



**United States Department of the Interior**  
**FISH AND WILDLIFE SERVICE**  
**Midway Atoll National Wildlife Refuge**  
**Battle of Midway National Memorial**  
**1082 Makepono St.**  
**Honolulu, HI. 96819**



May 17, 2017

Mary A. Abrams  
Field Supervisor  
Pacific Islands Fish and Wildlife Office  
U.S. Fish and Wildlife Service  
300 Ala Moana Blvd, Room 3-122  
Honolulu, HI 96850

Dear Mrs. Abrams:

This letter constitutes a request for consultations under (1) Section 7 of the Endangered Species Act (ESA) and (2) the Fish and Wildlife Coordination Act. The Midway Atoll National Wildlife Refuge (Refuge) and the Federal Aviation Administration (FAA) are co-sponsoring planned repairs of two sections of seawall protecting the Runway Safety Area of Henderson Field at Midway Atoll National Wildlife Refuge and adjacent Refuge uplands. This action will require an approved Department of Army Permit from the Honolulu District. A previous request for coordination on this project was received by your office on October 2, 2015, after which a FWCA survey and report were completed. This request seeks to reinstate both FWCA and ESA consultations as required and updated documents have now been completed.

Henderson Field is a designated emergency landing site for trans-Pacific flights. This request addresses the need to prepare for ongoing repairs of the failing seawall that protects the runway. Previous repairs to one section of the wall were successfully completed in 2014. Future repairs may need to address some or all of the 5,720-foot seawall with a possible project footprint of 6.6 affected upland acres and 6.6 affected acres of submerged habitat.

As before, the Refuge is conducting this project in cooperation with the FAA. The Refuge will be the lead for consultations, compliance with federal laws, and any other interagency coordination. We have contacted the U.S. Army Corps of Engineers (USACE) to discuss performance of the repairs under the appropriate permit. Refuges has also involved the National Oceanic and Atmospheric Administration's, National Marine Fisheries Service, Pacific Islands Regional Office (NMFS/PIRO) and the U.S. Fish and Wildlife Service's Pacific Islands Fish and Wildlife Office (PIFWO) (Nadiera Sukhraj McCarthy) in all of the pre-planning discussions and initial review of work plans and construction activities. Comments from both agencies have been considered throughout the process in order to reduce impacts to fish and wildlife at the Refuge.

The attached Biological Assessment evaluates potential affects to endangered species and Essential Fish Habitat. The attached Draft Environmental Assessment was developed concurrently with input from both NMFS/PIRO and PIFWO and addresses impacts to both the terrestrial and marine environments.

We request your concurrence with our determinations and any comments submitted by (June 16, 2017). Please contact me at (808) 954-4818 or bob\_peyton@fws.gov should you have any questions about the project.

Respectfully

**ROBERT PEYTON**  Digitally signed by ROBERT PEYTON  
Date: 2017.05.17 06:59:43 -11'00'

Robert Peyton, Refuge Manager  
Midway Atoll National Wildlife Refuge  
Battle of Midway National Memorial

Enclosures:

Biological Assessment for the Seawall Long-Term Maintenance Project (04/04/2017)  
Draft Environmental Assessment for the Seawall Long-Term Maintenance Project  
(4/19/2017)



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122  
Honolulu, Hawai'i 96850

In Reply Refer To:  
01EPIF00-2017-I-0277

JAN 12 2018

To: Refuge Manager, Midway Atoll National Wildlife Refuge, Battle of Midway National Memorial, Papahānaumokuākea Marine National Monument, Pacific Islands Refuges and Monuments Office

From: *Acting* Island Team Manager, O'ahu, Kaua'i, Northwestern Hawaiian Islands, and American Samoa *Joy Brey*

Subject: Informal Section 7 Consultation for the Proposed Long-Term Maintenance of the Henderson Field Airport Seawall Project, Midway Atoll National Wildlife Refuge, Papahānaumokuākea Marine National Monument

