, harvest and otherwise use the land consistent with normal farming practices as he sees fit unless the contract specifies an agreed upon exception. Why does the CCP Lease Land Compatibility Determination try to undermine the lease land farmer's contractual rights granted by the Kuchel Act of 1956.

Response: See response to comment 693-12.

Comment# 861-10: It seems the Refuge proposed CCP changes to Lease Land Farming as outlined and discussed above are shocking. Why after 60 years (1956 to 2016) does the Refuge think the Lease Land Farming Program needs to be changed so as to interfere with normal farming practices? Row crops are limited to 25% of allowable crops. That is spelled out in the Kuchel Act of 1956. That was negotiated. The proposed CCP changes seeks to reopen negotiations to modify normal farming practices to prohibit the planting of potatoes, onions and grains from April 15 to June 1, and all harvesting of alfalfa until July 16 each year. The Refuge simply lacks jurisdiction to unilaterally make such changes to the Kuchel Act of 1956. And the attempt to do is by reference to "consistent with good wildlife management" in the Kuchel Act or to find that Lease Land Farming is subject to "compatibility determination" that seeks to prohibit normal farming practices is unconscionable and not legally sustainable. No legal references cited in the proposed CCP cite wording or intent to overrule, change, modify or amend the Kuchel Act of 1956. And without such wording clearly stated cannot be done through the CCP proposed rule changes alone.

Response: See responses to comments 693-7 and 693-12.

Comment# 861-2: "Alfalfa is also an attractive crop to ground nesting- birds. To prevent nest destruction, alfalfa cutting will be delayed until after July 15." (page10) Why use a sledge hammer to deal with nest destruction? Why not implement an egg gathering program (possible volunteer or Youth Conservation Corp projects?) rather than eliminate up to two alfalfa cuttings? 2. Does the Fish and Wildlife Service really believe they have jurisdiction to forbid the normal harvesting of alfalfa? Lease Land Farming is required by law as per the Kuchel Act of 1956.

Response: See response to comment 693-12.

Comment# 861-4: Farming Program 2. "Field work is prohibited from April 15 through May 31 each year to avoid wildlife disturbance." (page 16). Is this section written so as to prevent practical Lease Land Farming operations on the Refuge in an attempt to circumvent the Kuchel Act of 1956? Most crops are planted on the lease lands during April 15 through May 31. 5. The rules discussed above constitute tortuous interference with the Lease Land Farming program enacted in 1956. Why does the CCP attempt to effectively end Lease Land Farming on the Refuge? If all Lease Land Farmers cannot prepare and plant their contracted fields from April 15 through May 31 and others cannot harvest alfalfa until or after July 15 each year how can these contracts be considered feasible? Normal weather

patterns in the Klamath Basin offer short windows to farmers to get their fields prepared and planted in April and May. This rule/requirement would basically end the Lease Land Farming Program. Is this the intent of the Refuge proposed CCP.

Response: See response to comment 693-12.

Comment# 861-5: The Lease Land Farming program has been going on for 60 years and now the CCP plans to make dramatic and significant changes by bootstrapping jurisdiction by reinterpreting NWRSA of 1966, as amended, to allow compatibility determinations that prohibit normal farming practices? (page 2 last paragraph and top of page3). No wonder the public is so concerned with government takeover of public lands to the destruction of agriculture! The proposed CCP analysis fails to overcome the rights granted to the farmers by the Kuchel Act of 1956 after 60 years of normal operations.

Response: See response to comment 743-2.

Comment# 861-6: Farming is beneficial to wildlife along with wetlands. (page 1 A.2.b.) "All lease Lands must be managed such that all agricultural fields are within one mile of wetland habitat." Another over reaching rule applied to the Lease Land Farming Program. It is true that farming on the Refuge is utilized by wildlife but it is overreaching to try and limit farming by such a new rule/requirement. If the Refuge desires to place a wetland next to agriculture fields then the rule/requirement is to be clearly stated to be the burden of the Refuge, not the contract farmer. Wetlands are the jurisdiction of the Refuge. The refuge lacks jurisdiction to place this burden on the Lease Land Farming program. This type of approach by the Refuge is simply another apparent harassment of the Lease Land Farming Program.

Response: See responses to comments 693-12 and 743-2.

Comment# 897-1: I support TID about farming on the Lease Lands. Certain crops although perhaps are not as good for wildlife are needed so that the soil is retained in good condition. I believe that FWS should promote good farming practices on the refuge. 1700 acres of standing grain is good but I would like to see the farmer plant at least 2000 acres of grain on the refuge. It seems to me that USFWS is trying to put so many restrictions on the farmer that they will run them out of business. For over 60 years or since The Kuchel Act, farming has been successful protecting the wildlife on this refuge. So, if it is not broke, don't fix it.

Response: Comment noted.

L. Compatible Use Determination

Letter ID # 50-4, 693-4, 693-6, 743-1, 743-2, 743-3, 743-4, 743-5, 743-6, 743-7, 743-8, 743-9, 743-10, 743-12, 743-24, 743-37, 743-39, 743-63, 743-65, 763-3, 861-3

Public Concern Statement: One individual states that the Service should integrate findings from other documents, such as "The Kuchel Act and Management of Tule Lake and Lower Klamath NWRs" into CCP/EIS compatibility determinations. Multiple other commenters state that lease land farming is not subject to compatibility determination or consistency determination, since agriculture is a purpose of the Refuges, and Congress has already made the determination that the agricultural leasing of the lease lands is consistent with waterfowl management. These comments state that there is no requirement for a determination by the Secretary in order to continue leasing the lease lands for agricultural purposes and

that the Secretary does not have the authority or discretion not to lease the lease lands for agriculture or to condition leasing beyond the terms of the Kuchel Act.

Comment# 50-4: Regarding cooperative and leaseland farming on both the Tule Lake and Lower Klamath NWR's, the draft CCP has some excellent background documents from which to upgrade and strengthen the current draft Compatibility Determinations regarding these activities. The document entitled "The Kuchel Act and Management of Tule Lake and Lower Klamath NWR's" provides an excellent background explaining the historical context of this refuge specific law, with the resulting mandate to include leaseland agriculture into the management strategy of conserving waterfowl on these two refuges. The document entitled "Goals, Objectives and Strategies for Waterfowl Population Objectives on Lower Klamath and Tule Lake NWR's", Tables 1 and 2, provides the necessary data concerning the desired objective levels, by date, for both the fall and spring waterfowl migrations, that meshes with the current North American Waterfowl Management Plan. The document entitled " A Bioenergetics Approach to Conservation Planning for Waterfowl at Lower Klamath and Tule Lake NWR's" provides quantitative calculations derived from a recently concluded site specific research project conducted on these refuges by the Department of Fisheries and Wildlife of Oregon State University and the Northwest Office of Ducks Unlimited. This research concluded that the amount of wetland food sources for diving ducks and swans were found to be adequate to support both the fall and spring migration population objectives (derived from the aforementioned Goals document) on both refuges, but that the amount of standing grain and green browse to support the spring migration population objectives of dabbling ducks and geese was found to be insufficient. It also calculated the amount of additional grain and green browse needed to support the spring migration, and the amounts that should be present on each refuge. The Compatibility Determinations in the CCP should extensively integrate the findings within these three documents, to provide a comprehensive understanding of what is needed on these refuges to make both leaseland and coop farming compatible as per the term "proper waterfowl management" within The Kuchel Act.

Response: Comment noted.

Comment# 693-4: Appendix G Compatibility Comments Lease Lands: Farming: In plain language Lease land farming is required by the Kuchel Act of 1956 on the Tule Lake National Wildlife Refuge (Refuge) in an amount of approximately 17,000 acres each year. A lease is at common law a contract whereby the landowner, lessor, for a specified amount of money gives their land to the lessee for a specified period of time, example one year. Once the contract is agreed upon in a farming situation the lessee is within his rights to plant, irrigate, till, harvest and otherwise use the land consistent with normal farming practices as he sees fit unless the contract specifies an agreed upon exception. Why does the CCP Lease Land Compatibility Determination try to undermine the lease land farmer's contractual rights granted by the Kuchel Act of 1956.

Response: See responses to comments 743-2 regarding the Service's administrative control of all Refuge lands, 693-7 and 693-12 regarding the stipulations in the Compatibility Determinations for Lease Land Farming, and 743-7 regarding the Kuchel Act.

Comment# 693-6: Lease Land Farming is not subject to permitted use analysis. The CCP finding of Lease Land Farming as a permitted use is in error for a lack of Jurisdiction. See first box heading Jurisdiction checked "yes" in document labeled "Finding of Appropriateness of a Refuge Use" "USE: Lease Land Farming." FWS Form 3-2319 02/06. That box should be labeled "NO". The lease land contracts parties are the Bureau of Reclamation and the farmer/bidder not the Refuge.

Response: We disagree. The Kuchel Act gave the Service full administrative jurisdiction over the lease

land program (see Appendix 1 in Appendix M). Prior to allowing a use, the National Wildlife Refuge System Administration Act requires the Service to find existing or proposed uses of a refuge compatible with the refuge purposes and Refuge System mission.

Comment# 743-1: the Draft CCP/EIS is, to a significant degree, based on the erroneous interpretation or application of applicable law. Significantly, the Draft CCP/EIS ignores the history of the agricultural lease lands and the context and mandate in section 4 of the Kuchel Act, 16 U.S.C. § 695n, to continue the agricultural leasing program. That provision effects the legislative compromise that leasing would continue on the lease lands because leasing as provided in section 4, rather than homesteading, is consistent with waterfowl management. Section 4 thus states that the "Secretary shall, consistent with proper waterfowl management, continue the present pattern of leasing . . ." specific land, and it imposes certain conditions on that activity. By contrast, other land within refuges described in the Kuchel Act is "to be managed by the Secretary for waterfowl purposes, including the growing of agricultural crops by direct planting and sharecrop agreements with local cooperators where necessary."2 Instead, the Draft CCP/EIS proposes to adopt a reading of section 4 that is to the effect of: "If she determines that it is consistent with proper waterfowl management, the Secretary will lease some lands for agriculture, subject to any conditions that she subjectively considers necessary." This approach is inconsistent with the language of the statute, its context, and proper statutory interpretation. Agriculture is a purpose of TLNWR, and Congress has already made the determination that the agricultural leasing of the lease lands is consistent with waterfowl management on the wildlife refuges. There is no requirement for a determination by the Secretary in order to continue leasing the lease lands for agricultural purposes. The Secretary does not have the authority or discretion not to lease the lease lands for agriculture or to condition leasing beyond the terms of the Kuchel Act.

Response: We disagree and believe our interpretation of the Kuchel Act is accurate. See Appendix M.

Comment# 743-10: Perhaps the most fundamental flaw in the interpretation in the Draft CCP/EIS is that it allows the "present pattern of leasing" to change based on the direction of staff during each planning process as to what constitutes "proper waterfowl management." This outcome is antithetical to the congressional intent to settle permanently the controversy over the lease lands within TLNWR.57 Indeed, the first words in the Kuchel Act state that it is "hereby declared to be the policy of the Congress to stabilize the ownership of the land in the Klamath Federal reclamation project, Oregon and California, as well as the administration and management of the Klamath Federal reclamation project and the [TLNWR] . . . ."58 The Draft CCP/EIS's proposed scheme for managing the lease lands does not "stabilize" the administration and management of the Project and the TLNWR. Rather, it creates uncertainty that repeats in the future.

Response: See response to comment 743-7.

Comment# 743-12: TIO has found that there are fundamental shortcomings in the Draft Plan/DEIS, particularly with respect to agricultural lease lands, cooperative farm lands, and their relationship to the Klamath Project and the refuges. In general, because agriculture is a purpose of the lease lands, and thus a purpose of TLNWR and LKNWR, no compatibility determination for lease land farming is required or authorized under the National Wildlife Refuge System Improvement Act. In addition, the Kuchel Act does not require or authorize determinations of "consistency" of agricultural practices with other refuge purposes. Congress has prescribed agricultural management of the lease lands and did not confer broad discretion on the U.S. Fish and Wildlife Service ("USFWS" or "Service") to alter the management based on its subjective views.

