DEPARTMENT OF THE NAVY
OFFICE OF THE CHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON, DC 20350-2000

5090
Ser N454C/13U139754
20 September 2013

Ms. Dawn Roberts
Office of Federal Activities
U.S. Environmental Protection Agency
Ariel Rios Building, South Oval Office
Mail Code 2251A, Room 7220
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Ms. Roberts:

On 23 August 2013, the Department of the Navy filed the Final Environmental Impact Statement (EIS) for Hawaii-Southern California Training and Testing (HSTT) with the U.S. Environmental Protection Agency (EPA) as required by Council on Environmental Quality regulations pursuant to the National Environmental Policy Act (NEPA) of 1969. Copies of the Final EIS were distributed to the public and posted on the HSTT EIS project website.

Since filing and distributing the Final EIS, the Department of the Navy has identified a need to correct Appendix E of the Final EIS to include an 11-page Section E.5, which was inadvertently omitted from the original submission to the U.S. EPA. Section E.5 includes public comments (and Navy responses) applicable to the HSTT EIS that were received by the National Marine Fisheries Service during the public review of the Marine Mammal Protection Act (MMPA) Proposed Rule for takes of marine mammals incidental to U.S. Navy Training and Testing Activities in the Hawaii-Southern California Training and Testing Study Area.

The corrected HSTT Final EIS has been resubmitted to the U.S. EPA's e-NEPA web site and Section E.5 is included as an enclosure to this letter, for your information. The corrected HSTT Final EIS is also available on the HSTT project website - www.HSTTEIS.com. In addition, the Department of the Navy intends to extend the 30-day wait period to 28 October 2013. This 30-day extension will allow the public to review Section E.5.

5090
Ser N454C/13U139754
20 September 2013

My point of contact for this action is Ms. Dawn Roderique at (703) 695-5207 or email: dawn.roderique@navy.mil.

Sincerely,

KAREN M. FOSKEY
Head, Operational Environmental Readiness and Planning Branch, Energy and Environmental Readiness Division (OPNAV N45)

Enclosure: 1. Section E.5, HSTT Final EIS

Copy to:
DASN(E)
OAGC(EI&E)
COMPACFLT (NO1CE, N7)

E.4 FINAL ENVIRONMENTAL IMPACT STATEMENT/OVERSEAS ENVIRONMENTAL IMPACT STATEMENT

The public has the opportunity to review the Navy's responses to their comments in this Final EIS/OEIS. All public comments are considered by the decision-maker prior to making a decision.

E.5 NATIONAL MARINE FISHERIES SERVICE PROPOSED RULE

As part of the HSTT EIS/OEIS process, in accordance with the Marine Mammal Protection Act (MMPA), the Navy requested a Letter of Authorization from the National Marine Fisheries Service (NMFS) for the incidental taking of marine mammals during the conduct of training and testing activities in the HSTT Study Area. On 31 January 2013, the MMPA Proposed Rule was published in the Federal Register by NMFS for public comment.

After the release of the Draft HSTT EIS/OEIS on May 11, 2012, adjustments were made to the quantified results of the marine mammal acoustic effects analysis and changes were made to the requested take numbers. Adjustments to the requested take numbers in the Draft HSTT EIS/OEIS were presented in the Navy's Letter of Authorization application and reflected in the Proposed Rule. These adjustments were a result of administrative corrections to the modeling inputs for training and testing and the use of more accurate seasonal density for the species (short-beaked common dolphins) having the highest abundance of any marine mammal in the study area. These changes are now reflected in the Final HSTT EIS/OEIS. In consultation with NMFS, the Navy made these post-model adjustments to further refine the numerical analysis of acoustic effects by considering animal avoidance of sound sources, avoidance of areas of activity before use of a sound source or explosive, and implementation of mitigation. Section 3.4.3.1.7 (Marine Mammal Avoidance of Sound Exposures) and Section 3.4.3.1.8 (Implementing Mitigation to Reduce Sound Exposures) of the HSTT Final EIS/OEIS describe in detail the post-model adjustments made to further refine the numerical analysis of acoustic effects.

E.5.1 NOTIFICATION OF THE NATIONAL MARINE FISHERIES SERVICE PROPOSED RULE

Because of changes made after the Draft HSTT EIS/OEIS, the Navy provided the public with the opportunity to review and comment on the changes before the issuance of the Final HSTT EIS/OEIS. The Navy sent out letters to stakeholders (Figure E.5-1) and e-mails to interested parties (Figure E.5-2); in addition, the Navy posted a link to the Proposed Rule on the public web site (www.HSTTEIS.com). The Navy advised NMFS and the public that all comments received on the Proposed Rule that addressed the (1) changes to the tempo or location of certain proposed activities, (2) refinement to the modeling inputs for training and testing, and (3) additional post-model analysis of acoustic effects and implementation of mitigation would be considered and addressed by the Navy in the Final HSTT EIS/OEIS.