The U.S. Fish and Wildlife Service (Service), Pacific Islands Fish and Wildlife Office (PIFWO) received an email on May 22, 2017, requesting our concurrence that the proposed Long-Term Maintenance of the Henderson Field Airport Seawall Project (located on Midway Atoll National Wildlife Refuge, within the Papahānaumokuākea Marine National Monument) may affect, but is not likely to adversely affect the following federally listed species: endangered short-tailed albatross (*Phoebastria albatrus*); endangered Laysan duck, or Laysan teal (*Anas laysanensis*); threatened Central North Pacific distinct population segment (DPS) of the green sea turtle, or honu (*Chelonia mydas*) (hereafter referred to as green sea turtle); endangered hawksbill sea turtle, or 'ea (*Eretmochelys imbricata*); endangered Nihoa fan palm, or loulu (*Pritchardia remota*); and endangered pōpolo (*Solanum nelsonii*).

We understand you are in communication with the National Oceanic and Atmospheric Administration Fisheries Office (NOAA) and are consulting on species under their jurisdiction. The Service consults on sea turtles and their use of terrestrial habitats (beaches where nesting and/or basking is known to occur), whereas the NOAA, National Marine Fisheries Service Office (NMFS) consults on sea turtles and their use of off-shore and open ocean habitats. We only analyzed project impacts to sea turtles in their terrestrial habitats, therefore, we recommend that you consult with NMFS regarding the potential impacts from the proposed project to sea turtles in off-shore and open ocean habitats.

The findings and recommendations in this consultation are based on the following: (1) your consultation request; (2) the project summary information described in your Biological Assessment dated March 2017; and (3) other information available to us. Copies of pertinent materials and documentation are maintained in an administrative record (reference number:

01EPIF00-2017-I-0277) in our office. This response is in accordance with section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. 1531 *et seq.*).

### *Project Description*

The Service's Pacific Islands Refuges and Monuments Office, Midway Atoll National Wildlife Refuge (Refuge) and the Federal Aviation Administration (FAA) is proposing to conduct repairs as needed over the next ten years (2017-2027) along a 5,720-foot-long seawall located on Midway Atoll's Sand Island. The action is needed because the existing seawall, constructed in 1957-58, is aging and failing. The soils behind the seawall consist of unconsolidated fill that has eroded quickly after previous seawall breaches.

The purpose of the action is to control this erosion and to protect Refuge resources, including the Henderson Field Airport taxiway, runway, and runway safety area (RSA). The airport at Henderson Field is critical to providing access for government administration and research operations at the Refuge and the western portions of Papahānaumokuākea Marine National Monument (PMNM or Monument). It also serves a critical role as an FAA-approved emergency landing field that is essential to trans-Pacific airborne transportation.

For regulatory permitting purposes, including Department of the Army permits under 33 CFR part 325; you have established a ten-year planning period for the proposed repairs. Repairs would be made by replacing damaged sheet pile with armor rock revetment. Revetments would consist of large (2- to 3-foot diameter) armor rock placed over smaller underlayer rocks. Construction materials would be brought to the Refuge from existing quarries on the Pacific Coast, Alaska and/or Hawai'i.

Materials for this project would be brought to Midway via barge from Honolulu, Hawai'i. Barging of materials is covered under the PMNM Permit, with appropriate provisions for avoiding adverse effects to protected resources, including materials and vessel cleaning procedures, invasive species protocols, vessel tracking, and strike avoidance measures.

Repairs would take place in an annual cycle following the Implementation Plan. To avoid impacts to breeding birds, construction would generally occur from mid-August through October of any given year, depending on consultations with Refuge staff and necessary agencies. Because repairs would be made on an as-needed basis, some years may have little to no active construction while other years may have multiple or large repairs.

Project specific procedures will be incorporated within the Implementation Plan for this project (See below).

### *Shipping and Invasive Species*

Shipping issues relate primarily to invasive species, which is a major concern at Midway Atoll and throughout the larger Papahānaumokuākea Marine National Monument. The Management Monument permit required for the seawall maintenance program includes several requirements for ensuring ships do not transport invasive species into the monument.

