UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

August 4, 2016

Mr. J. Eric Davis Jr.
Acting Regional Director
c/o Public Comments Processing
Attn: FWS-R8-NWRS-2016-0063
U.S. Fish and Wildlife Service Headquarters, MS: BPHC
5275 Leesburg Pike
Falls Church, Virginia 22041-3803

Subject: Draft Comprehensive Conservation Plan/Environmental Impact Statement for Lower Klamath, Clear Lake, Tule Lake, Upper Klamath, and Bear Valley National Wildlife Refuges, Klamath County, OR; Siskiyou and Modoc Counties, CA: [CEQ# 20160096]

Dear Mr. Davis:

The U.S. Environmental Protection Agency has reviewed the Draft Comprehensive Conservation Plan / Environmental Impact Statement for the Lower Klamath, Clear Lake, Tule Lake, Upper Klamath, and Bear Valley National Wildlife Refuges. Our review and comments are pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The Comprehensive Conservation Plan is intended to provide management direction to the refuges over the next 15 years for the purpose of long-term conservation of fish, wildlife, plants, and their habitats and for compatible wildlife-dependent recreation. The Draft EIS is presented as a programmatic evaluation, with several indications for future NEPA compliance analysis at the site-specific level.

EPA appreciates the role of the Klamath Basin Refuge Complex in conserving much of the basin's remaining wetland habitat – home to many species of migratory birds and other wildlife and plant species. The action alternatives presented in the Draft EIS would provide additional management measures to improve habit functions in the refuges and reduce adverse impacts.

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 of EPA 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 D 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 Klamath 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 of these 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.

We appreciate the opportunity to review and comment on this Draft EIS, and are available to discuss the recommendations provided. When the Final EIS is released for public review, please send one hard copy and one CD to the address above (Mail Code: ENF 4-2). Should you have any questions, please contact me at (415) 972-3521, or contact Jean Prijatel, the lead reviewer for the project. Jean can be reached at (415) 947-4167 or prijatel.jean@epa.gov.

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosures: Summary of EPA Rating Definitions
EPA Detailed Comments

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

U.S. EPA DETAILED COMMENTS ON THE DRAFT COMPREHENSIVE CONSERVATION PLAN/ENVIRONMENTAL IMPACT STATEMENT FOR LOWER KLAMATH, CLEAR LAKE, TULE LAKE, UPPER KLAMATH, AND BEAR VALLEY NATIONAL WILDLIFE REFUGES, KLAMATH COUNTY, OR; SISKIYOU AND MODOC COUNTIES, CA AUGUST 4, 2016

Water Quality

As noted in the Draft EIS, waterbodies throughout the planning area are water quality impaired (page 5-9). Total maximum daily loads (TMDLs) have been approved for some pollutant parameters (nutrients, pH, and dissolved oxygen), while others remain under development (mercury). Temperature is also a key parameter of concern; however, TMDL development for temperature-impaired waters is dependent upon resolving court-identified concerns around the use of "natural conditions criteria" in Oregon's temperature standards. As noted in our 2010 scoping comments on the notice of intent to prepare an EIS/CCP, we support water quality improvement as a management goal for the Refuges. This goal is consistent with direction provided in the Oregon and California TMDLs, as well as with the National Wildlife Refuge System Improvement Act of 1997. Section 5(a)(F) of that act directs the Refuges to "assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the system and purpose of each refuge." Our review of the Draft EIS considered the extent to which the analyzed alternatives for each refuge incorporate elements that may affect water quality.

Lower Klamath Refuge

Current water quality within the Lower Klamath Refuge does not meet EPA-approved state standards (page 6-17), and specific impairments and load allocations for the Refuge have been identified in the Oregon and California TMDL for both the Lost and Klamath Rivers (page 5-55). As noted in the Draft EIS, these conditions would continue under Alternative A – the no action alternative.

EPA supports the expansion of the walking wetlands program under Alternatives B and C. The walking wetlands program has been highlighted within TMDLs in the basin because of its demonstrated ability to benefit water quality. 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.

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 closely 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 permanent 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 alternative.

Tule Lake Refuge
As with the Lower Klamath Refuge, water quality in the Tule Lake 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 Tule Lake 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.

> ***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.

Upper Klamath Refuge
The Upper Klamath Refuge is adjacent to Upper Klamath Lake, which has poor water quality as a result of eutrophication (page 6-153). The action alternatives would include wetland restoration and the expanded use of haying, prescribed grazing, and prescribed fire. These elements would have attendant benefits to both habitat and water quality. 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.

> ***Recommendation***: Consider benefits to water quality in selecting the preferred alternative for the Upper Klamath Refuge.

Air Quality
The Klamath Basin Refuge Complex refuges are in a region that has been classified as an attainment area for all National Ambient Air Quality Standards criteria pollutants (page 5-11). The area around Klamath Falls has been designated as a non-attainment area for fine particulate matter (PM2.5), which has been accounted for in the various burn plans in the action alternatives.

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 of 31 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.

Invasive Species Management

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, Tule Lake 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, Tule Lake, and Upper Klamath Lake refuges.

Groundwater

Both of the action alternatives for Tule Lake 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.

Climate Change

EPA appreciates the Service's efforts to include an analysis of climate change impacts on the affected environment and listed species. Current projections expect the Basin to have warmer winter temperatures, earlier warming in the spring, later cooling in the fall, and increased summer temperatures. Precipitation impacts are more uncertain; however, most projections indicate drier conditions (page 5-2).

The Lower Klamath and Tule Lake action alternatives all include a new inventory and monitoring plan that would inform adaptive management for the refuges. Through these plans, the Service would "monitor changes in the environment, such as vegetation communities, wildlife trends, and surface and groundwater levels, to assess the effects of climate change on the refuge" (page 4-21, 68). Upper Klamath Refuge Alternative B also includes an adaptive management program for its grazing program to consider the potential effects of climate change on its ability to achieve the goals and objectives for grassland habitat.

Lessons learned through adaptive management of the refuges may be instructive to other entities seeking to increase resiliency to climate change for ecosystems outside the refuge.

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.