E.5.2 COMMENTS AND RESPONSES TO THE PROPOSED RULE

Table E.5-1 provides a listing of comments received on the NMFS Proposed Rule and the Navy's responses relative to the adjustments that were made after the Draft HSTT EIS/OEIS was released to the public. Responses to these comments were prepared and reviewed by appropriate subject matter experts for scientific and technical accuracy and completeness. Comments appear as they were submitted and have not been altered. Table E.5-1 contains comments from the Marine Mammal Commission (a federal organization) and Natural Resources Defense Council (a non-governmental organization) that were received during the public comment period on the Proposed Rule.

DEPARTMENT OF THE NAVY
COMMANDER
UNITED STATES PACIFIC FLEET
250 MAKALAPA DRIVE
PEARL HARBOR, HAWAII 96860-3131

IN REPLY REFER TO:
5090
Ser N01CE1/0143
31 January 13

Dear HSTT EIS/OEIS Interested Party:

Subject: ENVIRONMENTAL IMPACT STATEMENT/OVERSEAS ENVIRONMENTAL IMPACT STATEMENT (EIS/OEIS) FOR NAVY'S HAWAII-SOUTHERN CALIFORNIA TRAINING AND TESTING (HSTT) ACTIVITIES

The Navy is providing this update based on your interest in the Hawaii-Southern California Training and Testing (HSTT) Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS). As part of the EIS process, the Navy has applied to the National Marine Fisheries Service (NMFS) for authorization to take marine mammals incidental to Navy training and testing activities in accordance with the Marine Mammal Protection Act (MMPA).

On January 31, 2013, NMFS published in the Federal Register the MMPA Proposed Rule for public comment. The Proposed Rule can be found at: https://www.federalregister.gov/articles/2013/01/31/2013-01808/us-navy-training-and-testing-activities-in-the-hawaii-southern-california-training-and-testing-study. Comments can be provided to NMFS by either of the following methods:

(1) Electronic submissions: submit all electronic public comments via the Federal eRulemaking Portal http://www.regulations.gov.

(2) Hand delivery or mailing of paper, disk, or CD-ROM comments should be addressed to P. Michael Payne, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3225.

The quantified results of the marine mammal acoustic effects analysis presented in the Navy's Letter of Authorization application to NMFS differ from the quantified results presented in the HSTT Draft EIS/OEIS. Modifications to the requested take numbers outlined in the HSTT Draft EIS/OEIS are presented in the Proposed Rule and are a result of consultation with NMFS, as well

Figure E.5-1: Letter Notification of the National Marine Fisheries Service Proposed Rule

Subject: ENVIRONMENTAL IMPACT STATEMENT/OVERSEAS ENVIRONMENTAL IMPACT STATEMENT (EIS/OEIS) FOR NAVY'S HAWAII-SOUTHERN CALIFORNIA TRAINING AND TESTING (HSTT) ACTIVITIES

as administrative corrections to the modeling inputs for training and testing and the use of a more accurate seasonal density for the species (short-beaked common dolphins) having the highest abundance of any marine mammal in the Study Area.

In consultation with NMFS, the Navy has made post-model adjustments to further refine the numerical analysis of acoustic effects to include animal avoidance of sound sources, avoidance of areas of activity before use of a sound source or explosive, and implementation of mitigation.

All comments received on the proposed rule that address (1) administrative corrections to the modeling inputs for training and testing; (2) use of more accurate seasonal density data; and (3) post-model quantification based on animal avoidance of sound sources and mitigation will be reviewed and addressed by the Navy in the HSTT Final EIS/OEIS.

For more information about the HSTT EIS/OEIS please visit: http://hstteis.com/.

Sincerely,

L. M. FOSTER
Director, Environmental Readiness
By direction

Figure E.5-1: Letter Notification of the National Marine Fisheries Service Proposed Rule (continued)

[redacted]

From: Hawaii-Southern California Training and Testing EIS/OEIS [donotreply=hstteis.com@mail129.us2.mcsv.net] on behalf of Hawaii-Southern California Training and Testing EIS/OEIS [donotreply@hstteis.com]
Sent: Thursday, January 31, 2013 12:49 PM
To: [redacted]
Subject: Hawaii-Southern California Training and Testing EIS/OEIS Proposed Rule Notification

Dear HSTT EIS/OEIS Interested Party,

The Navy is providing this update based on your interest in the Hawaii-Southern California Training and Testing (HSTT) Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS). As part of the EIS process, the Navy has applied to the National Marine Fisheries Service (NMFS) for authorization to take marine mammals incidental to Navy training and testing activities in accordance with the Marine Mammal Protection Act (MMPA). On January 31, 2013, NMFS published in the Federal Register the MMPA Proposed Rule for public comment. The Proposed Rule can be found at:
http://hstteis.us6.list-manage1.com/track/click?u=a15c167b01e85293585c92bce&id=abd80605dc&e=bfaf206483

Comments can be provided to NMFS by either of the following methods:

(1) Electronic submissions: submit all electronic public comments via the Federal eRulemaking Portal
http://hstteis.us6.list-manage.com/track/click?u=a15c167b01e85293585c92bce&id=3114c9efa4&e=bfaf206483

(2) Hand delivery or mailing of paper, disk, or CD-ROM comments should be addressed to P. Michael Payne, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3225.