- Contractor will develop and implement a program to insure that non-native species have been eradicated from imported materials prior to offloading at the refuge.
- Contractor will develop and implement a construction-worker education program that informs workers of the damage that can be done by unwanted introductions of non-native species.
- Shipping containers must have a rat station inside with a baited sticky trap. Cargo inside containers shall be fumigated with a bug bomb. Vessels must be inspected for rats and have a “rat-free certification.” The contractor must install rat guards on vessel and barge lines at Midway Island to prevent rodents from reaching land.
- Refuge personnel will place rodent bait stations and traps containing rodenticide on the boat and barge decks, around the dock, and in areas where shipping containers are stored on the island.
- The Service’s Honolulu POC must be notified two days prior to departure of shipments from Honolulu in order to complete an inspection of all cargo, equipment, construction materials, and vessels for satisfaction of conditions, including absence of invasive species. Any vessel found to have a fouled hull will be required to have the entire hull cleared and re-inspected.
- Additional inspection, except for hull invasive species, shall be conducted upon arrival at the Refuge. In the event of a failure to pass inspection, the vessel shall not be allowed to leave for or unload cargo at the Refuge. Specimen of non-native species that are found by these inspections would be collected and destroyed. Containers that are too heavily infested to permit complete cleaning would be returned undelivered.
- Gray water may only be discharged outside of all Special Preservation Areas and the Midway Atoll Special Management Area. Biodegradable solid waste associated with galley operations may only be discharged 3 nautical miles (if ground to 1 inch in diameter) or 12 nautical miles (if unground) outside of all Special Preservation Areas and the Midway Atoll Special Management Area.
- Ballast water will not be discharged within any Special Preservation Areas or the Midway Atoll Special Management Area.
- Each deployment above may include returning household trash, recycling materials, collected marine debris, hazmat waste, and other industrial waste to Honolulu, Hawaii or other designated areas within the United States.
- All personnel will receive PMNM Pre-Access Briefings, and the Midway Atoll NWR and Battle of Midway National Memorial Briefings before commencing work on the project.

#### *Construction Material and Invasive Species*

Due to the critical need to prevent the introduction of invasive species, rock used to repair the seawall needs to be clean. The Service will specify the requirements listed below as part of contracts issued for all seawall repairs.

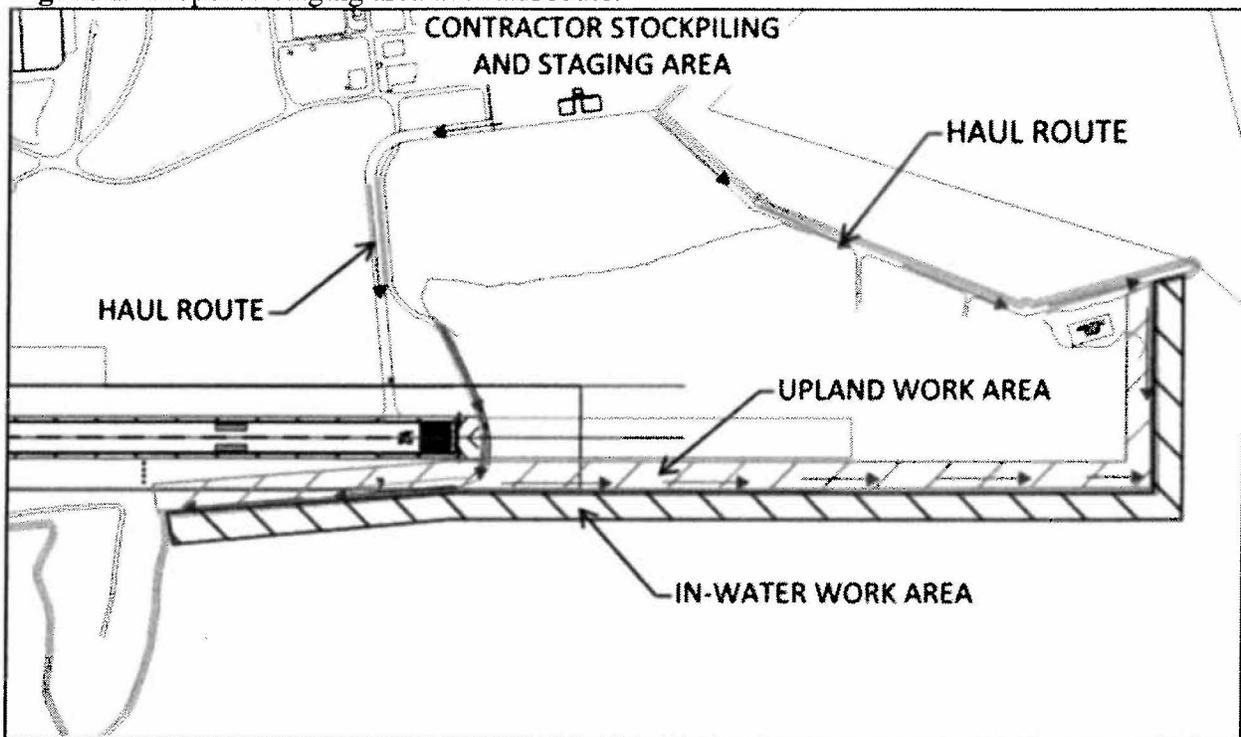
- Contractor will source armor rocks directly from a quarry that is free from insects and seeds. If this is not possible, the contractor will pressure wash armor rocks on a concrete surface prior to loading them onto the barges.