Response: See response to comment 743-2.

Comment# 743-2: The plain language and the overall design and context of the Kuchel Act demonstrate Congress's intent that lease land farming continue in TLNWR, subject to the administrative provisions in the Act regarding revenue maximization and crop patterns. The subset of agricultural lease lands within the larger refuge boundaries would also fulfill the purpose of waterfowl management, given the prohibition on homesteading and the value of agricultural lands as a food supply for migrating birds. This statutory context makes lease land farming a purpose of the refuge, as that term is now used within the framework established by the National Wildlife Refuge System Improvement Act3 (1997 Improvement Act). As a purpose of TLNWR, there is no need for a compatibility determination for the lease land program under the 1997 Improvement Act.

Response: We disagree with the comment's assertion that no compatibility determination is needed for the lease land program. See response to comment 693-6. As presented in CCP/EIS Chapter 1, Section 1.4.3, in accordance with the National Wildlife Refuge System Improvement Act (PL 105-57) and the Service's Compatibility Policy (603 FW 2), the Service may not allow a new or existing use on Refuge land unless we have determined it is compatible with the purposes for which the Refuge was established (through the Compatibility Determinations approval process). Also, see the *Legal Framework* section within the Compatability Determinations for lease land farming.

Comment# 743-24: based on the proper interpretation of the Kuchel Act, the Service should not include compatibility and consistency determinations.

Response: See response to comment 743-2.

Comment# 743-3: The Draft CCP/EIS appears to rely on an interpretation of the Kuchel Act under which the lease land program can continue only if the Service determines that lease land agriculture is consistent with proper waterfowl management, and proposes restrictions on the lease lands to meet the Service's current determination of activities that would provide proper waterfowl management. However, the Kuchel Act and the establishing documents that came before it provide that lease land farming is a purpose of TLNWR within the framework of the 1997 Improvement Act. As explained below, the Reclamation Act, the Cession Acts, the Executive Orders, the 1956 Contract, and the legislation approving the 1956 Contract are all relevant to inform the history of the times when the Kuchel Act was enacted. However, as the latest statutory pronouncement on TLNWR, the Kuchel Act confirms that lease land farming is a purpose of the refuge.

Response: Comment noted.

Comment# 743-37: Attachment A to TID's comment letter explains that no compatibility determination is required or authorized for the lease land program. Similarly, the Service should not evaluate the lease land program under the Compatibility Policy (603 FW 2) because agriculture is a purpose, not a use of the TLNWR. Nor is there an obligation, or authority, for completing a "consistency" determination. Therefore, the stipulations in the compatibility determinations are not appropriate. In addition, the draft compatibility determination refers to management of the lease lands "for" the "primary" purpose of waterfowl management.15 As noted elsewhere, under section 4 of the Kuchel Act, it is lands other than lease lands that are to be managed "for" waterfowl purposes, but this directive does not apply to the lease lands.

Response: We disagree with the commenter's conclusion. See response to comment 693-7.

Comment# 743-39: the "Legal Framework"17 should be modified based on comments above and other comments that are being provided separately. No compatibility determination is required or authorized for either program. Similarly, the Service should not evaluate the lease land program under the Compatibility Policy (603 FW 2) because agriculture is a purpose, not a use of TLNWR. Nor is there an obligation, or authority, for completing a "consistency" determination.Related, the refuge purposes that are identified in these determinations18 are not complete or appropriate, as explained in the comments above

Response: See response to comment 743-37.

Comment# 743-4: The conclusion that lease land farming is a purpose of TLNWR is further supported after retracing the establishing documents leading up to the enactment of the Kuchel Act. The executive orders reserved the federal lands that became TLNWR for reclamation purposes. Under these executive orders, any use of the lands for waterfowl was subject to the reclamation purpose and any other valid existing rights. The Kuchel Act did not revoke this reservation of the lands...

Taking into account all the provisions of the Kuchel Act, Congress intended that the Klamath Project would continue, that lands within the refuge boundaries would not be open to homesteading, but certain units would continue to be leased for agriculture under the already- existing laws and contracts, and that the Project would be integral to providing water for TLNWR. This intent cannot be given effect if "[n]otwithstanding any other provisions of law" is interpreted to mean that the Kuchel Act revoked the reclamation purpose of the reserved lands that the prior executive orders established, or the legislation authorizing the execution of the 1956 Contract and the payment of net lease revenues to TID.

Response: See response to comment 743-16.

Comment# 743-5: the lease land program is a purpose of TLNWR, as that term is used in the 1997 Improvement Act. As a purpose, there is no reason to conduct a compatibility determination for the lease land program. "Compatibility" is only a standard for a "use"38 of a refuge, and a compatibility determination is only required to evaluate whether a use of the refuge will or will not materially interfere with or detract from the purposes of the refuge.39 An established purpose of the refuge drives the management of the refuge lands and takes priority over both the mission and goals of the Refuge System and the permitted uses of a specific refuge.40 Thus, the compatibility determination for the lease land program contained in Appendix G is not required to comply with the 1997 Improvement Act. Similarly, there should not be an "appropriate use" finding for the lease land program because the lease land program is a purpose of TLNWR, not a use. Indeed, because agriculture is a purpose, the other compatibility determinations for TLNWR contained in Appendix G of the Draft CCP/EIS should reference the lease land program as a purpose with which uses must be compatible. A compatibility determination must evaluate whether a proposed or existing use of a refuge will materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purpose of the refuge.41 Each compatibility determination in Appendix G should include a discussion on whether the specific use of TLNWR will materially interfere with or detract from agriculture under the lease land program.

Response: See response to comment 743-2.

Comment# 743-6: Under the 1997 Improvement Act, there is no need to include a compatibility determination for the lease land program because lease land agriculture is a purpose of TLNWR, not a

use. The Draft CCP/EIS, and specifically Appendix M, proposes that a "consistency" determination is required under the Kuchel Act that is functionally equivalent to a compatibility determination under the 1997 Improvement Act. This is an incorrect interpretation of the Kuchel Act. Congress, in using the language "shall continue . . . the present pattern of leasing," has already determined that agricultural leasing of specific lands consistent with historic practice (in contrast with homesteading) is consistent with proper waterfowl management on the refuges covered in the Kuchel Act.

Response: See response to comment 743-2.

Comment# 743-63: Page 1-16, first paragraph under "Current Management": Revise the characterization of the Kuchel Act, consistent with other comments TID is providing.

Response: We disagree. Please see CCP/EIS Appendix M.

Comment# 743-65: Pages 1-23 and 1-24: The text of these pages should be revised consistent with TID's comments in section I.A above and the separate memorandum on legal issues being submitted by TID.

Response: We disagree. No changes have been made to the pages referenced in the comment.

Comment# 743-7: The interpretation of the Kuchel Act offered in Appendix M of the Draft CCP/EIS creates a standard for the management of TLNWR that is not grounded in the statutory language of the Kuchel Act. Indeed, section 4 of the Kuchel Act simply states: "The Secretary shall, consistent with proper waterfowl management, continue the present pattern of leasing the reserved lands of the Klamath Straits unit, the Southwest Sump, the League of Nations unit, the Henzel lease, and the Frog Pond unit . . . ." The Draft CCP/EIS has transformed this rather direct command to take a certain action into a standard that gives the Service discretion to determine whether the agricultural lease lands are consistent with proper waterfowl management;42 to determine whether the cropping patterns are consistent with proper waterfowl management; to determine whether the pricing of leases is consistent with proper waterfowl management;43 and also to define "proper waterfowl management" according to chosen literature.44 Given the plain language of the statute, the stated intent of Congress, the legislative history, and the historical background at the time of enactment, this interpretation cannot be correct.

Response: We disagree and believe we have accurately interpreted the Kuchel Act regarding leasing of reserved lands. See also response to comment 846-2.

Comment# 743-8: In addition to the direct language in section 4, the legislative history of the enactment of the Kuchel Act also instructs that the Secretary does not have the discretion over the lease lands that is implied in the Draft CCP/EIS.

Response: See response to comment 743-2.

Comment# 743-9: Comparing section 4 of the Kuchel Act to the compatibility language in the 1966 Administration Act, it is clear that there is no consistency determination for the Secretary to make with respect to the lease lands. Section 4 states that the Secretary "shall, consistent with proper waterfowl management, continue the present pattern of leasing . . ." and gives the specific conditions for what Congress considered optimum agricultural use in TLNWR. If a consistency determination were required, then the details in section 4 regarding cropping patterns and lease revenues would not be necessary. Congress would have left those details to the Secretary and inserted the requirement for an

agency determination.

Response: See response to comment 743-2.

Comment# 763-3: Lease Land Farming is not subject to permitted use analysis. The CCP finding of Lease Land Farming as a permitted use is in error for a lack of Jurisdiction. See first box heading Jurisdiction checked "yes" in document labeled "Finding of Appropriateness of a Refuge Use" "USE: Lease Land Farming." FWS Form 3-2319 02/06. That box should be labeled "NO". The lease land contracts parties are the Bureau of Reclamation and the farmer/bidder not the Refuge.

Response: See response to comment 743-2.

Comment# 861-3: Lease Land Farming is not subject to permitted use analysis. The CCP finding of Lease Land Farming as a permitted use is in error for a lack of Jurisdiction. See first box heading Jurisdiction checked "yes" in document labeled "Finding of Appropriateness of a Refuge Use" "USE: Lease Land Farming." FWS Form 3-2319 02/06. That box should be labeled "NO". The lease land contracts parties are the Bureau of Reclamation and the farmer/bidder not the Refuge.

Response: See response to comment 743-2.

M. <u>Land Use Boundaries</u>
Letter ID # 87-5, 622-38

Public Concern Statement: One individual requests that the Service re-evaluate certain maps and figures (specifically but not limited to Figures 5.5 and 5.6) that depict Miller Lake and the related boundary as public land to verify whether any private lands are present. It is also requested that the Service explain the current status of private land ownership to the north of Barnes and Agency Unit.

Comment# 622-38: Upper Klamath NWR: The Service should explain the current status of private land ownership to the north of B/A. The private lands to the north of B/A are the most suitable areas for development of future emergent wetlands (at current lake elevations) as well as stream restoration under the levee breaching scenario. Without these properties most of B/A will simply be a deep water extension of Upper Klamath Lake. In addition, if the northern properties cannot be flooded, then a hugely expensive levee will be required to keep water off these lands.

Response: These issues will be addressed during planning for the Barnes-Agency Unit restoration. See also response to comment 56-94.

Comment# 87-5: Certain maps and figures (specifically but not limited to Figures 5.5 and 5.6) depict Miller Lake and the related boundary as public land. KDD requests more specific mapping and legal property descriptions to verify this designation to confirm that none of the depicted land is actually private.

Response: The maps are accurate to the best of our knowledge. Additional information regarding land ownership may be obtained by contacting the Service's Realty office. The figures included in the CCP/EIS are sufficient for planning purposes.

N. <u>Geothermal Power</u>
Letter ID # 622-7, 693-2, 712-2

Public Concern Statement: Several comments ask the Service to develop geothermal power sources to move water in a cost-effective and renewable fashion.

Response: Comment noted.

O. <u>Conservation Easement Program</u>
Letter ID # 853-2

Public Concern Statement: One comment asks for more information on the potential development of a new conservation easement program for the Klamath Basin and to be kept informed of progress and its connection to the current plan.

Comment# 853-2: On page 4-24 of the Plan there is a brief mention outlining the potential development of a new conservation easement program for the Klamath Basin. Has the possible future Conservation Easement program been researched more in depth and are there more specific details regarding the program? The Plan mentions that the Conservation Easement program would be a separate planning process and National Environmental Policy Act (NEPA) document, but as it was mentioned in the Plan itself Siskiyou County would like to be informed of the progress of the program and its ties to the Plan.