The quantified results of the marine mammal acoustic effects analysis presented in the Navy's Letter of Authorization application to NMFS differ from the quantified results presented in the HSTT Draft EIS/OEIS. Modifications to the requested take numbers outlined in the HSTT Draft EIS/OEIS are presented in the Proposed Rule and are a result of consultation with NMFS, as well as administrative corrections to the modeling inputs for training and testing and the use of a more accurate seasonal density for the species (short-beaked common dolphins) having the highest abundance of any marine mammal in the Study Area. In consultation with NMFS, the Navy has made post-model adjustments to further refine the numerical analysis of acoustic effects so as to include animal avoidance of sound sources, avoidance of areas of activity before use of a sound source or explosive, and implementation of mitigation.

All comments received on the proposed rule that address (1) administrative corrections to the modeling inputs for training and testing; (2) use of more accurate seasonal density data; and (3) post-model quantification based on animal avoidance of sound sources and mitigation will be reviewed and addressed by the Navy in the HSTT Final EIS/OEIS.

For more information about the HSTT EIS/OEIS please visit www.HSTTEIS.com:
http://hstteis.us6.list-manage.com/track/click?u=a15c167b01e85293585c92bce&id=ec6abe1097&e=bfaf206483

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You are receiving this email because you commented on the Draft HSTT EIS/OEIS on the hstteis.com website.

Unsubscribe [redacted] from this list:
http://hstteis.us6.list-manage.com/unsubscribe?u=a15c167b01e85293585c92bce&id=40e974348c&e=bfaf206483&c=c5099409ce

1

Figure E.5-2: Email Notification of the National Marine Fisheries Service Proposed Rule

Table E.5-1: Responses to Comments on the Proposed Rule from Agencies and Non-Governmental Organizations

Commenter	Comment	Draft Response
Marine Mammal Commission -01	The Navy assumed that marine mammals likely would avoid repeated high level exposures to a sound source that could result in injuries (i.e., PTS). It therefore adjusted its estimated numbers of takes to account for marine mammals swimming away from a sonar or other active source and away from multiple explosions to avoid repeated high-level sound exposures. The Navy did not provide a basis for this assumption or the details of its adjustment. The Navy also assumed that harbor porpoises and beaked whales would avoid certain training and testing activity areas because of high levels of vessel or aircraft traffic before the activity. It based that assumption on various publications indicating those species swim away from or avoid vessels (Barlow 1988, Polacheck and Thorpe 1990, Evans et al. 1994, Jaramillo-Legorreta et al.1999, Palka and Hammond 2001, Pirotta et al.2012). But, again, it did not explain how it adjusted the take estimates to reflect the degree of avoidance by harbor porpoises and beaked whales. Depending on conditions, marine mammals may avoid areas of excessive sound or activity. Indeed, one of the concerns regarding sound-related disturbance is that it causes marine mammals to abandon important habitats on a long-term or even permanent basis. That being said, the Commission knows of no scientifically established basis for predicting the extent to which marine mammals will abandon their habitat, which would seem to be essential information for adjusting the estimated numbers of takes. Absent the relevant information, the Commission and public cannot comment on the appropriateness of such adjustments—in essence, the regulatory process would not be sufficiently transparent.	The quantitative analysis of acoustic impacts is discussed in HSTT Final EIS/OEIS Section 3.4.3.1.6 (Quantitative Analysis), as well as in Section 6.3 (Quantitative Modeling for Impulsive and Non-Impulsive Sources), in the Navy's Request for Letter of Authorization submitted to NMFS (77 FR 60678). Specifically, post-model analysis taking into account sensitive species' avoidance of anthropogenic activity is discussed in HSTT Final EIS/OEIS Section 3.4.3.1.7 (Marine Mammal Avoidance of Sound Exposures). Background information on harbor porpoise and beaked whale sensitivity to vessels and aircraft is discussed in HSTT Final EIS/OEIS Section 3.4.3.1.2.6 (Behavioral Reactions). Reactions due to repeated exposures to sound-producing activities are discussed in HSTT Final EIS/OEIS Section 3.4.3.1.2.7 (Repeated Exposures). The model-estimated effects (without consideration of avoidance or mitigation) are provided in the *Determination of Acoustic Effects on Marine Mammals and Sea Turtles* technical report available at www.HSTTEIS.com. The Navy Acoustic Effects Model does not currently take into account avoidance behavior by sensitive species when estimating acoustic effects on marine mammals; that is, even for activities in which there is a high level of vessel or low-altitude aircraft activity prior to the start of explosive or sonar activities, sensitive animals are modeled as if they would remain stationary and tolerate any very close anthropogenic encounters. Harbor porpoises and beaked whales, however, are known to avoid anthropogenic activity (see HSTT Final EIS/OEIS Section 3.4.3.1.2.6, Behavioral Reactions). Therefore, the model-estimated effects provide an unrealistic estimate of impacts close to sound sources during certain activities. Marine mammals are not assumed to avoid or abandon important habitats on a long-term or permanent basis. Before use of explosives, sonar, or other acoustic sources, harbor porpoises and beaked whales are conservatively estimated to only avoid a region that would encompass the range to onset mortality for explosives (less than 600 yd.) or PTS for sonar and other active acoustic sources (less than 110 yd.), only if the activity is preceded by multiple vessel movements or hovering helicopters. Example ranges to these effects for specific sources are provided in HSTT Final EIS/OEIS Table 3.4-20 (explosives) and Table 3.4-11 (sonar). Therefore, the model-estimated onset mortalities (due to explosives) and PTS (due to sonar and other active acoustic sources) for harbor porpoises and beaked whales are instead assumed to be recoverable injuries (i.e., onset slight lung injury) and TTS, respectively, for the activities described above.