- Contractor will limit the amount of time that rocks are stored before being shipped. Contractor will ensure that materials, rocks, aggregate, etc. are packed and stored on clean concrete/asphalt.
- Before leaving Honolulu, Contractor will steam clean or pressure wash all machinery, equipment, shipping containers, vessel decks and holds, and all water-resistant construction materials to ensure the removal of all dirt, insects, and seeds.

### *Staging*

Construction materials may require storage on Sand Island for several weeks or even months prior to construction, depending on construction windows established to protect birds and on the logistics of getting materials and crews to the island. If barged early, the rock and other construction materials would be loaded onto trucks and driven to a temporary stockpile area void of any environmental concerns, as confirmed and approved by Refuge staff (see Figure 1).

- Transport of construction materials across the island and project construction shall avoid the Hawaiian seabird nesting season, with the peak at approximately mid-November to mid-December.
- Stockpiling of materials will occur only in the authorized stockpile location on existing paved surfaces. Transportation of materials to and from stockpiles will occur on existing travel roads and runway access routes.
- Prior to construction or material stockpiling, any sensitive areas near sites would be clearly marked to contain disturbance areas to the minimum amount needed to work safely.
- If there are protected species in the area prior to performing any component of the permitted activity, that activity should not commence until the animal(s) voluntarily departs the area. If the protected species enters the area when that activity is already underway, that activity should cease until the animal voluntarily departs the area.

**Figure 1.** Proposed staging area and haul route.*Pre-Construction*

Several measures will be taken prior to construction to identify and protect sensitive biological resources, including biological surveys, coral translocation, and environmental training for construction crews.

- All personnel will receive PMNM Pre-Access Briefings, and the Midway Atoll NWR and Battle of Midway National Memorial Briefings before commencing work on the project.
- All project staff will be familiar with Precautions for Minimizing Human Impacts on Endangered Land Birds (PMNM BMP #012) or receive sufficient briefing to comply with its requirements, which generally consist of housekeeping BMPs that prevent bird mortality.
- All project staff should be familiar with Human Hazards to Seabirds in Papahānaumokuākea Marine National Monument (PMNM BMP #003) or receive sufficient briefing to comply with its requirements.
- All project staff will be informed of the potential presence of protected species and be given species information by the biological monitor.
- The site would be assessed to ensure that no new conditions have arisen and all appropriate pre-work mitigation measures have been implemented.
- Prior to construction or material stockpiling, any sensitive areas near sites would be clearly marked to contain disturbance areas to the minimum amount needed to work safely.
- All personnel entering the Refuge must comply with the general rules for alien species control to minimize the risk of alien species introductions to the Refuge. All personnel shall ensure that boots, clothing and personal effects are free of dirt, seeds, and insects.