Response: Comment noted.

P. <u>Wilderness</u>
Letter ID # 905-7

Public Concern Statement: One entity supports the Service’s decision not to include any recommendation for wilderness designation in any of the alternatives.

Comment# 905-7: SCI also agrees with the Service's decisions and proposed actions regarding the designation of lands as "wilderness" under the Wilderness Act. See generally Appendix K. In particular, SCI agrees with the conclusion that the Lower Klamath and Bear Valley refuges do not meet the criteria for a wilderness study area ("WSA"). Appendix Kat 4, 9. While SCI takes no position on the Service's conclusions that the TuleLake, Clear Lake, and Upper Klamath Refuges contain lands that meet the criteria for a WSA, Appendix K at 5-8, 10-11, SCI supports the Service's decision not to include any recommendation for wilderness designation in any ofthe alternatives. Appendix K at 14-19.

Response: Comment noted.

Q. <u>Land Acquisition</u>
Letter ID # 56-63, 56-119

Public Concern Statement: It is requested that the Service disclose any land acquisition deals or documents that include any reference to other grazing on these and/or other Refuge lands.

Comment# 56-119: While we support this reconnection and restoration, we do not support any shifting of impacts/imposing grazing on other areas – if this is in part what is occurring with the grazing proposal. Is there a quid pro quo haying/grazing or other such deal involved.

Response: The comment refers to the Williamson River Restoration. See response to comment 56-40.

Comment# 56-63: Clearly imposing significant grazing disturbance on newly acquired lands is a controversial major federal action. Since it appears the existing management plan was finalized in 2010 (eve though we cannot find it on-line), the acquired lands and their management could not have been adequately assessed in that process. Was some kind of unwritten deal made during land acquisition to essentially "buy" local rancher support by promising them grazing in the future? We have seen these kind of backroom deals before, and they are always bad for the environment. Please provide us with a copy of any documents associated with land acquisition that may include any reference to continued or pilot or any other grazing on these and/or other refuge lands.

Response: This comment was originally submitted in 2015 on an Interim Compatibility Determination for Grazing on the Upper Klamath NWR. The Interim Compatibility Determination is superseded by the Compatibility Determination included in Appendix G to the CCP/EIS. Therefore, the comment is not relevant to the CCP/EIS. The approximately 9,700 acres (7,789.28 acres) at Barnes-Agency was acquired in 2010 by the Service from willing sellers; there was no "existing management plan finalized in 2010" as the comment states. The approved CCP/EIS will serve as the management plan for Upper Klamath Refuge.

R. Road Use
Letter ID # 56-43, 56-122

Public Concern Statement: Comments ask the Service to analyze the impacts of prolonged road use in areas of the Refuge into areas that may be closed off during some seasons to the public due to their "sensitivity" or to keep the public from seeing the damage being done. Comments also request that permittees not be allowed to travel off-road or be given special driving privileges.

Comment# 56-122: Permittees should not travel off-road or be given special driving privileges. This represents human disturbance throughout a prolonged period of time, including likely prior to this time period when fencing and other facilities are being put in place, fixed, etc. Permittees have horses and/or can walk. Wildlife will be killed, injured, disturbed displaced, harassed and weeds spread.

Response: Permittees are not allowed to drive off–road, and access is limited to a period when grazing is occurring.

Comment# 56-43: The FWS also claims there will be no new roads. FWS never assesses the impacts of prolonged road use in areas of the Refuge into areas that may be closed off during some seasons to the public due to their "sensitivity" or to keep the public from seeing the damage being done.

Response: The commenter is correct in that no new roads are proposed in the CCP/EIS. And, the Service may exercise its discretion to close areas or roads to visitation during active nesting, fledging periods, or other times to reduce the risk of potentially adverse effects to Refuge resources.

S. Refuge Management
Letter ID # 56-74

Public Concern Statement: One respondent requests that the CCP/EIS justify conclusions that use of permittees to complete prescriptive grazing operations on Refuge lands saves the Refuge a significant amount of money (purchase of specialized equipment, fuel, labor, etc.) and staff time (mowing, vegetation removal, maintenance and transport, fencing, etc.). The same commenter requests site-specific information assessing how "tools" are applied, and the adverse effects of any particular tool use.

Comment# 56-74: he use of permittees to complete prescriptive grazing operations on Refuge lands saves the Refuge a significant amount of money (purchase of specialized equipment, fuel, labor, etc.) and staff time (mowing, vegetation removal, maintenance and transport, fencing, etc.). While burning is an excellent tool for managing vegetation, it can be a less reliable tool than haying or grazing due to factors such as weather, condition of fuels, availability of crews and funds, administration/planning, air quality restrictions, potential for peat fires, and burn complexity. Seasonal and site-specific conditions may favor the use of haying over prescriptive grazing, or vice versa. Some of the factors that must be considered when selecting between these habitat management tools includes access, availability of livestock, existing infrastructure (fencing, water), roughness of terrain (hummocks, slope), soils, and type/quality of forage. So where is the scientific information supporting all of these assertions, and where is the site-specific information assessing how "tools" are applied, and the adverse ad other effects of any particular tool use? Please provide mapping as well as cumulative effects analysis.

Response: As stated in Chapter 5 of the CCP/EIS, "Prescribed burning is not typically used for refuge vegetation management [on Upper Klamath Refuge] due to the risks of burning on the peat soils there..." CCP/EIS Chapter 4 includes the following explanations: "Late season grazing is a reliable tool to use in areas where burning cannot be used because of hazards associated with peat fires..." and "Prescribed burning would not be conducted during times of the year when peat soils are dry enough to ignite." Regarding the use of mowing, see response to comment 56-125. Regarding mapping, the recently grazed areas on the Refuges are shown in draft CCP/EIS Figures 4.3 (Lower Klamath), 5.11 (Clear Lake), and 5.21 (Upper Klamath). The effects analysis is provided in CCP/EIS Chapter 6, Environmental Consequences.

T. Barnes and Agency Lake Unit
Letter ID # 50-7, 56-24, 56-44, 56-94, 622-37, 622-40, 622-41, 622-51, 641-17, 663-13, 681-8, 681-10

Public Concern Statement: One comment supports the expanded use of habitat management practices via prescribed fire, haying, and grazing within the Barnes and Agency Lake properties. But other comments state that the draft CCP does not contain a fully developed plan for the Barnes Ranch and Agency Lake Ranch and that the Service should disclose

- how units will be managed to meet habitat needs of both endangered fish species and migratory waterfowl,
- the extent of restoration completed to date, as well as past grazing and the acquisition cost,
- elevation maps of the Barnes and Agency properties and an analysis of potential topographic high-water "take" of adjacent private properties from flooding to determine whether purchase of a flooding easement or other actions may be necessary,
- a list of the water rights that would be used to flood the properties, and
- an analysis of the experience of The Nature Conservancy in its sucker and water quality monitoring efforts on the Williamson River Preserve.

One commenter also recommends that the Service incorporate the Barnes and Agency Lake properties into the Upper Klamath NWR.

Comment# 50-7: Regarding the management of Upper Klamath NWR, the Barnes and Agency Lake properties constitute a significant acreage that have been in government ownership for upwards of 15 years and should be restored and returned to the lake proper. I believe this should be one of the highest management priorities within the refuge complex. One current constraint is the potential for flooding of adjacent private pasture lands. An analysis of the potential topographic high water "take" line associated with the backwaters of such a restoration effort should be conducted so that at least the facts are known on how to proceed. It just might be that the affected acreage would be minimal, and the purchase a flooding easement, a possibility.

Response: Comment noted.

Comment# 56-24: While this appears to be written by a party opposed to the Agency acquisition, the article also states about the Barnes acquisition – that flooding it is necessary to flood Agency lands, so it then needed to be acquired. Is this correct.

Response: The article referenced in the comment is from 2005. The approximately Barnes-Agency area was acquired in 2010 by the Service from willing sellers. Restoration has not begun on the Barnes-Agency Unit of the Refuge, and will be implemented after a separate planning, NEPA, and public involvement process. See also response to comment 56-94.

Comment# 56-44: Location: Historically, grazing has been conducted primarily in the north and east side of the refuge in sedge and grass meadows. Grazing use has been determined annually by the Refuge Manager based on habitat condition, benefits and impacts to wildlife, water levels, accessibility, and other factors. Aren't these newly acquired lands, and has there been previous grazing under the Refuge since acquisition? How much (total0 have the Agency and Barnes acquisitions cost.

Response: See responses to comments 56-22 (regarding recently grazed areas) and 56-4.

Comment# 56-94: it appears the Barnes property alone cost even more than 3.45 million as this was described as "the last phase". There is no accounting in the CD of how much restoration has actually been done, and planned, or how this action will retard and set back any natural recovery.

Response: The comment letter refers to the link https://www.fws.gov/pacific/planning/draft/docs/OR/upperklamath/UKupdate1.pdf, which is a 2005 announcement proposing the acquisition of the Barnes and Agency Ranches. Restoration has not begun on the Barnes-Agency Unit of the Refuge, and will be implemented after a separate planning, NEPA, and public involvement process.

Comment# 622-37: Upper Klamath NWR: The Service should also: 1. Include the Lidar map of Barnes/Agency (B/A) in the document. Knowing elevations of those properties is critical to evaluating future management actions.

Response: Maps such as those described in the comment will be included in future planning for the Barnes-Agency Unit restoration. See response to comment 56-94.

Comment# 622-40: Upper Klamath NWR Alternative B. The description in alternative B is vague and apparently is not based on current topography of the Agency/Barnes Unit. The CCP needs to show via a map what the expected areas of emergent and submergent wetland will be if levees are ultimately breached. The map should also include stream restoration sites. Both Barnes and Agency units are excessively subsided due to decades of agricultural use and when flooded will largely expand the open waters of Upper Klamath Lake. An accurate map showing where open water and emergent vegetation will occur after dike breaching will show what can be expected. Because of subsidence, the breaching option will result in fewer benefits to migratory birds. The purported benefits of sucker refugial habitat, water quality improvements, restoration of stream channels are unlikely to yield any significant benefits The loss of migratory wetland birds and seasonal wetland habitat in the Klamath Basin are documented and very real. The preferred alternative should be what is best for migratory birds, wetland dependent wildlife, and listed species. In the future if levee breaching is required, then necessary NEPA documents can be completed.

Response: The Service will evaluate options for restoring wetland habitat on Barnes-Agency Unit in the Preferred Alternative. Project details (including site-specific maps and alternatives for restoration) will be evaluated in a separate NEPA analysis.

Comment# 622-41: Upper Klamath NWR: The Refuge should review and include in the CCP the water rights available to winter flood Barnes/Agency units and allow water levels to naturally recede through the summer months. This would be the simplest option from which to start. Monitoring of habitats developed and wildlife use will dictate whether management actions, including breaching the levees are needed.

Response: The Service does not currently own any winter water rights. See response to comment 622-40.

Comment# 622-51: Upper Klamath NWR: BLM successfully rehabilitated the Wood River Wetlands by gradually flooding and filling the subsided peat areas. Perhaps FWS should collaborate with BLM to analyze the Agency/Barnes unit. The Nature Conservancy might also provide some feedback on how to rehabilitate. Regardless of the direction FWS takes, the area should be opened to the public, and not just by water craft. (It might be a good place to go birding!) It should be signed and perhaps a kiosk put up, or maybe a trail or 2.

Response: Comment noted.

Comment# 641-17: The Department supports the expanded use of habitat management practices by using prescribed fire, haying, and grazing within the Barnes-Agency Unit to improve habitat structure and provide forage, nesting, and brood rearing habitat for waterfowl. These habitat management tools would be utilized in the interim until a thorough evaluation of options can be completed for restoration of wetland habitat. It is understood this action would be accomplished through a separate NEPA analysis. Long term goals of restoring these wetlands would be to reconnect them with Upper Klamath and Agency Lakes. Anticipated benefits are many including improving water quality; providing refugial habitat for federally listed fish species, restoration of Sevenmile and Fourmile Creeks; improving redband trout fisheries; expanding water storage for Upper Klamath and Agency Lakes; improving waterfowl habitat; and reduced management costs to name a few.

