



DEPARTMENT OF THE NAVY
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Gerry Davis
Assistant Regional Administrator
National Marine Fisheries Service
Pacific Islands Regional Office
Habitat Conservation Division
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Honolulu, HI 96818

Subject: CONSULTATION ON THE ESSENTIAL FISH HABITAT FOR EFFECTS OF THE PEARL HARBOR NAVAL SHIPYARD AND INTERMEDIATE MAINTENANCE FACILITY DRY DOCK AND WATERFRONT PRODUCTION FACILITY AT JOINT BASE PEARL HARBOR-HICKAM, OAHU, HAWAII

Dear Mr. Davis:

In accordance with the Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation and Management Act (MSA; 6 U.S.C. § 1801 et seq.), the Navy is providing this letter as a response to the National Marine Fisheries Service (NMFS) conservation recommendations letter dated 26 August 2022. The EFH consultation is for the proposed replacement of an existing dry dock (DD) by constructing a larger dry dock, a waterfront production facility (WPF), and other ancillary facilities at Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility (PHNSY & IMF) at Joint Base Pearl Harbor-Hickam (JBPHH), Oahu, Hawaii. Many of the effects from the project can be avoided and minimized through the implementation of the Best Management Practices (BMPs) which were described in the Navy's EFH assessment that was submitted to NMFS on 17 June 2022. The Navy understands that conservation recommendations from NMFS are intended to enhance or to be in addition to BMPs, and the Navy provides its responses to the conservation recommendations below.

NMFS Conservation Recommendation #1: The Navy should share with NMFS a more detailed description of the proposed water quality monitoring plan. NMFS recommends that higher frequency sampling during dredging be included to ensure that potential exceedances are detected, allowing implementation of appropriate contingencies and stop-work activities. The Navy should continue coordinating with NMFS during the development of the SIOP Water Quality Monitoring Plan prior to its completion so that our concerns about the frequency of sample collection and real-time sampling can be considered for inclusion in the 401 WQC AMAP. It is not our intent to hinder the Navy's 401 WQC application and/or timeline.

Navy Response to Conservation Recommendation #1: The Navy agrees to share with the water quality monitoring plan for the PHNSY & IMF DD & WPF, when available, and to continue coordinating with NMFS during the development of the water quality monitoring plan. While neither the water quality monitoring plan nor the 401 Water Quality Certification and Applicable Monitoring and Assessment Plan for the DD & WPF are developed at this time, the Navy agrees to consider NMFS' recommendations to sample more often to characterize changes over shorter periods of time (high-frequency) and to be able to review measurements close to the time taken (real-time sampling) during dredging operations in order to manage any response that may be necessary for exceedances in water quality.

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NMFS Conservation Recommendation #2: The Navy should monitor sedimentation rates and turbidity levels at restoration sites and at areas of high coral cover in the entrance channel of Pearl Harbor. This will ensure that dredging activities do not inadvertently damage downfield coral resources and restoration sites, in the absence of longer-term circulation and plume models. NMFS is ready and willing to continue coordination to identify and achieve an agreed upon approach.

Navy Response to Conservation Recommendation #2: The Navy agrees to the recommendation of monitoring sedimentation rates and turbidity levels at restoration sites and at areas of high coral cover to ensure that dredging activities do not inadvertently damage downfield coral resources. In the absence of longer-term (i.e., more than 30 days of dredging) circulation and plume models, the Navy agrees to monitor empirical data to confirm if marine resources are impacted by the proposed dredging operations. However, as the current dredge plume model predicts that turbidity from the proposed dredge operations will not reach the Entrance Channel, but rather may travel further into Pearl Harbor, the Navy proposes alternative sites for measuring sedimentation and turbidity from the dredging for the proposed action. Permanent coral monitoring stations were previously established and monitored during the 2018 Pearl Harbor maintenance dredge in Southeast Loch, particularly in the vicinity of Hotel Pier. Hotel Pier is a site where sediment may accumulate based on the current dredge plume model results. These permanent monitoring locations have the advantage of a historical record with baseline data. Based on a phone call with NMFS (pers. comm. S. Goldberg, 2 September 2022), the Navy proposes the following locations to monitor sedimentation rates and turbidity levels before, during, and after the proposed dredging operations:

1. Restoration site at southern end of Ford Island (FI) – recipient site for translocated corals and habitat restoration.
2. Restoration site at Bishop Point – area of aquatic invasive species removal and restoration.
3. Permanent quadrats at Hotel Pier seawall and benthic shelf – existing coral monitoring stations with sizeable coral colonies present.
4. Furthermore, if the monitoring results at the sites above indicate that sedimentation rates and turbidity levels are increasing as a direct result of the proposed dredging operations, the Navy agrees to adaptively adjust this monitoring effort accordingly. For example, if the sedimentation rates and turbidity levels at Bishop Point are demonstrating higher impacts that are inconsistent with the current dredge plume models (i.e., the dredge plume is traveling further down the Entrance Channel), then the Navy will agree to adjust the monitoring site location to include an area with high coral cover at the ocean end of the Entrance Channel. However, such adaptive monitoring methods and plans are not yet developed at this time.