- All project staff will be familiar with the requirements of Special Conditions & Rules For Moving Between Islands & Atolls And Packing For Field Camps (PMNM BMP #007) prior to entering the Monument.
- A plan to control the accidental spills of petroleum products at the construction site shall be developed. Absorbent pads and containment booms will be stored on-site to facilitate the cleanup of petroleum spills.
- A plan to respond to previously unknown hazardous materials discovered during construction shall be developed. The plan shall include specific chain of communication and steps to contain and/or remove and dispose of hazardous materials.
- Construction crews shall include members trained/experience in hazardous waste identification to monitor all disturbed areas for the potential of contaminated soils or other hazardous materials. Monitors shall immediately notify Refuge staff of any suspected hazardous materials, who shall then implement hazardous material plan.
- Coordinate with U.S. Navy explosives experts to determine appropriate steps needed to avoid unintended disturbance of unexploded ordinance (UXO's).

#### *Construction*

The majority of environmental measures would take place during each specific construction effort. Construction environmental measures would be directed by Refuge staff or their designated representatives.

- The southern and western beaches on Sand Island as well as the beaches on Spit and Eastern Island will be closed to all contractor personnel. Closed beaches will be avoided at all times.
- Prior to and during work, designated personnel will monitor the site during project activities to ensure that mitigation measures are followed and to observe for the presence of protected species.
- Contractor and staff will comply with the following BMPs:
  - Nonnative Species Inspection Requirements at Midway Atoll (PMNM BMP #015).
  - Human Hazards to Seabirds Briefing (PMNM BMP #003)
  - Boat Operations and Diving Activities (PMNM BMP #004)
  - Marine Wildlife Viewing Guidelines (PMNM BMP #010)
  - Disease and Introduced Species Prevention Protocol for Permitted Activities in the Marine Environment (PMNM BMP #011)
  - Precautions for Minimizing Human Impacts on Endangered Land Birds (PMNM BMP #012)
- All manmade construction debris or debris removed from the seawall will be collected and not allowed to enter waters of the U.S. All debris removed from the seawall construction site will be disposed of at an approved upland site.
- Armor rocks and fill materials shall be placed in a manner that will not pose an entrapment hazard to fish and wildlife.
- At the end of each day of work at the seawall repair site, the biological monitor will inspect the area to determine if it may pose a hazard for seals or turtles to be

trapped and the monitor will direct project staff to alter armor rocks to ensure no entrapment can occur.

- All equipment shall be checked daily for leaks and any necessary repairs made prior to commencement of work.
- Artificial nighttime lighting will not be employed in order to avoid disorientating seabirds.
- Contractor will comply with: Minimizing the Impact of Artificial Light on Sea Turtles (PMNM BMP #009).
- A biological monitor will be on-site during all work activities and will conduct pre-work surveys to determine the presence of species of concern in the seawall repair area. Work will not commence until the monitor confirms to the construction foreman that all sensitive species have left the area. The biological monitor will have the authority and responsibility to shut down disturbance causing construction activities if a protected species is present within 150 feet of the seawall repair area.
- A silt curtain will be deployed prior to placing fill in the water and during removal of sheet pile to contain turbidity and siltation.
- Fueling of construction related equipment shall occur away from the seawall construction site at a designated location with the ability to handle and accidental spill on Sand Island.
- All construction-related materials and equipment (*e.g.*, silt curtains, dredges, barges, pilings, cranes, etc.) to be placed in the water shall be cleaned of pollutants prior to use.
- Contractor will follow protocol in the existing Spill Prevention, Control and Countermeasures Plan for FWS, prepared in 2004 and last updated in 2009 (GeoEngineers, Inc).
- Construction will only occur during agency allowed work windows relative to protected species.
- Contractors and subcontractors will be approved by the Refuge Manager to access and complete the project directly on the refuge between August 1 and October 30.