Table E.5-1: Responses to Comments on the Proposed Rule from Agencies and Non-Governmental Organizations (Continued)

Commenter	Comment	Draft Response
		In addition to the information already contained within the HSTT EIS/OEIS, and in response to public comments, the Navy has prepared a technical report which describes the process for the post modeling analysis in further detail. The Analysis of Animal Avoidance Behavior and Mitigation Effectiveness Technical Report is available at www.HSTTEIS.com.
Marine Mammal Commission -02	The Navy also indicated that its post-model analysis considered the potential for highly effective mitigation to prevent Level A harassment from exposure to sonar and other active acoustic sources and Level A harassment and mortalities from exposure to explosives. Clearly, the purpose of mitigation measures is to reduce the number and severity of takes. However, the effectiveness of the Navy's mitigation measures has not been demonstrated and remains uncertain. This is an issue that the Commission has raised many times in the past, and the Navy has recognized the need to assess the effectiveness of its mitigation measures in its ICMP and even in its recent DEIS, which states that although the use of lookouts is expected to increase the likelihood that marine species would be detected at the water's surface, it is unlikely that using those lookouts would help avoid impacts to all species because of the inherent limits of visual monitoring. The Navy has now proposed to adjust its take estimates based on both mitigation effectiveness scores and g(0)—the probability that an animal on a vessel's or aircraft's track line will be detected. According to its proposed approach, for each species the Navy would multiply a mitigation effectiveness score and a g(0) to estimate the percentage of the subject species that would be observed by lookouts and for which mitigation would be implemented, thus reducing the estimated number of marine mammal takes for Level A harassment and mortality (explosives only). The Navy then would decrease the estimated numbers of Level A harassment and mortality takes for that species to Level B or Level A harassment takes, respectively. The difficulty with this approach is in determining the appropriate adjustment factors. Again, the information needed to judge effectiveness has not been made available. In addition, the Navy did not provide the criteria (i.e., the number and types of surveillance platforms, number of lookouts, and sizes of the respective zones) needed to elicit the three mitigation effectiveness scores. Moreover, the simple	The Navy Acoustic Effects Model currently does not have the ability to account for mitigation or horizontal animal movement either as representative animal movements or as avoidance behavior (see HSTT Final EIS/OEIS Section 3.4.3.1.6.4, Model Assumptions and Limitations). While the Navy will continue to incorporate best available science and modeling methods into future versions of the Navy Acoustic Effects Model, it was necessary to perform post-model analysis to account for mitigation and avoidance behavior. A summary of the current status of the Navy's Lookout effectiveness study and why the data cannot be used in the analysis has been added in Section 5.3.1.2.4 (Effectiveness Assessment for Lookouts). The Navy believes consideration of marine mammal sightability and activity-specific mitigation effectiveness in its quantitative analysis is appropriate in order to provide decision makers a reasonable assessment of potential impacts under each alternative. A comprehensive discussion of the Navy's quantitative analysis of acoustic impacts, including the post-model analysis to account for mitigation and avoidance, is presented in the Navy's Request for Letter of Authorization under the MMPA submitted to NMFS (77 FR 60678). The assignment of mitigation effectiveness scores and the appropriateness of consideration of sightability using detection probability, g(0), when assessing the mitigation in the quantitative analysis of acoustic impacts is discussed in HSTT Final EIS/OEIS Section 3.4.3.1.8 (Implementing Mitigation to Reduce Sound Exposures). Additionally, the activity category, mitigation zone size, and number of Lookouts is provided in HSTT EIS/OEIS Tables 5.3-2 and 5.4-1. In addition to the information already contained within the HSTT EIS/OEIS, and in response to public comments, the Navy has prepared a technical report which describes the process for the post modeling analysis in further detail. The Analysis of Animal Avoidance Behavior and Mitigation Effectiveness Technical Report is available at www.HSTTEIS.com.Any marine mammal detection within the mitigation zones results in implementation of the appropriate mitigation measures. Details on implementation of mitigation can be found in the annual exercise reports provided to NMFS and briefed annually to NMFS and the Marine Mammal Commission. The annual exercise reports can be found at http://www.navymarinespeciesmonitoring.us/. For more information on how mitigation is implemented see HSTT EIS/OEIS Chapter 5, Standard Operating Procedures, Mitigation, and Monitoring.