Response: Comment noted.

Comment# 663-13: lease make restoring the historic wetland function of the area the Refuge's priority with respect to the Barnes-Agency Tract.

Response: Comment noted.

Comment# 681-10: Management of the Barnes and Agency Lake properties within the Upper Klamath Lake NWR is not adequately addressed in the CCP. The Service will need to carefully analyze whether management of the properties can balance the habitat needs of both endangered fish species and migratory waterfowl.

Response: See response to comment 681-8.

Comment# 681-8: The draft CCP does not contain a fully developed plan for the Barnes Ranch and Agency Lake Ranch. These properties can provide thousands of acres of shallow seasonal wetlands. The wetlands in turn will provide habitat for thousands of migratory waterfowl, shorebirds, and other wetlands-dependent species. There are proposals to breach existing levees and flood the properties to a greater depth, which would ostensibly benefit endangered shortnose and Lost River suckers. However, the analysis conducted by the National Academy of Sciences (2002) indicates that the benefit to suckers would not outweigh the detriment to waterfowl of deep flooding these properties. The Service needs to carefully evaluate whether irreversible actions to benefit suckers would cause irreparable damage to waterfowl habitat. Although the Endangered Species Act overrides other laws, a project that does not provide the intended benefits to suckers but also lessens waterfowl habitat would leave the Service in a no-win situation. It would not have met the needs of the listed species and would also have failed in carrying out the purposes for which the NWRs were established- of providing habitat for migrating waterfowl. Perhaps some reasonable mix of habitat for fish and for waterfowl could be accomplished after proper analysis. The final CCP should include the following:

• Elevation maps of the Barnes and Agency properties;

• A list of the water rights that would be used to flood the properties;

• Alternative scenarios that balance the needs of endangered species with the needs of migrating and other bird species ;

• An analysis of the experience of The Nature Conservancy in its sucker and water quality monitoring efforts on the Williamson River Preserve.

Response: A fully developed plan with the kind of detail the commenter suggests is something the Service would include in a future "step-down" restoration plan as indicated in the Preferred Alternative. In Appendix F, Objective 1.2 for Upper Klamath Refuge is to prepare and implement this plan (in Alternative B) within 10 years to restore wetland habitat on the Barnes-Agency Unit. In the Rationale section for Objective 1.2, the Service includes goals for the proposed restoration and notes that breaching containment levees that currently separate the Barnes and Agency Ranches is likely to be one of the actions analyzed.

The information requested by the commenter would not help in the kind of reasoned decision-making the Service is able to make at the programmatic level of the CCP, especially given current water management conditions. For example, elevation maps or a list of water rights are not relevant to deciding how to manage wet meadow habitats on Barnes-Agency Unit. However, such information may be relevant in future restoration planning for the properties.. Resolving how to best balance the

needs of waterfowl and endangered species is likely to be a part of that plan, and information from similar projects such as the Williamson River Preserve experience may be important sources in completing the plan and NEPA document.

15. Social and Cultural Resources

A. Lease Land Revenues
Letter ID # 87-4, 743-15, 743-58, 743-103, 748-16

Public Concern Statement: Several entities state that the draft CCP/EIS does not sufficiently disclose federal obligations to apply lease land revenues to project debt or analyze the economic impacts from curtailment of leasing lands to agriculture.

Comment# 743-103: By authorizing the payment of the lease revenues in the manner in both the 1956 Contract and its authorizing legislation, and Kuchel Act, Congress recognized the importance of the lease revenues to the 1956 Contract, TID, and local interests. In fact, when Congress enacted the legislation authorizing execution of the 1956 Contract, Congress directed the Secretary to "continue the leasing of public lands to provide adequate funds for the purposes of this Act and said contract . . . ."60 The Service's proposed restrictions on the lease lands will result in less harvested crops for lessees, undoubtedly diminishing the value of the bids for leases, and therefore reducing the amount of net lease revenues paid to TID under the 1956 Contract. This result implicates the bargain that was struck in the 1956 Contract, the direction by Congress to continue leasing to provide the funds for the 1956 Contract, and direction from Congress in the Kuchel Act to set prices for leases "designed to obtain the maximum lease revenues." None of these contractual implications are discussed in the Draft CCP/EIS.

Response: See response to comment 693-12 regarding changes to Compatibility Determination stipulations for lease lands. See response to comment 693-6 regarding the Service's administrative authority to manage lease lands. As detailed in Appendix M, Chapter V, the Service believes it was the intent of Congress to maintain the leasing program on the refuges to the extent consistent with proper waterfowl management to support the economies of local rural communities and to provide revenue to adjacent Modoc, Siskiyou, and Klamath Counties. Some flexibility in crop types and the desire to maximize revenues both serve this intent; however, this intent is subject to the primary intent (major purpose) of proper waterfowl management. Thus, the needs of waterfowl are first assessed, and then lease contract stipulations regarding acreage, cropping patterns, and requisite management practices on the lands will need to be developed consistent with this assessment. See response to comment 87-4 regarding effects of the alternatives on monetary transfers such as lease revenue payments to TID.

Comment# 743-15: the proposed stipulations that would reduce the amount of lease lands acreage jeopardizes the leasing revenue provided to TID. As explained above, the distribution of lease land revenues was an important aspect of the compromise struck in the 1956 Contract and the Kuchel Act. Maintaining the agricultural lands in federal ownership, rather than homesteading the lands resulting in private ownership, meant less money for the counties from tax revenues and required final resolution of disputes with TID regarding lease revenue.

By authorizing the payment of the lease revenues in the manner in both the 1956 Contract and its authorizing legislation, and Kuchel Act, Congress recognized the importance of the lease revenues to the 1956 Contract, TID, and local interests. In fact, when Congress enacted the legislation authorizing execution of the 1956 Contract, Congress directed the Secretary to "continue the leasing of public lands

to provide adequate funds for the purposes of this Act and said contract . . . .”60 The Service’s proposed restrictions on the lease lands will result in less harvested crops for lessees, undoubtedly diminishing the value of the bids for leases, and therefore reducing the amount of net lease revenues paid to TID under the 1956 Contract. This result implicates the bargain that was struck in the 1956 Contract, the direction by Congress to continue leasing to provide the funds for the 1956 Contract, and direction from Congress in the Kuchel Act to set prices for leases “designed to obtain the maximum lease revenues.” None of these contractual implications are discussed in the Draft CCP/EIS.

Response: See response to comment 87-4.

Comment# 743-58: Lack of farming on the lease lands would also have detrimental social, political, and economic effects. Family farms and farm employment will suffer, as will business that rely on agriculture directly and indirectly. Some farming operations have existing delivery commitments, including commitments to deliver from specific fields. Others have made past investment in crops (specifically alfalfa), which take years to produce a return on investment. In recent years, the crop revenues of the lease lands have been on the order of $25 million in direct, farm gate revenue. Lease revenues support TID and other local governments. Decreased lease revenues injure all Klamath Project water users. The threat of water curtailment causes banks to be skeptical. For example, banks have indicated in the past that they will not lend money for agriculture where water availability is uncertain. The uncertainty caused by the proposed stipulations in the draft compatibility determination and other matters discussed in the Draft CCP/EIS could similarly affect the lessees’ ability to seek business loans to fund their operations.

Response: Table 20: Crop Production Acres and Sales: All Alternatives and Changes and Table 22: Economic Impacts of Crop Production: All Alternatives and Changes show the expected changes in revenue and economic impacts of changes in land use and water deliveries at Lower Klamath Refuge And Tulelake Refuge. Table 24: Payments to Counties and Tulelake Irrigation District details the expected changes in lease revenue to be paid to TID yearly. Also see response to comment 87-4.

Comment# 748-16: 4.2.6 Table 4.8 Alt. C lease land contract holders would be required to leave 25% of their fields as unharvested standing grain. The impacts to county PILT's and TID 10% should be analyzed and disclosed in the socioeconomic sections.

Response: Se response to comment 87-4.

Comment# 87-4: Consideration of the various alternatives includes varying degrees of farming on Lease Lands. The CCP/EIS, however, does not discuss the federal obligation to apply Lease Land revenues to Project debt. Curtailment of leasing lands to agriculture would have an economic impact to the Project that the CCP/EIS fails to adequately identify, account for and consider.

Response: Please see Table 24: Payments to Counties and Tulelake Irrigation District in the Economic Analysis (Appendix P) for the effects of alternatives on payments. Project debt owed to the Tulelake Irrigation District is paid back yearly as a percent of net revenue from lease fees. While the debt may take longer to repay, payments would still be made.

B. Tourism
Letter ID # 409-2, 431-9, 443-2, 478-1, 512-2, 535-2, 539-2, 588-1, 593-2, 815-1

Public Concern Statement: Some commenters suggest that Refuges should be managed to promote hunting and nature tourism, which has beneficial economic impacts to surrounding communities.

Comment# 409-2: Use your water rights for the benefit of birds, fish, plants, and other wildlife. Phase out your land leasing programs to local agribusiness, especially if these lease programs are utilizing refuge water rights. Also, compete for programs that increase the amount of water available to the refuge to benefit plants and wildlife.If you apply my comments above to managing your refuges now and in the future, you will make these refuges attractive to many more visitors, both hunters and non-hunters alike, and visitors, I might add that will have salutory economic benefits to the local communities that surround the refuges.

Response: See response to comment 634-3.

Comment# 431-9: Help the community develop tourism.

Response: Comment noted.

Comment# 443-2: Non-interfering Eco tourism should be considered over agribusiness for local income.

Response: Comment noted.

Comment# 478-1: Klamath is for birds. I fly there every year from germany to watch. Tourism is good Business too.

Response: Comment noted.

Comment# 512-2: I belueve a large part of the visitors/ tourists to the area gratly value the contribution from bird and other wildlife in the Klamath basn.

Response: Comment noted.

Comment# 535-2: The refuges are also an importlant economic asset. Visitors drawn by healthy reserves will be an increasing source of revenue for the area.

Response: Comment noted.

Comment# 539-2: The loss of agri-business in the Klamath area will have an economic impact on the community that will be offset by recreation economics. If agri uses up all the water, the recreation industry dies.

Response: Comment noted.

Comment# 588-1: I want to continue to visit and enjoy the Klamath area for the rest of my life with my mother, my sister and many other lovers of wild birds. However, if I find that you are not protecting

the area as discussed above, I will definitely take my business and encourage other birding groups to take their business elsewhere.

Response: Comment noted.

Comment# 593-2: Another point of view has to do with MONEY. When the lands are leases to agribusiness, some influential corporations increase their profits. So where is money lost?? a) Birding (bird-watching) has become a hobby with major investments and incomes generated. b) Bird hunting stamps are a significant portion of State revenues. c) Tourism has become a major source of income for the chronically depressed Klamath Falls area. Most of that tourism depends on the large populations of birds found there -- populations already severely diminished.

Response: An economic analysis of the CCP alternatives for the Klamath Basin Refuge Complex is provided in CCP/EIS Appendix P.

Comment# 815-1: The bird and wildlife refuges in the Klamath basin must be saved. How can you even think of letting them be drained to plant potatoes and onions. That is completely unconscionable. Do not let Oregon losesuch a remarkable wet land. Once gone never to come back. Think of what a wonderful tourist attraction it is or could be for the Klamath area. Do not let this Klamath basin be destroyed by corporate leaders!'

Response: Comment noted.

C. General
Letter ID # 484-1

Public Concern Statement: One respondent asks that the Service maintain clean, safe Refuges for public use.

Comment# 484-1: keep it clean and SAFE!

Response: Comment noted.