The cumulative footprint of the “Maximum Construction Scenario” includes the footprint of all rock revetment that could be installed along the 5,720 linear feet seawall. The total footprint would be approximately 100 feet wide, with approximately 50 feet of rock being placed within marine waters (6.6 acres) and 50-foot construction footprint on uplands adjacent to the seawall (6.6 acres) for a total area of 13.2 acres.

Sand Island, the largest of three islands in Midway Atoll, has an area of about 1,100 acres. The affected areas on Midway Atoll include the upland and in-water work areas, haul routes, and the contractor stockpiling and staging area (adjacent to the inner harbor, where barges will arrive from Honolulu). Habitat value on land is generally low due to vegetation control near runway, constant salt spray from ocean, as well as major erosion. This area of the island was added by the Navy during the Cold War (circa 1957-58) to lengthen the runway. The boundary between land and reef flat has become less obvious as the sheet pile has eroded and vegetation and seabird nesting areas have appeared. Debris is present in the majority of the benthic habitat adjacent to the sheet pile seawall (USFWS 2016). The eroding area is an entrapment hazard for fledging

albatross chicks, which cannot climb the steep cliffs formed by the wave action (Leary 2013 as cited in USFWS and FAA 2017).

### Short-tailed albatross

The total worldwide population estimate for the short-tailed albatross is 4,354 individuals (USFWS 2014b, p. 9). Historically, the short-tailed albatross occurred throughout most of the North Pacific Ocean and Bering Sea (USFWS 2008, p. 1), with breeding primarily in Japan and Taiwan (USFWS 2008, p. 2). Short-tailed albatross were known only to breed only at two remote islands in the western Pacific in Japan: Torishima (where 80 to 85% breed) and a site at Senkaku Islands (USFWS 2008, p. 4). In 2010, however, a pair of short-tailed albatross nested for the first time at Midway Atoll National Wildlife Refuge. This pair has successfully fledged a chick in 2011, 2012, and 2014 (USFWS 2014a, p. 8; USFWS 2014b, p. 1). There have also been breeding attempts by a female-female pair at Kure Atoll in the Northwestern Hawaiian Islands since 2010 (Cooper 2013).

Short-tailed albatross only occur at Midway Atoll from late October to early August to nest or to attempt to establish a pair bond (USFWS 2011). Birds nest in open, treeless areas with low or no vegetation (USFWS 2008, p. 11). Birds build their nests with surrounding sand, shrubbery or volcanic debris and lay one egg. Incubation lasts approximately 65 days and is shared by both parents (USFWS 2008, p. 10-11). Both adults feed the chick by regurgitating a mixture of flying fish eggs and squid oil. Sometime between late-May and mid-June, chicks are almost full-grown and adults begin to abandon the breeding site (USFWS 2008, p. 10). Soon after the adults leave the breeding site, the chicks fledge (USFWS 2008, p. 11).

Volcanic eruption on Torishima continues to be a significant threat to short-tailed albatross, since it has the potential to destroy or disturb the primary short-tailed albatross breeding colony (USFWS 2014b, p. 15). Other threats to short-tailed albatross are habitat loss and alteration due to catastrophic events (*e.g.*, monsoon rains, severe storms), depredation and habitat degradation by non-native species, incidental catch by commercial fishing, contaminants, small population size, and climate change (USFWS 2008, pp. 17-29; USFWS 2014b, pp. 15-26).

The proposed work is expected to occur prior to the seasonal return of short-tailed albatross; therefore, it is unlikely that there will be disturbance to that species. There have been no sightings of short-tailed albatross within 100 m of the work area (USFWS unpublished as cited in USFWS and FAA 2017).

To avoid and minimize potential project impacts to the short-tailed albatross:

- Proposed work (mid-August through October) is expected to occur prior to the seasonal return of short-tailed albatross (November to June), however, a biological monitor will be on-site during all work activities and will conduct pre-work surveys to determine the presence of species of concern in the seawall repair area. Work will not commence until the monitor confirms to the construction foreman that all sensitive species have left the area. The biological monitor will have the authority and responsibility to shut down disturbance causing construction activities if a protected species is present within 150 feet of the seawall repair area.