NMFS Conservation Recommendation #3: The Navy should ensure that potential contamination from the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) dredging activities does not contaminate any SIOP action areas. The Navy should share the CERCLA Water Quality Monitoring Plan with NMFS, or provide an overview discussion to NMFS better understand how avoidance and/or minimization of CERCLA contamination at SIOP areas would be achieved and adaptively managed. NMFS is ready and willing to further coordinate.

Navy Response to Conservation Recommendation #3: The CERLCA remediation dredging work is a separate Navy action, and the Navy intends to comply with all regulatory requirements during this dredge, including coordination with NMFS. The Environmental Management and Monitoring Plan which includes a Water Quality Monitoring Plan, was shared by the Navy on August 26, 2022 (and previous versions shared on October 6, 2020). The Navy intends to take all reasonable steps to ensure CERCLA dredging is completed within the overlapping DD5 footprint and is willing to continue to share information and water quality assessments as they are completed.

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NMFS Conservation Recommendation #4: Separate from this consultation, the Navy should work with NMFS to form a working group to develop an agreed-upon process for determining habitat equivalency analysis (HEA) pre-injury service values for utilization under the EFH regulatory framework. NMFS is ready and willing to continue coordination to identify and achieve an agreed upon approach.

Navy Response to Conservation Recommendation #4: The Navy agrees with this recommendation to work with NMFS to form a working group to develop an agreed upon process for determining HEA pre-injury service values. However, the Navy has reservations for establishing a working group beyond the Western Pacific Region to include areas that may utilize HEA differently. The Navy would support continued coordination with the NMFS Pacific Islands Regional Office (PIRO) to identify and achieve a region-specific approach.

NMFS Conservation Recommendation #5: The Navy should implement the HEA calculation of approximately 1,705 m² for restoration at FI, and add up to an additional 30% (e.g., 1.3:1.0; total of approximately 2,217 m²) to be restored. This would be consistent with general guidance from the Coral Reef Task Force to provide additional mitigation for out-of-kind replacement of lost corals, and would be approximately proportional to the proposed additional habitat restoration (37,000 m² versus 29,226 m² as calculated by the HEA) that would be achieved through AIS removal.

Navy Response to Conservation Recommendation #5: The Navy has a few concerns with this recommendation to add an additional 30% of restoration area to the south end of FI. While the Navy agrees with the guidance from the Coral Reef Task Force, especially regarding additional mitigation for out-of-kind replacement of lost corals, the Navy's subject matter experts implemented several conservative measures and additional contingencies to determine the 1,705 m² offset value, which were implemented to address the concern for out-of-kind replacement based on the following:

1. Separate, coral-only HEA models were run with specific input values to accurately characterize the high ecosystem values and functions of the coral colonies, such as a pre-injury service level of 100%. Separating the HEA results for coral colonies from the other benthic habitats provided a more conservative analysis. This analysis is above and beyond the analysis recommended by the developers of the HEA software.
2. Conservative methods for estimating the surface area of all coral colonies were applied. The size categories of observed coral colony were documented as <10 cm, 10-20 cm, 20-40 cm, 40-80 cm, 80-160 cm and >160 cm. When measured, corals were assigned to these categories. Then the maximum values of each category were used to conservatively determine surface area of the corals that were assigned to each category.
3. A conservative prediction of 25% loss for translocated corals (i.e., *Montipora capitata*, *M. patula*, *Porites compressa*, and *P. lobata*) was anticipated due to the inevitability that not all corals will survive due to movement, placement, etc., and incorporated as an input of loss into the coral HEA model. The Navy understands that translocating coral can involve a variety of challenges, including (but not limited to) stress from detaching and transporting colonies, and variable environmental conditions between donor and receptor sites. Thus, the coral HEA results included a contingency for 25% coral loss, which added an additional 25% consideration to the final offset value.
4. Furthermore, a conservative prediction of 50% loss of translocated branching corals (i.e., *Pocillopora damicornis*) was anticipated due to branching morphology being more fragile and susceptible to movement and placement challenges. This highly-conservative value of possible coral loss was incorporated as an input into the coral HEA model, and thus included an additional contingency for 50% loss of branching corals. Applying this value to the coral HEA model added an additional 50% consideration to the final offset value.