D. Restoration Cost-Benefit Analysis
Letter ID # 701-8, 701-21, 906-48, 906-49

Public Concern Statement: Per two respondents, the draft CCP/EIS socioeconomic analysis is insufficient because it fails to analyze economic benefits from the restoration activities and the improvements in ecosystem service that could result.

Comment# 701-21: The CCP and the DRAFT ANALYSIS omit, without foundation, ecosystem services from the alternatives examined;

Response: See response to comment 701-8.

Comment# 701-8: The AUTHORS omit ecosystem services, which renders inadequate the alternatives of what they call their “economic assessment.” By “inadequate alternatives,” I mean that this error of omission in the AUTHORS’ sample of alternative is a fatal flaw in their DRAFT ANALYSIS. Since,

as we understand, they obtained their sample of alternatives from the CCP, whatever portion of the CCP that relies on these “inadequate alternatives” is suspect.

Response: Due to the lack of monetary values of ecosystem services the impacts were displayed in other units. CEQ is currently working on guidance for Federal agencies in order to analyse ecosystem services. The process of the guidance's creation is in M-16-01 detailed below. Until that time, this type of analysis is lacking guidance on valid data and scientific concensus on methodology. OMB memorandum M-16-01 dated October 25 2015 on the subject of Incorporating Ecosystem Services into Federal Decision Making.

Comment# 906-48: Our organizations are concerned that the Draft Economic Analysis included with the Draft CCP/EIS is so incomplete and misleading that it will prevent the decisionmaker from accurately weighing the cost and benefits of a reasonable range of alternatives.473 In particular, we are gravely concerned that the Draft Economic Analysis will prevent the decisionmaker from understanding the potential economic benefits of a major restoration effort focused on the Klamath Refuge Complex. Among other reasons, this is because the Draft Economic Analysis completely excludes consideration of economic services that would benefit from restoration of the Refuges.

Response: See response to comment 701-8 for ecosystem services. Please refer to Section 4.1.1 of the CCP/EIS which has been revised to include additional detail on factors that influenced the range of alternatives developed for each refuge.

Comment# 906-49: the Draft Economic Analysis is misleading and one sided because it does not consider the economic value of ecosystem services and how those economic services would be impacted by any of the proposed alternatives. Thus, the Draft Economic Analysis does not place a cost on the current degradation of wetland habitat, water quality, biodiversity, fisheries, and recreational opportunities that is occurring under the current management. Nor does is the Draft Economic Analysis structured in a way that would allow it to account for the possible economic benefit derived from restoration activities that could benefit these ecosystem services. As a result, the outputs of the Draft Economic Analysis are predetermined to focus arbitrarily on the costs and benefits of management to agribuinsess and the holders of leases for leasland farming. Thus, we strongly urge the Service in the Final EIS to consider active restoration of the Klamath Refuge Complex in developing a reasonable range of alternatives and then to prepare an economic analysis that includes a good faith analysis of the full suite of economic benefits from the restoration activities and the improvements in ecosystem service that could result. We have attached a report on the economic benefits of restoration of active restoration in the Everglades.476 Unless the EIS includes this type of analysis, the information that will be presented to the decision maker and the public will be skewed in focusing primarily on a narrow aspect of the problem – the impacts of management actions on agribusiness interests.

Response: The Everglades are not comparable to the ecosystem in which the complex resides. Please refer to the response to comment 701-8 for ecosystem services. Please refer to Section 4.1.1 of the CCP/EIS which has been revised to include additional detail on factors that influenced the range of alternatives developed for each refuge.

E. Economic Analysis

Letter ID # 701-5, 701-6, 701-7, 701-9, 701-10, 701-11, 701-12, 701-13, 701-14, 701-15, 701-16, 701-17, 701-18, 701-19, 701-20, 701-22

Public Concern Statement: It is argued that the draft CCP/EIS socioeconomic analysis is also insufficient because it uses inaccurate language, fails to identify and analyze the economy at an appropriate regional scale, and improperly uses IMPLAN.

Comment# 701-10: The matter at hand, involving the CCP and the DRAFT ANALYSIS, lies at the intersection of economics, science and litigation. In another matter at the intersection of economics, science and litigation, the Exxon Valdez Oil Spill (EVOS),7 I served as a consultant and testifying expert. Here I list the professional standards adopted for EVOS. 1) Whether the scientific theory or technique can be and has been empirically tested (i.e. whether the scientific method is falsifiable and refutable). 2) Whether the theory or technique has been subject to peer review and publication. 3) Whether the known or potential error rate of the theory or technique is acceptable, and whether the existence and maintenance of standards control the technique's operations. 4) Whether the theory or technique has attained general acceptance. For clarity and emphasis, I repeat: In my review of the DRAFT ANALYSIS, I apply these professional standards.8 As the AUTHORS address the topics and issues at hand in the CCP, they fail to proffer any evidence that their work, as they report it in the DRAFT ANALYSIS,satisfy any of the professional standards represented in these four factors.

Response: The economic analysis uses generally accepted practices for economic analysis done by the Service and in compliance with NEPA and Executive Order 12866 economic analysis standards and common practice. EVOS methods do not legally restrict economic analysis for NEPA in the Service.

Comment# 701-11: "economic assessment" is not a term of art in economics. As a result, it lacks the precision to clarify what it is and lacks the specificity to describe the units of measurement. This means one can't know either its theoretical or empirical foundation. Consequently, the AUTHORS' use of it fails to meet any of the relevant professional standards.

Response: See response to comment 701-13 (Introduction).

Comment# 701-12: Throughout the rest of their DRAFT ANALYSIS, the AUTHORS designate this three_ county study area as "the regional economy."12 In economics, "region" is a term of art. But as I show later in this REVIEW where I identify the AUTHORS' fatal errors, the AUTHORS' three_county area fails to qualify as the "relevant geography" (another term of art) for an economic region.

Response: See response to comment 701-07.

Comment# 701-13: The verbs "assess" and "evaluate" are synonyms as are the nouns "assessment" and "evaluation." And none of these terms is a term of art in economics. The AUTHORS' phrase, "The assessment evaluates," is simply confused and confusing.

b. "economic contribution" is not a term of art in economics. As a result I reach the same conclusions as I do above with the AUTHORS use of the term, "economic assessment." It and the AUTHORS' use of it fail to meet any of the relevant professional standards.

c. "economic effects" is also not a term of art in economics, but it has been used frequently enough to have acquired some intuitive sense of reflecting the economic consequences of some action. Later in

this REVIEW, I co_opt this intuitive sense of the “economic effects” to help illustrate what the AUTHORS should have done.

d. The subject of last sentence in this paragraph, “This economic analysis,” of course, begs the question, “What economic analysis?.

Response: (a) (b) and (c) Common language that is in the standard of practice for economic analysis is used they are also used since more complex words are not necessary to convey the meaning. As there are no legal or technical definitions of these terms they are appropriate. The use of common language such as asses and evaluate was replaced with analyse to the extent possible to reflect terminology in Executive Order 12866 and to avoid the public conculding that these generalized terms refer to a specific type of analysis. The variety of desciptors for economic impact such as 'contribution' and 'effect' were replaced when possible with `impact`. We replaced the phrases 'economic contribution' and 'economic effect' as noted and otherwise with other either more generalized wording or more specific terms.

Response to (d): Comment noted.

Comment# 701-14: As I state and show both above and below, the AUTHORS’ analysis doesn’t meet the professional standards of a regional economic analysis. b. As I also begin to indicate above and show below, the AUTHORS’ failure to specify the correct “relevant geography” for an economic region causes them to apply improperly the tool, IMPLAN, they’ve chosen to measure the “economic effects” they claim to have found.

Response: See response to comment 701-7.

Comment# 701-15: Inexplicably, the AUTHORS’ accepted without either foundation or protest the alternatives the CCP handed them even though it means they (the AUTHORS) omit what seems the three_county area’s singular comparative advantage, namely, the flow of ecosystem services. I also show that the CCP’s inadequate alternatives belie the term, “Comprehensive” in the CCP’s label and cause the CCP itself to suffer a fatal error.

Response: See response to comment 701-9. Also, Section 4.1.1 of the CCP/EIS has been revised to include additional detail on factors that influenced the range of alternatives developed for each Refuge.

Comment# 701-16: On the first page of the AUTHORS’ DRAFT ANALYSIS, in only two sentences, the AUTHORS commit their first fatal error: This threeXcounty area13 is hereafter referred to as the study area for this economic assessment. As part of this economic assessment, regional economic conditions in the study area are described including the economic contribution that current operations of the five refuges make to the regional economy. The AUTHORS’ three_county study area does not qualify as the relevant geography of a regional economy. By practically any measure, it represents less than a fraction of 1 percent of the regional economy in which it plays such a small role.

Response: The study area can not be smaller than the three counties that the refuges occupy due to the availability of data and abilities of IMPLAN. Also selecting a smaller area, for example census blocks, would imply false accuracy. The selection of the prefered alternative is not sensative to the study area for IMPLAN here. See response to comment 701-7 for additional discussion on study area selection.

Comment# 701-17: The AUTHORS seem to have omitted the past 50 years of professional

developments in regional economics.

Response: The economic analysis focuses on direct effects, which are more defensible. Likewise, the study area was limited to the largest area in which expected effects would occur.

Comment# 701-18: The AUTHORS's errors of omission of both the term of art, "regional economy" and the empirical application of the term to the regional economy (of which their three_county study area is such a small part) are fatal. The reasons are straightforward. Forty_five years ago Hoover understood the salient attribute of the emerging model: The alternative principle of regionalization gives us nodal regions. Here the structure is like that of a living cell or an atom: There is a nucleus and a complementary peripheral area. Functional integration, rather than homogeneity, is the basis of the correlation or community of interest within such a region. But Hoover didn't anticipate the extent of its emergence. Forty_two years later in O'Sullivan's 2012 edition, he texts us a 4_word snapshot of the continuing emergence, "A System of Cities."19 He adds a brief video in a reprise of central place theory which "shows how the location patterns of different industries combine to form a regional system of cities, with a smaller number of larger cities and a larger number of smaller cities."20 The AUTHORS seem oblivious to all of this. That is, they seem oblivious to today's mainstream literature on regional economies. Regional economies are systems of cities. Such an economic system qualifies as a regional economy because its millions upon millions of transactions in thousands of markets are integrated across contiguous geography to overcome the friction of distance. The 3_county area is peripheral but its economic attention is focused on two regional centers, Seattle_Tacoma and San Francisco. Had the AUTHORS begun by putting the 3_county in the context of even only the Seattle_Tacoma regional economy, they would have had a chance. But by squinting at their three_county study area, the AUTHORS killed their chance of finding "economic contributions, impacts and effects," from their "economic assessment." And in doing so, a) they accepted without protest CCP's inadequate alternatives by failing, for example, even to mention services from the ecological system or ecosystem services21, and b) they killed their chances to get anything meaningful out of using the IMPLAN input_output model.

Response: See response to comment 701-7 for discussion on terms and study area selection. The expected impacts to the study area were presented. See response to comment 701-8 for discussion on ecosystem services. References in comment noted.

Comment# 701-19: households in the Seattle_Tacoma regional economy are not the only households who value both the goods and services from the AUTHORS' 3_county area. The three counties lies at the intersection of the peripheries of both the Seattle_Tacoma and San Francisco regional economies. This isn't news either. The I_5 corridor has caught the eye of urban_regional economists for as long as I have been teaching at the University of Oregon.24 2. Ignoring both comparative advantage and all alternatives But the authors of the CCP inexplicably proffer a sample of alternatives missing the ecosystem services. Also inexplicably, the AUTHORS, claiming to be conducting an economic analysis, fail to question the truncated sample. In the context of say the Seattle_ Tacoma regional economy, that is equivalent to proffering a regional analysis without the housing sector or the innovation sector. If one does so, then professional standards require explaining such an unusual move. And professionally one must, because otherwise interpreting the results is impossible, especially if, as the authors of the CCP and AUTHORS have done, they omit the alternatives containing the excluded sector. That mistake precludes comparing the results without the excluded sector to the results with the excluded sector. The only credible condition that would render benign the omission of ecosystem services from the CCP or the DRAFT ANALYSIS is evidence that the 3_county area is both ecologically and economically inactive or inert. To my knowledge, there is no such evidence in the

record.