- All personnel entering the Refuge must comply with the general rules for alien species control to minimize the risk of alien species introductions to the Refuge. All personnel shall ensure that boots, clothing and personal effects are free of dirt, seeds, and insects.

### Laysan duck

The Laysan duck was extirpated across the Hawaiian archipelago with an extant population persisting only on the island of Laysan (Moulton and Marshall 1996, p. 1). To reduce the risk of extinction, a second population was established via translocation of wild birds from Laysan Island to Midway Atoll in October 2004 (20 birds) and October 2005 (22 birds) (USFWS 2007, p. 6; Walter and Reynolds 2013, p. 574). A third population was established on Kure Atoll via translocation of 28 wild birds from Midway Atoll in September 2014. In 2012, Laysan ducks on Laysan Island were estimated at 339 (Reynolds *et al.* 2014, p. 96). On Midway, the population was estimated at 473 individuals in 2010 (Reynolds *et al.* 2011, p. 14). Laysan ducks are year-round residents at Midway Atoll.

The Laysan duck is largely nocturnal and sedentary. Having evolved with avian rather than mammalian predators, Laysan ducks are more likely to walk than fly, and freeze rather than flush, when startled. Similar to other waterfowl, Laysan ducks molt all of their feathers at the same time, are incapable of flight and thus more vulnerable to predators while molting. On Laysan, molting typically occurs between July and August for males and between July and September for females.

Habitat requirements of the Laysan duck include vegetative cover, an invertebrate prey base, source of fresh water, and protection from mammalian predators (USFWS 2009, p. iii). On Laysan and Midway, ducks use all available habitats: upland vegetation, ephemeral wetlands, freshwater seeps, mudflats, the hyper-saline lake and coastal areas. Duckling activities are concentrated near sources of fresh water with nearby food and cover.

Small population size and extremely limited distribution make the species highly vulnerable to demographic fluctuation and chance environmental occurrences, such as droughts, severe storms, and epizootics, predators, and invasive species. Habitat degradation and loss within PMNM may be intensified by increased storm severity and sea level rise associated with global climate change.

The proposed construction area does not have high vegetation. Laysan ducks have not been seen within the proposed construction area, however, are likely to occur within with transportation route area. On Midway, human foot traffic has the potential to disturb Laysan ducks that are incubating eggs or tending young broods, which can result in nest abandonment. Vehicles, golf carts, and bicycles used on Sand Island by Refuge staff, volunteers, and visitors may result in the inadvertent injury or death to Laysan ducks due vehicle or golf cart collisions.

To avoid and minimize potential project impacts to the Laysan duck:

- Do not approach or feed Laysan ducks.
- Pre-construction surveys will be performed to insure the project site is free of any protected species prior to transporting materials or beginning any repair work. Construction activities will be delayed well before any protected species is close enough to the project area to risk physical injury.

- A biological monitor will be on-site during all work activities and will conduct pre-work surveys to determine the presence of species of concern in the seawall repair area. Work will not commence until the monitor confirms to the construction foreman that all sensitive species have left the area. The biological monitor will have the authority and responsibility to shut down disturbance causing construction activities if a protected species is present within 150 feet of the seawall repair area.
- All personnel entering the Refuge must comply with the general rules for alien species control to minimize the risk of alien species introductions to the Refuge. All personnel shall ensure that boots, clothing and personal effects are free of dirt, seeds, and insects.

### Green sea turtle

The green sea turtle has been observed in waters of Midway Atoll, including the nearshore project area. At Midway Atoll, most are found swimming, foraging, nesting and basking in a few main areas; in the waters of the lagoon, along certain shorelines, in and around surrounding coral reefs, and in deeper pelagic waters. Green sea turtles use these areas consistently throughout the year except for nesting, which is most likely limited to March through October. The highest concentration of basking green sea turtles occurs on 140-meter section of beach on Sand Island called “Turtle Beach”. The maximum number of turtles observed at one time was sixty (Klavitter *et al.* 2013a as cited in USFWS and FAA 2017).