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For the reasons listed above, the Navy is confident that the HEA result of 1,705 m² offset for the loss of corals is based on a sufficient and robust amount of additional contingencies to compensate for the out-of-kind replacement proposed. Thus, the Navy disagrees with NMFS' recommendation to add up to an additional 30% (total of 2,217 m² or 512 m² additional area) to be restored. However, the Navy would like to offer alternatives that allow for approximately 500 m² of restored habitat which may be achieved through other opportunities, such as:

1. When executing the coral translocation, logistical contingencies are inherently required to ensure that contractors achieve the minimum goals. Therefore, the Navy will consider including an additional 500 m² of restored habitat as a logistical contingency/buffer during the contracting and execution of this mitigation action.
2. While baseline survey results identified the presence of dense mats of *Gracillaria Salicornia* (gorilla ogo) along the southwestern shoreline of FI, the actual amount of this invasive algae was not quantified. The specific amount of *G. salicornia* to be removed was not provided in the Navy's EFH Assessment. This information gap presents an unexpected opportunity to meet NMFS' recommendation. Based on previous data, it is reasonable to predict that 500 m² of *G. salicornia* may currently exist at this location. The Navy could consider removing approximately 500 m² of *G. salicornia* from the restoration site as part of the mitigation action to remove aquatic invasive species.

If the two examples given above present reasonable alternatives to NMFS' recommendation for an additional 30% habitat (total of 2,217 m² or 512 m² additional area) to be restored, the Navy agrees to sharing further details during the development of these alternatives and to coordinating with NMFS for their review.

NMFS Conservation Recommendation #6: The Navy should develop a more detailed eradication and control plan for the removal of the soft coral *U. stolonifera* and share it with NMFS for review. NMFS is ready and willing to assist the Navy and further coordinate.

Navy Response to Conservation Recommendation #6: The Navy agrees with this recommendation to develop a more detailed eradication and control plan for the removal of the soft coral *U. stolonifera* and to share this information with NMFS for review. The Navy will consider NMFS' comments for incorporation into the final plan. However, such a plan is not yet developed.

NMFS Conservation Recommendation #7: The Navy should share with NMFS a more detailed description of the proposed method(s) of *G. salicornia* removal. The description should consider method(s) to minimize fragmentation and secondary spread. NMFS is ready and willing to assist the Navy and further coordinate.

Navy Response to Conservation Recommendation #7: The Navy agrees with this recommendation to share with NMFS a detailed description of the proposed method(s) of *G. salicornia* removal, and to consider method(s) to minimize fragmentation and secondary spread. However, such methods are not yet developed.

NMFS Conservation Recommendation #8: The Navy should confirm the presence/absence of algal balls at the FI seaplane ramp near the proposed restoration site. If present, and to improve the habitat to help ensure more effective minimization and offset, the Navy should develop and share with NMFS an implementable containment plan. This would help to achieve effective minimization and offset.

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Navy Response to Conservation Recommendation #8: The Navy agrees with this recommendation to confirm the presence/absence of algal balls within the proposed habitat restoration/coral translocation recipient sites. However, at this time, the exact location of the restoration site at FI is not yet confirmed. If the algal balls are identified as being present or within close proximity during the initial restoration site evaluation or on subsequent visits to the site during the restoration process, the Navy will develop and share with NMFS an implementable containment plan. Such a plan is not yet developed, and the Navy will share the plan with NMFS should the development of such a plan become necessary. However, if the selected habitat restoration/coral translocation recipient site is not at nor adjacent to the seaplane ramp, no further actions will be proposed for the algal balls at the seaplane ramp, as mitigation actions at this location were not considered nor approved for offset mitigation.

NMFS Conservation Recommendation #9: NMFS respectfully requests that Navy share the draft final coral relocation plan with us for review prior to initiating the proposed coral relocation activities. NMFS looks forward to the opportunity to provide additional expertise and potential comments.

Navy Response to Conservation Recommendation #9: The Navy agrees with this request to share the draft final, coral relocation plan for NMFS review and prior to initiating the proposed coral relocation activities. The Navy will consider NMFS' comments for incorporation into the final plan. However, such a plan is not yet developed.

The Navy appreciates NMFS' effort and careful deliberation invested in evaluating the proposed actions and providing these nine EFH conservation recommendations. Should you have any questions or concerns, please contact Dr. Michelle Bejder, NAVFAC PAC Supervisor Marine Resources, at michelle.m.bejder.civ@us.navy.mil or (808) 472-1413.

Sincerely,

R. D. KLEINMAN
CDR, CEC, U.S. Navy
By direction of the
Commanding Officer

Copy to:
NAVFAC Program Management Office (PMO 555)
NAVFAC Hawaii Environmental Business Line Conservation and Planning Branch Navy Region Hawaii
Environmental