Table E.5-1: Responses to Comments on the Proposed Rule from Agencies and Non-Governmental Organizations (Continued)

Commenter	Comment	Draft Response
	detection of a marine mammal does not guarantee that mitigation measures will be effective. That is, measures of effort (i.e., numbers of lookouts and surveillance platform (s)) are not necessarily measures of effectiveness, and the Navy has not yet demonstrated that such measures of effort are reliably linked to effectiveness. Therefore, the use of those scores is unsubstantiated.	
Marine Mammal Commission -03	In addition, this approach is confusing because the Navy is inconsistent in its use of the terms “range to effects zone” and “mitigation zone,” which are not the same (see Table 11-1 of the application). More importantly, some of the mitigation zones are smaller than the estimated range to effects zones. For example, the Navy proposed a mitigation zone of 183 m after a 10 dB reduction in power for its most powerful active acoustic sources (e.g., source bin/type MF1: AN/SQS-53C) and assumed that marine mammals would leave the area near the sound source after the first three to four pings. However, for a single ping, the predicted average range to PTS is 257 m and could be as large as 267 m. That distance would increase if the activity involves multiple pings, which most do. But even with a single ping, PTS may occur well outside of the mitigation zone. In such cases, mitigation based on those zones cannot be deemed effective, no matter how many observers or observer platforms are involved. That being the case, assigning mitigation effectiveness scores based on zones that do not cover the full range to which PTS may occur is inappropriate.	The terms "range to effects zone" and "mitigation zone" are used appropriately in the discussion of mitigation in both the Navy's Request for Letter of Authorization under the MMPA submitted to NMFS (77 FR 60678) and in HSTT Final EIS/OEIS Section 5.3.2 (Mitigation Zone Procedural Measures). In summary, the range to effects zone is the distance over which the specific effects would be expected, and the mitigation zone is the distance that the Lookout will be implementing mitigation within and is developed based on the range to effects distance for injury (i.e., PTS). In all cases, the proposed mitigation zones encompass the ranges to PTS for the most sensitive marine mammal functional hearing group (see HSTT Final EIS/OEIS Table 5.3-2), which is usually the high-frequency cetacean hearing group. Therefore, the mitigation zones are even more protective for the remaining functional hearing groups (i.e., low-frequency cetaceans, mid-frequency cetaceans, and pinnipeds), and likely cover a larger portion of the potential range to onset of TTS. The Navy believes that ranges to effect for PTS that are based on spherical spreading best represent the typical range to effects near a sonar source; therefore, the ranges to effects for sonar presented in Table 11-1 of the Navy's Request for Letter of Authorization have been revised as shown in Table 5.3-2. The predicted ranges to onset of PTS for a single ping are provided for each marine mammal functional hearing group in Table 3.4-11. The single ping range to onset of PTS for sonar in sonar bin MF1 (i.e., AN/SQS-53), the most powerful source bin analyzed, is no greater than 100 m for any marine mammal functional hearing group. Furthermore, as discussed in Section 3.4.3.2.1.1 (Range to Effects), there is little overlap of PTS footprints from successive pings, indicating that in most cases, an animal predicted to receive PTS would do so from a single exposure (i.e., ping). Additional discussion regarding consideration of mitigation in the quantitative analysis of sonar and other active acoustic sources is provided in HSTT Final EIS/OEIS Section 3.4.3.2.1.2 (Avoidance Behavior and Mitigation Measures as Applied to Sonar and Other Active Acoustic Sources).
Marine Mammal Commission	The Navy used numerous references to estimate species-specific g(0)s. Those sources were based on scientific surveys of marine mammals that used both vessels and	A summary of the current status of the Navy’s Lookout effectiveness study and why the data cannot be used in the analysis has been added in Section 5.3.1.2.4 (Effectiveness Assessment for Lookouts). The Navy believes

Table E.5-1: Responses to Comments on the Proposed Rule from Agencies and Non-Governmental Organizations (Continued)