On the contrary, from my experience in legislative and Congressional hearings and in research, teaching and testifying in state and federal courts, all relating to Oregon, Washington and California economic and environmental goods and services, ecosystem services qualify as comparative advantages.25 And omitting them would be both wrong and foolish. To give some specificity to the term, ecosystem services, consider these examples: recreation, water quality and existence value.

Response: See response to comment 701-7 regarding selection of the study area. See response to comment 701-8 for a general discussion of ecosystem services.

Comment# 701-20: he AUTHORS state: As part of this economic assessment, regional economic conditions in the study area are described, including the economic contribution that current operations of the five refuges make to the regional economy. These characterizations were derived using current refuge conditions including operations data as informational input to the IMPLAN inputXoutput model (Minnesota IMPLAN Group, Inc. 2010 and 2013).27 I find these two sentences unintelligible. This is not because I know nothing about IMPLAN or input_output analysis.28 It is because the AUTHORS' terms in this excerpt that I do understand are wrong, and the AUTHORS' terms I don't understand lack rigor, precision and specificity in the context in which the AUTHORS are using them.

1. The AUTHORS' term "regional economic conditions" refers to economic conditions in the 3_county study area, which does not qualify as a regional economy.

2. The AUTHORS' phrase "economic contribution that current operations of the five refuges make to the regional economy" is meaningless, because:

a. "economic contribution," "current conditions," and "characterizations" lack rigor, precision and specificity;

b. The "regional economy" is at least the Seattle_Tacoma regional economy and perhaps the San Francisco regional economy as well, and most definitely not the 3_ county study area;

Response: See responses to comments 701-7 and 701-13

Comment# 701-22: MPLAN is irrelevant for the purposes the AUTHORS' appear to have in mind, because they fed the wrong information into it and because IMPLAN can handle well only information from market transactions (i.e., input and output markets), which handle very few ecosystem services. Point (2d) in my list warrants special attention, because it involves "market transactions," "IMPLAN" and "ecosystem services," which reflect the AUTHORS' three fatal errors, namely, Region, Ecosystem Services and IMPLAN. Consider first, as I indicated earlier in my REVIEW, the primary units of measurement of a regional economy are market transactions.29 Consider second that many, perhaps most ecosystem services are not exchanged through conventional market transactions, e.g., water quality and existence value. Consider third and last, the inputs and outputs of IMPLAN represent units of measurement that arise in conventional market transactions, i.e., the dollar_denominated exchanges among all sorts of buyers and sellers. My point in this Part V.D: With IMPLAN, the AUTHORS are way off track.

Response: No ecosystem services were monetized for use in IMPLAN; therefore, there would not be a false representation of the economic impact in the analysis. For ecosystem services general discussion,

see response to comment 701-8, and for IMPLAN comment 701-9.

Comment# 701-5: Under the professional standards in the field of economics, the DRAFT ANALYSIS proffered in this matter by the AUTHORS does not qualify as economic analysis.

Response: Comment noted.

Comment# 701-6: Throughout the DRAFT ANALYSIS, the AUTHORS' diction renders the representation of their analysis confused, confusing and even unintelligible.

Response: Comment noted.

Comment# 701-7: The AUTHORS claim the economic activity in one Oregon county on the Oregon_ California border and two California counties on the border qualify it as a regional economy. Not only have they got the relevant term of art—regional economy—wrong, but they have demonstrated they simply do not understand the underlying explanations of the existence and operations of a regional economy, e.g., the Seattle_Tacoma regional economy and its parts, e.g., the three counties the AUTHORS' focus on. This error is sufficient to dismiss what they represent as their regional economic analysis.

Response: Uses of the term regional economy were revised to refer to the type of anaysis. The three county study area is designated at the appropriate limit for the analysis within the larger regional economy. The method for selecting a study area is discussed in the Service's Banking on Nature report. (https://www.fws.gov/refuges/about/refugereports/). This is an example from general economic analysis that is used by other federal agencies, along with state and local government. The inclusion of addition counties beyond the minimum three would not have affected the selection of the prefered alternative nor substantially changed the estimate of the effect on the economy.

Comment# 701-9: The AUTHORS' use of IMPLAN, given the other two fatal errors—Region and Ecosystem services—is idle. But even with heroically correcting the other two errors, given what I know about IMPLAN and given what limited understanding of IMPLAN the AUTHORS demonstrated in their DRAFT ANALYSIS, I doubt they could exploit IMPLAN's strengths and dodge its weaknesses in a second DRAFT ANALYSIS.

Response: See response to comment 701-8 for discussion on ecosystem services.

IMPLAN will continue to be used in the economic analysis. For discussion on the use of 'region' in the anlaysis and the mothod used to apply IMPLAN please refer to the response to 701-7.

F. National Historic Trails
Letter ID # 211-1, 211-2

Public Concern Statement: The National Trails Intermountain Region (NTIR) office of the National Park Service states that the CCP/EIS should evaluate plan impacts to the Applegate National Historic Trail (NHT), since the alignment of the NHT, even when lacking physical traces of wagon passage, is federally protected and its setting, if left largely intact, could offer potential for public recreation and interpretation. The NTIR also states that they would like to share geographic information systems data for the Applegate NHT and be consulted for any future actions with potential to affect any NHT.

Comment# 211-1: The National Trails Intermountain Region (NTIR) office of the National Park Service (NPS) administers the California National Historic Trail (NHT). A branch of that congressionally designated trail, known as the Applegate Trail, crosses the project area and is briefly noted in the draft environmental impact statement (section 5.6.3). The NPS would like to share with your bureau our shapefiles for the NHT through your area, and we ask that NTIR be consulted on any future undertaking with potential to affect to the Applegate Trail or other routes of the NHT.

Response: Comment noted.

Comment# 211-2: National historic trails often have physical components that require consideration under Section 106 of the National Historic Preservation Act. The draft comprehensive conservation plan addresses Section 106 by noting that physical traces of the Applegate Trail were not identified during archeological survey. However, the alignment of the NHT, even when lacking physical traces of wagon passage, is a federal protection component as defined by the National Historic Trails Act, and if its setting is largely intact, it could offers potential for public recreation and interpretation. As such, effects to the NHT should be considered under the National Environmental Protection Act, not just under Section 106. It seems likely that this undertaking would have largely beneficial impacts to NHT under Fish & Wildlife Service management under this plan. NTIR would be pleased to work with the Fish & Wildlife Service to identify interpretive possibilities for the Applegate Trail on refuge lands.

Response: The Service is willing to work with the National Park Service to identify interpretive possibilities on Applegate Trail on Refuge lands.

G. Regulatory Compliance
Letter ID # 906-55, 906-56

Public Concern Statement: Per one respondent, the Service has failed to comply with Section 106 of the National Historic Preservation Act (NHPA) and requirements of the National Natural Landmark implementing regulations.

Comment# 906-55: In preparing the Draft CCP/EIS, the Service has failed to comply with the requirements and procedures of Section 106 of the NHPA and the implementing regulations.

Response: The Service disagrees. We believe that the alternatives addressed in the CCP/EIS do comply with requirements of Section 106 of the NHPA.

Comment# 906-56: In preparing the Draft CCP/EIS, the Service has failed to comply with the requirements of the NNL implementing regulations.

Response: A review of the National Park Service website, www.nature.nps.gov/nnl/nation.cfm, shows that none of the Refuges within the Klamath Basin Complex are included in the list of National Natural Landmark sites. We regret the error in the 2010 public scoping notice.

H. Cultural Analysis
Letter ID # 50-5, 56-50, 748-33, 748-41, 748-44, 748-49

Public Concern Statement: One individual recommends that waterfowl hunting at Clear Lake NWR be eliminated in the CCP/EIS, due to potential for hunter disturbance of archaeological resources that may be

present along exposed shoreline. Other comments request further cultural resources analysis to justify document conclusions, such as impacts to Camp Tule Lake and effects from trampling and collection.

Comment# 50-5: Regarding management of the Clear Lake NWR, one has to question the wisdom of continuing waterfowl hunting on this refuge in relation to preserving archeological resources found on the lake bottom. Over the past 15 years water levels at this refuge have been minimal, with the receding shoreline exposing vast expanses of the lake bottom. It is the surface water of this lake that provides the main protection for these resources, and in its absence they are vulnerable to pilferage by anyone present. The necessity for waterfowlers to be hunting along the receding shoreline places them in a position of immediate contact with these resources. The potential for productive waterfowling at this refuge is very minor, when compared to the Tule Lake and Lower Klamath Refuges, and its curtailment would likely not impact waterfowl hunting within the Klamath Basin to any large degree. In contrast, the current antelope hunt occurs on the sagebrush steppe uplands, is of short duration with such extremely limited permit numbers that there should be minimal potential exposure to cultural resources found in the lake bottom from this activity.

Response: Allowing wildlife-dependent public use on the Refuge may act as a deterrent to illegal uses, including collection of artifacts. Waterfowl hunting is a compatible public use allowed on the Refuge.

Comment# 56-50: Have these lands undergone intensive cultural inventories.

Response: Cultural resources information about the Refuges is provided in CCP/EIS Sections 5.2.3 (Lower Klamath), 5.3.3 (Clear Lake), 5.4.3 (Tule Lake), 5.5.3 (Upper Klamath), and 5.6.3 (Bear Valley).

Comment# 748-33: 5.4.3 Cultural Resources According to the Klamath Basin National Wildlife… Tule Lake Segregation Center "Please review and confirm in the final EIS that the Tule Lake Segregation Center is located on the north side of Hwy 139 and that it is or is not part of the refuge boundaries. Please also confirm in the final EIS that the Tule Lake Segregation Center is not being confused with Camp Tulelake. Camp Tulelake is located on the south side of Hwy 139, to the northwest of the Tule Lake Segregation Center, on the opposite side of the refuge, and looks to border or be within the NWR boundaries. There are multiple discussions of the Tule Lake Segregation Center being the only NRHP eligible site within the refuge however, Camp Tulelake is the resource that should be referenced if it is confirmed to be within the specifiec boundaires. If so, please ensure that inclusion of Camp Tule Lake is addressed as a NRHP throughout the document..

Response: The text of Section 5.4.3 has been modified to indicate that the Tule Lake Segregation Center is on National Park Service property and that Camp Tulelake is a National Register–eligible property on Refuge land. The cultural resources section summarizes sites within 1 mile of the Refuge boundary. The Tule Lake Segregation Center is within 1 mile of Refuge property (the Peninsula Unit). Text in Section 6.4.7 has also been modified.

Comment# 748-41: 6.2.7 Cultural Resources Land Management Alternative B would employ… """Cultural resources management would be the same under Alternative B and described for Alternative A."""" Please confirm that this statement is accurate. Chapter 4 (p. 4-24) describes a new cultural resources management program under Alternative B. Suggest deleting the sentence to avoid confusion.

Response: The sentence referenced in the comment was deleted.

Comment# 748-44: 6.3.7 Cultural Resources Cultural resources effects and management… "Entire paragraph..."""Cultural resources effects and management…""" "Suggest removing ""effects and"" from sentence. The last sentence in the paragraph states: ""The ""U"" is known to have cultural resources so under Alternative B there could be additional effects to cultural resources."" Without some clarification/explanation, this appears to contradict previous statement in fire managmenet section above, which states that effects to cultural resources would be neutral. Suggest revising..

Response: The last sentence in Section 6.3.7 was revised to incorporate the restriction on fire management and juniper removal, which could adversely affect cultural resources.

Comment# 748-49: 6.4.7 Public Use The refuge is only open to hunting… """The refuge is only open to hunting and hunters traveling off trail could trample cultural resources, or could collect artifacts. The Service concluded that Alternative A would have neutral or negligible effects to cultural resources due to public use activities."" " "Please clarify how trampling and collecting is considered a neutral or negligible effect, or revise this sentence..

Response: The text pertaining to cultural resource impacts from hunting has been revised to clarify potential effects from hunting.

Table 1. Letter ID Numbers and Respondents

First	Last	Organization	Letter ID
			1
doug	krause		2
Gary	Wickham		3
David	Brewer		4
Cathy	Kaech		5
			6
Janice	Stanger		7
Charles	Callagan		8
Simone	Streeter		9
			10
George	Wuerthner		11
michele	dickson		12
Lawrence	Woelfer		13
Laura	Carson		14
Kathy	Newcomb		15
Paula	V		16
Margaret	Stephens		17
Roberta	Smith		18
Elisabeth	Bechmann		19
tim	lannoy		20
Craig	Markham		21
			22
			23
leisha	monet		24
Polly	Strahan		25
Perry	Bream		26
Marsha	Squibb		27
Harold	Fenner		28
Justin	Carlson		29
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David	Harrell		31
Michael	Carion		32
Arran	Robertson		33
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michael	Callahan		35
Jeff	Engbretson		36
Judy	Bensinger		37
jeremiah	jenkins		38
Justin	Murnin		39
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Brandon	Tull		41
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Chris	Goodwin		43
Terry	Rybinski		44
KATI	BABINEC		45
Roger	Kofler		46

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Greg	Nordhues		48
David	Beckett		49
Fran	Maiss		50
Marc	Sorsky		51
Caroline	Skinner		52
Maki	Murakami		53
Robert	Webster		54
Arlene	Spencer		55
katie	fite	WildLands Defense	56
Roy	Billings		57
Michele	Frisella		58
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d	goldsmith		62
ed	rossi		63
Gerald Wright	Scoville		64
Phil	Brown	Wild Times Guide Service	65
steve	szemenyei		66
Darick	silsby		67
Kimber	Nelson		68
Laura	Hale		69
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Kathryn	Sheibley		71
Jack	Anonymous		72
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Matt	Lawer		74
Susa	Marsh		75
Lisa	Mazzola		76
Rick	Schussel		77
Steve	Brott		78
Melanie	FEder		79
Andrew	Patterson		80
Lola	Goldberg		81
James	Bedgood		82
Kamia	Taylor		83
Judith	Anonymous		84
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Benjamin	Zumeta		88
France	Davis		89
Ellynne	Kutschera		90
John	Nettleton		91
Courtney	Heath		92
N.A.	Renison		93

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John	Larison		94
Paula	V		95
Victoria	Wilkinson		96
Robert	Harrington		97
Jason	Ferguson		98
Alison	Laughlin		99
Barbara	Massey		100
mark	johnsen		101
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Edith	Roberts		103
Betty	Grant		104
Ann	Bakkensen		105
Ken	Carlse		106
Paul	Wagner		107
Paolo Della	Bordella		108
Sheri	Kuticka		109
John	Barger		110
Katherine	Bragg		111
anthony	Montapert		112
Ray	Smith		113
D.C.	Leslie-Pringle		114
Erik	Hora		115
Rick	Ramirez		116
Steven	Menefee		117
Mary	Millikin		118
Emil	Oatfield		119
June	Mohler		120
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karen	young		122
Marilyn	Mooshie		123
Alison	Litts		124
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Daniel	Artz		126
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Nancy	Gregory		130
Greg	Ellis		131
Kristin	Olsen		132
Jim	Holloway		133
George	Souza		134
Mike	Quinn		135
Robert	Soto		136
			137
Douglas	Fernandez		138
Steven	Amick		139
Reenie	Weiss		140

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Bruce	Barbarasch		141
Nanette	Oggiono		142
Gayle	Norie		143
Judy	Todd		144
Susanna	DeFazio		145
Susan	Kuhn		146
Mary	King		147
Thomas	Stibolt		148
Chaffee	Woods		149
christian	kaiser		150
mitzi	frank		151
Joann	Koch		152
Bill	O'Brien		153
Kermit	Houser		154
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Craig	Ferrari		156
Michael	Bennett		157
Noni	Webster		158
Brandon	Lindhart		159
Robert	MIller		160
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Nicole	Loh		162
Mark	Kirsten		163
Nick	Lawrence		164
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Marian	Fenimore		166
Stephen	Jones		167
Carol	Edwards		168
Susan	Viani		169
Julie	O'Rielly		170
Tracy	Perry		171
Susanna	A.		172
Tony	Blake		173
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Mark	Mansfield		175
nina	clausen		176
Jeff	P		177
Greg	Schwabenland		178
Jillian	Vento		179
OTIS	SWISHER		180
Brody	Crosby		181
Judith	Beck		182
Deanna	Mueller-Crispin		183
Jeffrey	Schwilk		184
Bill	Gillespie		185
Rebecca	Lexa		186
Tricia	Wardlaw		187

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Jason	Russell		188
Richard	Stellner		189
Charles	Nichols		190
roy	adsit		191
Dave	Zilch		192
Mike	White		193
Marcus	Lanskey		194
Scott	McMorrow		195
Robert	Paulson		196
Kayla	Price		197
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Jerome	Brown		200
Chantal	Buslot		201
Rodney	Kenyon		202
Darick	Silsby		203
bonnie	kuppler		204
Bruce`	Abbott		205
Steve	Sheehy		206
Mark	Knudsen		207
Christopher	Wigaard		208
Victoria	Mcomie		209
Jeff	Bennett		210
Lee	Kreutzer		211
Steve	Aydelott		212
Judith	Vincent		213
Lawrence	Denson		214
Ken	Spalding		215
steve	turigliatto		216
David	Waber		217
			218
Lon	Otterby		219
Dennis	Davie		220
Mike	Phillips		221
Brenda	Kameenui		222
DEBORAH	SMITH		223
Randy	Tate		224
Ann	Littlewood		225
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Kate	Gessert		227
Janet	Robinson		228
Margaret	Stephens		229
Sarah	Lawrence		230
Troy	Brincat		231
Lani	Carlson		232
Daphne	James		233
Robb	Rothenberger		234

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Yancy	Lind		235
Claudia	Brookfield-Cogley		236
john	pasqua		237
			238
Melinda	McCoy		239
Dereck	Norwood		240
			241
Rhett	Lawrence		242
Line	Ringgaard		243
Michael	Allender		244
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Mary Anne	Joyce		246
Ann	Lamer		247
Gene	Bach		248
Dan	Mayberry		249
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M	Wheeler		252
Patricia	Nazzaro		253
Saran	Kirschbaum		254
Jeannine	Florance		255
Michael	Murray		256
Leanna	Anonymous		257
Mike	Foy		258
Michael	McGuire		259
John	Jensen		260
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Shirley	Anonymous		263
Paul	Venker		264
John	Brennan		265
Dan	Sherwood		266
linda	farmer		267
Sandra	Weber		268
Alyson	Berman		269
Ellen	Saunders		270
Randall	Gicker		271
Colby	FromPortlandOregon		272
Serena	Anonymous		273
Jim	Taylor		274
anonymous	anonymous		275
Linda Fay	Sampson		276
Steve	Moteno		277
dennis	haussler		278
Alessandro	Ciccarelli		279
Dylan	McCoy		280
Shellie	Littau		281

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greg	damitz		283
Oregon Resident	Anonymous		284
John	Grochowski		285
gerry	collins		286
M	Rubschlager		287
			288
Robert	Coughlin		289
scott	blanchette		290
Douglas	Croll		291
A	Stranger		292
John	Brinkley		293
Bob	Thomas		294
Thomas	Pintagro		295
Erik	Foraker		296
John	Waldrip		297
Satya	Vayu		298
John	Adams		299
Bob	Hannigan		300
cathy elizabeth	levin		301
Ray	Brown		302
Matthew	Birsinger		303
John	Morrisroe		304
Ricardo	Quasu		305
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Anneke	Andries		307
Bradley	Sanders		308
Don	Rinkor		309
Susan	Stone		310
			311
HOLLY	EVANS		312
Michael	Varichak		313
Pamela	Kjono		314
wally	sykes		315
			316
Leslie	Burpo		317
Tom	Keys		318
Kristin	Bussmann		319
joel	irizarry		320
Gary	Hall		321
Michael	Russell		322
Mike	Jordan		323
Kathryn	Lemoine		324
Robert	Duval		325
Robert	Soto		326
Sean	Hanna		327
Gloria	Picchetti		328

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Michael	Baker		329
Eileen	Wynkoop		330
Trinie	Dalton		331
Rick	Ray		332
Marius	Wasbauer		333
rusty	alexander		334
scott	dennis		335
Scott	Linn		336
john	bertolotti		337
Andre	Weiglein		338
Ken	Brossier		339
Stephen	Shaw		340
Kevin	Brown		341
Sharol	Tilgner		342
Paul	Howard		343
John	Barker		344
Dave	Murawski		345
David	Barale		346
Richard	Emery		347
Steve	Overton		348
			349
Jesse	Limas		350
George	Hutchinson		351
Valerie	Bergeron		352
Michael	Case		353
Benton	Elliott		354
Sarah	Lawrence		355
Rob	Magne		356
Sheila	Dooley		357
morton	smith		358
Geoff	Weaver		359
Jason	Payne		360
sau	tsang		361
Jim	Litts		362
anrea	Anonymous		363
Brett	Springer		364
larry	cates		365
Mike	Osterman		366
Cheryl	Thoen		367
Shinann	Earnshaw		368
Laura	Carlson		369
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Sean	Hall		371
Leonard	Epstein		372
paul	goff		373
Barbara	Smith-Thomas		374
			375

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Don	Ewing		377
Cheryl	HUIZINGA		378
Jillian	Vento		379
Susan	Andrews		380
AmyD.	Valentine		381
Michelle	Mintmier		382
Donna	S.		383
Kendall	Jones		384
Wendy	McKee		385
marilyn	schulz		386
William	Risser		387
Eric	Stone		388
David	Harrison		389
Kelly	Scott		390
Jenny	Erickson		391
Kent	Sullivan		392
Camille	Juntunen		393
S	Henderson		394
Will	Swank		395
Linda	Rentfrow		396
Martin	Marzinelli		397
Mark	Bailey		398
MaryAnne	Joyce		399
chris	shank		400
Crystal	McMahon		401
Quinn	Harper		402
Jeff	Anonymous		403
Stacie	Hall		404
Mary	Hayden		405
Ellen	Lewis		406
Janet	Roxburgh		407
Chandra	Hingston		408
John	Mendoza		409
Catherine	Ehrlich		410
Ed	Andrews		411
Denise	Croft		412
Trine	Beach		413
Mary-Lane	Baker		414
Anne	Woodbury		415
Arianne	Boyer		416
Anonymous	Anonymous		417
Robert	Bernstein		418
Melissa	Martin		419
Kat	Lilore		420
Alexander	Sapiens		421
Laura	Killingsworth		422

First	Last	Organization	Letter ID
Anonymous	Anonymous		423
Teresa	McFarland		424
Anonymous	Anonymous		425
Eileen	Stark		426
Karen	Bain		427
D	Trainer		428
Anonymous	Anonymous		429
Denise	Cedar		430
Crystal	McMahon		431
Andrew	Swanson		432
Wendy	Morseth		433
Judy	Todd		434
Anonymous	Anonymous		435
Fredrick	Broad		436
George	Wuerthner		437
Kurt	Survance		438
Mike	Stidhem		439
Jeffi	Powell		440
Steve	Daily		441
MernaBaker	Blagg		442
Anonymous	Anonymous		443
Patricia	Newton		444
Anonymous	Anonymous		445
Bonnie	Newman		446
Ann	DeBolt		447
Sherry	Salomon		448
Matthew	Olson		449
Constance	Huff		450
L.	Watts		451
Joshua	Meyers		452
Anonymous	Anonymous		453
Bob	Swanson		454
Nona	Gamel		455
Penelope	Kaczmarek		456
Kelly	Krechmer		457
Steve	Noble		458
Kim	Altig		459
Rebecca	Orf		460
Anonymous	Anonymous		461
Gilberte	Machet		462
Beverly	Mason		463
Jim	Winkle		464
Aarisa	Smith		465
Brad	Nahill		466
anthony	mcclure		467
D.	Ensign		468
leisha	monet		469