Commenter	Comment	Draft Response
-04	aircraft. It also indicated that various factors are involved in estimating g(0), including sightability and detectability of the animal (e.g., species-specific behavior and appearance, school size, blow characteristics, dive characteristics, and dive interval), viewing conditions (e.g., sea state, wind speed, wind direction, sea swell, and glare), the observer's ability to detect animals (e.g., experience, fatigue, and concentration), and platform characteristics (e.g., pitch, roll, yaw, speed, and height above water). In the DEIS, the Navy noted that due to the various detection probabilities, levels of experience, and dependence on sighting conditions, lookouts will not always be effective at avoiding impacts to all species. Yet it based its g(0) estimates on seasoned researchers conducting the associated surveys, not Navy lookouts whose observer effectiveness has yet to be determined. The Commission recommended earlier in this letter that the Navy supplement its mitigation and monitoring measures because the observer effectiveness study has yet to be completed or reviewed. It therefore would be inappropriate for the Navy to reduce the numbers of takes based on the proposed post-analysis approach because, as the Navy has described it, it does not address the issue of observer effectiveness in developing mitigation effectiveness scores and g(0).	consideration of marine mammal sightability and activity-specific mitigation effectiveness in its quantitative analysis is appropriate in order to provide decision makers a reasonable assessment of potential impacts under each alternative. A comprehensive discussion of the Navy's quantitative analysis of acoustic impacts, including the post-model analysis to account for mitigation and avoidance, is presented in the Navy's Request for Letter of Authorization under the MMPA submitted to NMFS (77 FR 60678). Additional discussion regarding the use of detection probability, g(0), in the consideration of mitigation in the quantitative analysis is provided in HSTT Final EIS/OEIS Section 3.4.3.1.8 (Implementing Mitigation to Reduce Sound Exposures).
Marine Mammal Commission -05	Based on all of these concerns, the Marine Mammal Commission recommends that the National Marine Fisheries Service authorize in the regulations the total numbers of model-estimated Level A harassment and mortality takes rather than reducing the estimated numbers of Level A harassment and mortality takes based on the Navy's proposed post-model analysis. The Navy's general approach has merit and warrants further investigation, but it cannot be deemed reliable at this point.	The post model assessment process was developed using the best available science and in coordination with NMFS, and is necessary to account for mitigation and avoidance behavior. Relying solely on the output of the Navy Acoustic Effects Model presents an overestimate of acoustic impacts for higher order effects such as injury or mortality, for the following reasons: (1) Sensitive species (i.e., beaked whales and harbor porpoises) are modeled as if they would remain stationary and tolerate any very close anthropogenic encounters, although these species are known to avoid anthropogenic activity (see HSTT Final EIS/OEIS Section 3.4.3.1.2.6, Behavioral Reactions). (2) Implementation of mitigation is not currently modeled; however, the Navy has developed mitigation measures in cooperation with NMFS that are considered effective at reducing environmental impacts while being operationally feasible (see HSTT Final EIS/OEIS Chapter 5, Standard Operating Procedures, Mitigation, and Monitoring). (3) Animals are assumed to remain horizontally stationary in the model and tolerate any disturbing or potentially injurious sound exposure, although animals have been observed to avoid sound sources with high source levels

Table E.5-1: Responses to Comments on the Proposed Rule from Agencies and Non-Governmental Organizations (Continued)

Commenter	Comment	Draft Response
		(see HSTT Final EIS/OEIS Section 3.4.3.1.2.6, Behavioral Reactions). (4) The model estimates the potential for mortality based on very conservative criteria (see HSTT Final EIS/OEIS Section 3.4.3.1.4.8, Mortality and Injury from Explosives). With the implementation of proven mitigation and decades of historical information from conducting training and testing in the Study Area, the likelihood of mortality is very low. Additional discussion of the model-estimated impacts is in HSTT Final EIS/OEIS Section 3.4.3.1.6.4 (Model Assumptions and Limitations). A comprehensive discussion of the Navy's acoustic impact analysis, including modeling and the post-model analysis, is in HSTT Final EIS/OEIS Section 3.4.3.1.6 (Quantitative Analysis), as well as in Section 6.3 (Quantitative Modeling for Impulsive and Non-Impulsive Sources), of the Navy's Request for Letter of Authorization submitted to NMFS (77 FR 60678). In addition to the information already contained within the HSTT EIS/OEIS and the Navy's Request for Letter of Authorization, and in response to public comments, the Navy has prepared a technical report which describes the process for the post modeling analysis in further detail. The Analysis of Animal Avoidance Behavior and Mitigation Effectiveness Technical Report is available at www.HSTTEIS.com.
Natural Resources Defense Council-01	If the Proposed Rule is adopted, the Navy will be allowed to harm whales, dolphins, and other marine mammals nearly 9.6 million times over five years, which equates to more than 5,000 instances of take every day, nearly 220 takes every hour, more than 3.5 takes every minute for five years. NMFS's proposal includes authorizing the Navy to kill 155 marine mammals, subject more than 15 species to almost 2,000 instances of permanent hearing loss, lung injury, or other serious physiological harm, and subject almost 40 marine mammal species to millions of instances of temporary hearing loss over the life of the rule. Authorization of this amount of take would be unprecedented.[2] A direct comparison of the proposed take for Southern California and Hawaii activities for January 2014 to January 2019 and NMFS's authorized take for January 2009 to January 2014 shows a significant increase of harm in every single category of impact and an approximately 1,100 percent overall increase in harm. This increase is driven by three factors: (1) advances in the scientific literature on both hearing loss (e.g., Lucke et al. (2009) and Finneran and Schlundt (2010)) and significant disruptions in behavior (Tyack et al.	The post model assessment process was developed using the best available science and in coordination with NMFS, and is necessary to account for mitigation and avoidance behavior. Relying solely on the output of the Navy Acoustic Effects Model presents an overestimate of acoustic impacts for higher order effects such as injury or mortality, for the following reasons: (1) Sensitive species (i.e., beaked whales and harbor porpoises) are modeled as if they would remain stationary and tolerate any very close anthropogenic encounters, although these species are known to avoid anthropogenic activity (see HSTT Final EIS/OEIS Section 3.4.3.1.2.6, Behavioral Reactions). (2) Implementation of mitigation is not currently modeled; however, the Navy has developed mitigation measures in cooperation with NMFS that are considered effective at reducing environmental impacts while being operationally feasible (see HSTT Final EIS/OEIS Chapter 5, Standard Operating Procedures, Mitigation, and Monitoring). (3) Animals are assumed to remain horizontally stationary in the model and tolerate any disturbing or potentially injurious sound exposure, although animals have been observed to avoid sound sources with high source levels (see HSTT Final EIS/OEIS Section 3.4.3.1.2.6, Behavioral Reactions). (4) The model estimates the potential for mortality based on very conservative criteria (see HSTT Final EIS/OEIS Section 3.4.3.1.4.8, Mortality and Injury

Table E.5-1: Responses to Comments on the Proposed Rule from Agencies and Non-Governmental Organizations (Continued)

Commenter	Comment	Draft Response
	(2011)), showing more harm to marine mammals from intense noise than previously expected; (2) a more complete assessment of activities, including underwater detonations, which could not be ignored after a Navy training exercise off San Diego County killed at least four dolphins in 2011; and (3) an increase in proposed activities, including more than a tripling of annual surface-ship hullmounted mid-frequency sonar hours (from 4,138 hours to 15,052 hours in California and Hawaii combined). [2]Authorizing the Navy's activities would also likely result in greater take than predicted. The Navy's application to NMFS reflects a marked decline in its DEIS estimate of severe injury (e.g., permanent hearing loss and lung injury) and death after the application of a "post-model analysis" it derived for use in its application. Unfortunately, as discussed in more detail below, the Navy's post-model analysis is fraught with problems ranging from unjustified assumptions regarding the "sightability" of different species using observation rates of marine mammals specialists from differently situated platforms in ideal conditions (e.g., not at night) to questionable and unsupported assumptions regarding marine mammal avoidance behavior.	from Explosives). With the implementation of proven mitigation and decades of historical information from conducting training and testing in the Study Area, the likelihood of mortality is very low. Additional discussion of the model-estimated impacts is in HSTT Final EIS/OEIS Section 3.4.3.1.6.4 (Model Assumptions and Limitations). A comprehensive discussion of the Navy's acoustic impact analysis, including modeling and the post-model analysis, is in HSTT Final EIS/OEIS Section 3.4.3.1.6 (Quantitative Analysis), as well as in Section 6.3 (Quantitative Modeling for Impulsive and Non-Impulsive Sources), of the Navy's Request for Letter of Authorization submitted to NMFS (77 FR 60678). In addition to the information already contained within the HSTT EIS/OEIS and the Navy's Request for Letter of Authorization, and in response to public comments, the Navy has prepared a technical report which describes the process for the post modeling analysis in further detail. The Analysis of Animal Avoidance Behavior and Mitigation Effectiveness Technical Report is available at www.HSTTEIS.com.
Natural Resources Defense Council-02	Indeed, NMFS' estimates represent a very significant decrease from the numbers originally presented in the Navy's DEIS, which were several times those presented here and included several thousand cases of lung injury. To justify the decrease, the agency cites certain corrections made by the Navy to its modeling, the potential for marine mammals to vacate the area upon exposure to harassing noise, and—perhaps most relevant—the ability of Navy lookouts to spot marine mammals in the water. Yet none of these factors, least of all the Navy's ineffective monitoring scheme, can account for the magnitude of the adjustment. Furthermore, since NMFS does not indicate how much of a reduction each factor represents, it is impossible for the public to fully comment on this important issue, rendering notice and comment deficient under the Administrative Procedure Act ("APA"). 5 U.S.C. § 553(b), (c); 5 U.S.C. § 706(2)(D).	A comprehensive discussion of the Navy's acoustic impact analysis, including modeling and the post-model analysis, is in Section 3.4.3.1.6 (Quantitative Analysis) of this EIS/OEIS. Furthermore, within NMFS Proposed Rule (78 FR 6978), NMFS refers to Section 6.3 (Quantitative Modeling for Impulsive and Non-Impulsive Sources) of the Navy's Request for Letter of Authorization submitted to NMFS (77 FR 60678) for additional details. This information is sufficient to notify the public of the post-modeling analysis and provide the public an opportunity to comment. In addition to the information already contained within the HSTT EIS/OEIS and the Navy's Request for Letter of Authorization, and in response to public comments, the Navy has prepared a technical report which describes the process for the post modeling analysis in further detail. The Analysis of Animal Avoidance Behavior and Mitigation Effectiveness Technical Report is available at www.HSTTEIS.com. This report demonstrates that the differences in predicted impacts due to the post-modeling analysis and the corrections in modeling the Proposed Action made after publication of the Draft EIS/OEIS were not substantial changes in the Proposed Action that will significantly affect the environment in a manner not already considered in the Draft EIS/OEIS.