First	Last	Organization	Letter ID
Floyd	Bond		470
Dave	Potter		471
Kaj	Jensen		472
Nick	Engelfried		473
Evan	Boyle		474
Ann	Tiedeman		475
Kate	Glauner		476
Lynn	Kush		477
Christian	Kaiser		478
Richard	Demarest		479
Bronwen	evans		480
Steve	Hylton		481
Kathleen	Parker		482
Don	Jones		483
barbara	weaver		484
Christine	Wilson		548
Donald	Lyon		485
Jody	Kim-Eng		486
Larry	Callister		487
Midori	Layzell		488
James	Boone		489
Audrey	Addison		490
Karen	Berry		491
Christine	Anderson		492
Barbara	Fankhauser		493
David	Powell		494
Luan	Pinson		495
Mary	Slocum		496
Pamela	Still		497
Stephanie	Snyder		498
Diane	Rios		499
Jacqueline	Wilson		500
Anonymous	Anonymous		501
Karen	Shawcross		502
Anonymous	Anonymous		503
Georgia	K		504
Stephan	Nance		505
Laura	F.		506
John	Hamburg		507
Tricia	Peck		508
Daniel	Sands		509
Kyenne	Williams		510
Maggie	Stock		511
Freda	Kerman		512
Shane	Jimerfield		513
Chris	Spurgin		514
John	Marshall		515

First	Last	Organization	Letter ID
Beate	Nilsen		516
Mary	Reese		517
N.A.	Renison		518
Claire	Peterson		519
Steve	ward		520
Sari	Glickstein		521
John	Devney	Delta Waterfowl Foundation	522
Sharon	Birrel		523
Eugenia	Larson		524
Flora	Huber		525
Anonymous	Anonymous		526
Terry	Jess		527
Sheila	Kalafsky		528
Dinah	Dodds		529
Susan	Bexton		530
Deborah	Wessell		531
Pramela	Reddi		532
Wendy	McKee		533
Teresa	Meyer		534
Arthur	Dye		535
MargureryLee	Zucker		536
Molly	Elwood		537
ClydeAlan	Locklear		538
danne	johnson		539
Laura	Donohue		540
JILL	SPENCER		541
Tricia	Knoll		542
Robert	Cain		543
janetJ.	Slobin		544
James	Boone		545
Jaye	Tompkins		546
Phyllis	Wolfe		547
Joan	Hamilton		549
LindaSchultz	t		550
Mark	Greenfield		551
Myron	Blanton		552
Ann	Bartell		553
Anonymous	Anonymous		554
Kathleen	Sinclair		555
Katherine	Bowman		556
Anonymous	Anonymous		557
LindaSchultz	t		558
Leslie	Myers		559
			560
Eleanor	Koepke		561
David	Hartmann		562
Anonymous	Anonymous		563

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Robert	Mogielnicki		564
Andreas	Anderson		565
			566
Lin	DeMartini		567
Molly	McAllister		568
Brad	Nahill		569
Elizabeth	Willis		570
Susan	Gere		571
Emma	Hartman		572
Jonathan	Levy		573
JuanaD	Handy		574
Margaret	Breitwisch		575
jeffrey	Schwilk		576
Elizabeth	Irwin		577
Anonymous	Anonymous		578
Blaine	Ackley		579
Mariha	Kuechmann		580
Dave	Costa		581
Jen	Hurley		582
Jan	Hurst		583
Valerie	Martin		584
Julia	Spilker		585
Sherry	Hall		586
Kevin	Putnam		587
Jennifer	Haynes		588
danne	johnson		589
John	Devney	Delta Waterfowl Foundation	590
Patricia	Browne		591
Jim	Jarzabek		592
Anonymous	Anonymous		593
Rebecca	Kreag		594
Bill	Anonymous		595
Anonymous	Anonymous		596
Nancy	Howard		597
Susan	Parsons		598
Toni	Rubin		599
Rebecca	Kreag		600
Ann	Clark		601
Barry	Barrington		602
Rose	Christopherson		603
Bill	Buck		604
Barbara	Wilson		605
Diane	Anonymous		606
Darrell	Mcglothlin		607
George	Joseph		608
Rachel	Lileet-Foley		609
Tonya	Cornwall		610

First	Last	Organization	Letter ID
Rebecca	Kreag		611
Laura	Whittemore		612
Dennis	Wolff		613
Anonymous	Anonymous		614
			615
Christina	Gullion		616
Tanya	Steele		617
Patricia	Newton		618
RICHARD	WEIGEL		619
Sheila	Forrette		620
Karleen	Simpson		621
Molly	Russell	Klamath Basin Audubon Society	622
Eric	Lambart		623
Timothy	Dahl		624
Gordon	Dawson		625
Angel	York		626
Carol	Palmer		627
			628
John	Rogers		629
Sue	Bliss		630
Benjamin	Leader		631
Brian	O'Grady		65
David	Ziesner		65
Mark	Sturgess		65
Jamie	Sturgess		65
Allyson	Spears		65
Stephen	Fanucchi		65
Daron	Spears		65
Braydon	Spears		65
Sam	Reynolds		65
Oleg	Popov		65
Michael	Kiser		65
Bryan	Taylor		65
Robert	Jeschten		65
T.J.	Pechetti		65
Ken	English		65
Starling	Lawrence		65
Alex	Kergen		65
Mark	Roggia		65
Dave	Sturla		65
Grant	Bel		65
Robert	Moss Jr.		65
Melvin	Harrison		65
Troy	Freeman		65
Brad	Ward		65
Patrick	Konz		65
Jason	Perry		65

First	Last	Organization	Letter ID
Scott	Pardini		65
Mike	Angel Sr.		65
Michael	Angel Jr.		65
Kyle	Sparray		65
Dan	Gallegos		65
Adam	Sparrey		65
Robert	Moss Sr.		65
Aaron	Silverman		65
Garret	Miller		65
Joe	Mouren		65
Justin	Bream		65
Robyn	Spears		65
Mike	Blacklock		65
Michael	Mize		65
Tom	Sheehan		65
Chris	Winter		701
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	906
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	634
Louisa	McCleary		636
BD	Cook		639
Tom	Collom	Oregon Department of Fish and Wildlife	641
Chelsea	Lincoln		642
Thomas	Schlosser		643
Paul A	Traficante		647
Larry	Johnson		649
Katya	Hokanson		650
McKenzie	Joslin-Snyder		652
Michael	Connor	Western Watersheds Project	653
			656
Neena	Petersen		657
A	L		660
Paul	Ruprecht	Western Watersheds Project	663
Donlon	McGovern		664
Sandra	Jarmain		665
Reta	Bray		667
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades	668

First	Last	Organization	Letter ID
		Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	669
Julie	Bryant		670
William	Hering		671
Carole	Barkley		672
Gary	Robeson		673
Avery	Hurst		678
Nancy	Boden		680
Jeffrey	Volberg	California Waterfowl Association	681
J	H		682
Crystal	Rivera	Tulelake Irrigation District	683
W	Holmes		684
Gary	Ploski		685
Scott	Carpenter		687
William	Carpenter		688
Marilyn	Taylor		754
Glenna	Hayes		690
Lisa	Manners		692
Rich	Klug		693
Pamela	Porter		695
KAREN	Jostad		697
K	Strauss		699
Eric	Scheuering		700
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	701
Diane	Rios		702
Robert	Hunter		704
Stephanie	Taylor		706
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	707
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-	708

First	Last	Organization	Letter ID
		Trinity Salmon	
Micah	Meskel		709
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	711
Rich	Klug	Siskiyou County Fish and Game Commission	712
Valerie	Thompson		716
Glenda	Berman		719
			720
Jayne-Maya	Chandler		723
Gary	Robeson		724
Judith	Raymond		725
Mark	Biddlecomb	Ducks Unlimited, Inc.	726
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	727
Don	Bishoff		728
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	729
Stephanie	Parent	Center for Biological Diversity	730
Terry	Allaway		731
Mary Anne	Nash	Oregon Farm Bureau	732
Pat	Ormsbee		733
Glen	Spain	Pacific Coast Federation of Fishermen's Associations and Institute for Fisheries Resources	734
Robert	Fields		735
Juliet	Booth		739
			740
Joel	Kay		741
Crystal	Rivera	Tulelake Irrigation District	743
Rachel	Lileet-Foley		744
Ann	Takamoto		746
			747
		Bureau of Reclamation	748
Jennifer	Jones		749
Fred	Rinne		753
Carol	Doehne		756
			757
Bart	King		758

First	Last	Organization	Letter ID
David	Hayes		759
Mike	O'Rourke		760
Wendy	McKee		761
Paul	Friebel		763
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	764
William	Baer		766
Satya	Vayu		768
			769
Louise	Shimmel		770
Matthew	Zimmerman		771
Elizabeth	Medley		772
Jacqueline	Krizo		773
Kahler	Martinson		774
Stanley	Senner	National Audubon Society	778
Joanne	Wakeland		779
Martyn Kathleen	Goforth	EPA	780
			781
Donald	Kirby		783
Jamilah	Vittor		784
Dave	Hohler		786
Mary Anne	Mead		787
David	Collins		788
Sara	Seyal		789
Audrey	Addison		790
Katherine	Showalter		791
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	792
Kerul	Dyer	Klamath Riverkeeper	793
Terry	O'Rourke		794
Kara	Kinley		798
Catherine	Arp		800
frank	lospalluto		803
Carol	Wilson		809
Mona	Toms		810
Bill	Anonymous		811
Caitlin	Zittkowski	Center for Food Safety	812
Carol	Wilson		814
			815
Judith	DeMarsh		817

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Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	818
David	Stone		819
shalene	murphy		821
Mark	Johnson		824
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	825
Carl	Jahn		827
Lynn	Herring		829
Susan	Rosenbaum		830
Roger	Bond		832
J	Carter		833
Todd	Hutchinson		835
Sue	Kusch		838
			839
Kathy	Baxter		840
			842
Suzanne	Sherman		843
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	846
Candace	Larson		847
Nancy	Holmes		848
Margaret	Sutko		851
Frank	Murphy		852
Elizabeth	Nielsen	County of Siskiyou	853
			854
Nancy	Mattson		857
David	Berman		858
Gary	Robeson		861
Allison M.	Santos		863
Paul	Dewey	Central Oregon LandWatch	864
Donna	Wiench		866
Gayle	Lee		867
Marie	Hutchinson		869
Steve	Dimock		870
Frosti	Talley		871
Elizabeth	Slikas		872

First	Last	Organization	Letter ID
Lori	Stoneman		873
Laura	Rose		877
Chris	Winter	CRAG Law Center: On behalf of Audubon Society of Portland, WaterWatch of Oregon, Oregon Wild, Beyond Taxes, Rogue Valley Audubon Society, Lane County Audubon Society, Audubon Society of Corvallis, Umpqua Valley Audubon Society, East Cascades Audubon Society, Kalmiopsis Audubon Society, Salem Audubon Society, Klamath-Siskiyou Wildlands Center, and Save the Klamath-Trinity Salmon	879
Catheryn	Mancarti		882
Chelsea	Leto		883
Paula	Neuhaus		884
Barry	Baxter		885
B. D.	Smith		886
Levern	Ferguson		887
Carol	Steele		889
Toney	Said		890
Kathleen	Higbee		893
			895
Audrey	Gift		896
Richard	Marcillac		897
Midge	Marcy-Brennan		898
Lisa	Ryan		901
Paula	Hood		902
Claudia	Brookfield-Cogley		903
Larry	Higgins	Safari Club International	905