Table E.5-1: Responses to Comments on the Proposed Rule from Agencies and Non-Governmental Organizations (Continued)

Commenter	Comment	Draft Response
Natural Resources Defense Council-03	The take estimates NMFS presents in its Proposed Rule, although high, represent a significant reduction from those set forth in the Navy's DEIS, both in the lower numbers of Level B take and in the conversion of the majority of mortalities and lung injuries into non-injurious harm. Yet the agency provides only summary explanations for these significant changes, pointing to three methodological differences—some corrections for prior modeling assumptions, a discount in some types of harm for animals fleeing the area, and incorporation of mitigation into the analysis—without specifying how each factor influenced the total. NMFS' failure to provide any specific information has prevented the public from effectively commenting on this significant change in the agencies' analysis, in contravention of the APA. 5 U.S.C. § 553(b), (c); 5 U.S.C. § 706(2)(D). Moreover, insofar as the Navy has provided any information on any of these factors, it tends to suggest that the agencies have grossly overstated the effectiveness of the Navy's primary mitigation measure. Both the DEIS and the consistency determinations submitted to the California and Hawaii state coastal authorities appear to use the species-specific g(0) factors used in professional marine mammal abundance surveys—primarily undertaken by NMFS biologists—as their basis of analysis for the Navy's safety zone mitigation. It should go without saying that the Navy's sighting effectiveness is likely to be much poorer than that of experienced biologists dedicated exclusively to marine mammal detection, operating under conditions aimed at maximizing sightings. Any reliance on survey data for this purpose would clearly be arbitrary and capricious. In any case, the extraordinary size of the reduction in estimated mortalities and lung injuries suggests that NMFS has overinflated one or another of the three discounting factors mentioned above.	A summary of the current status of the Navy's Lookout effectiveness study and why the data cannot be used in the analysis has been added in Section 5.3.1.2.4, Effectiveness Assessment for Lookouts. A comprehensive discussion of the Navy's acoustic impact analysis, including modeling and the post-model analysis is in HSTT Final EIS/OEIS Section 3.4.3.1.6 (Quantitative Analysis). Furthermore, within NMFS' Proposed Rule (78 FR 6978), NMFS refers to Section 6.3 (Quantitative Modeling for Impulsive and Non-Impulsive Sources), of the Navy's Request for Letter of Authorization submitted to NMFS (77 FR 60678) for additional details. The assignment of mitigation effectiveness scores and the appropriateness of consideration of sightability using detection probability, g(0), when assessing the mitigation in the quantitative analysis of acoustic impacts is discussed in HSTT Final EIS/OEIS Section 3.4.3.1.8 (Implementing Mitigation to Reduce Sound Exposures). In addition to the information already contained within the HSTT EIS/OEIS and the Navy's Request for Letter of Authorization, and in response to public comments, the Navy has prepared a technical report which describes the process for the post modeling analysis in further detail. The Analysis of Animal Avoidance Behavior and Mitigation Effectiveness Technical Report is available at www.HSTTEIS.com.It should be noted that the estimates of acoustic impacts presented in the HSTT Draft EIS/OEIS did consider marine mammal avoidance of potentially injurious exposures to sonar and other active acoustic sources. The additional post-model analysis documented in the Navy's Request for Letter of Authorization and in this Final EIS/OEIS incorporates the following: (1) the reduction of higher-order exposures (mortality due to explosives and injury due to sonar and other active acoustic sources) due to likely avoidance of anthropogenic activity by sensitive species, (2) the potential for effective mitigation to reduce impacts, and (3) the reduction of PTS due to animal avoidance of multiple detonations, with any reduction in quantified impacts being added to the next highest category of impact in all cases (e.g., reductions in predicted PTS are added to the predicted TTS). Additionally, minor adjustments were made to the number of activities modeled to ensure the number of events modeled matched the number of training and testing events proposed by the Navy; these adjustments are reflected in the acoustic impacts quantified in the Navy's Request for Letter of Authorization and in this Final EIS/OEIS.

Appendix F: Training and Testing Activities Matrices