No turtle nesting had been documented at Midway Atoll until successfully hatched eggs were discovered on Spit Islet in July 2006. High surf uncovered the eggs, which probably hatched the previous year. Since then, there have been two confirmed green sea turtle nests on Sand Island; one on the east end of the north beach in 2007 and one on the beach between the cargo and fuel piers in 2008 (USFWS unpublished data as cited in USFWS and FAA 2017). Green turtles also use Midway beaches for basking.

Sea turtles do not come ashore in the proposed work area due to the presence of the seawall, but they are seen occasionally in the nearshore marine habitat of the project area (USFWS 2016 as cited in USFWS and FAA 2017).

To avoid and minimize potential project impacts to the green sea turtle:

- A biological monitor will be on-site during all work activities and will conduct pre-work surveys to determine the presence of species of concern in the seawall repair area. Work will not commence until the monitor confirms to the construction foreman that all sensitive species have left the area. The biological monitor will have the authority and responsibility to shut down disturbance causing construction activities if a protected species is present within 150 feet of the seawall repair area.
- All personnel entering the Refuge must comply with the general rules for alien species control to minimize the risk of alien species introductions to the Refuge. All personnel shall ensure that boots, clothing and personal effects are free of dirt, seeds, and insects.
- Any project-related debris, trash, or equipment will be removed from the beach or dune if not actively being used.
- No project-related materials should be stockpiled in the intertidal zone, reef flats, or stream channels.
- To avoid project impacts to sea turtles from lighting no construction activities will occur at night.

### Hawksbill sea turtle

Hawksbill sea turtles exhibit a wide tolerance for nesting substrate (ranging from sandy beach or crushed coral) with nests typically placed under vegetation. The hawksbill sea turtle exhibits strong nesting site fidelity. Nesting typically occurs on beaches from May through September, peaking in June and July, with hatchlings emerging through November and December.

Although rare, hawksbill sea turtles do occur in the Northwestern Hawaiian Islands. Hawksbill sea turtles have been occasionally observed within the project area. If observed, mitigation measures (observer and shutdown protocols) will be implemented.

To avoid and minimize potential project impacts to the hawksbill sea turtle:

- A biological monitor will be on-site during all work activities and will conduct pre-work surveys to determine the presence of species of concern in the seawall repair area. Work will not commence until the monitor confirms to the construction foreman that all sensitive species have left the area. The biological monitor will have the authority and responsibility to shut down disturbance causing construction activities if a protected species is present within 150 feet of the seawall repair area.
- All personnel entering the Refuge must comply with the general rules for alien species control to minimize the risk of alien species introductions to the Refuge. All personnel shall ensure that boots, clothing and personal effects are free of dirt, seeds, and insects.
- Any project-related debris, trash, or equipment will be removed from the beach or dune if not actively being used.
- No project-related materials should be stockpiled in the intertidal zone, reef flats, or stream channels.
- To avoid project impacts to sea turtles from lighting no construction activities will occur at night.

### Loulu

Loulu is a long-lived perennial tree with no specific characteristics known. Loulu is among three species endemic to Nihoa that were listed under the ESA in 1996. At the time of listing, they were limited to two extant populations on Nihoa. Since then, this palm has been outplanted around the Hawaiian Islands, and fossil records show that it may once have been more widespread throughout the area (USFWS 1996 as cited in USFWS and FAA 2017).

In 2009, approximately 300 seeds were brought to Midway for planting in the Service's greenhouse for outplanting within the atoll. A few have survived on both Sand and Eastern Islands.

None of the plantings are within the construction area. Loulu occurs in other areas of the atoll. Threats to Loulu on Midway include crushing of plants by human foot traffic or vehicles, as well as soil compaction which may affect normal plant growth.

To avoid and minimize potential project impacts to loulu:

- Prior to construction or material stockpiling, any sensitive areas near sites would be clearly marked to contain disturbance areas to the minimum amount needed to work safely.

- A biological monitor will be on-site during all work activities and will conduct pre-work surveys to determine the presence of species of concern in the seawall repair area.
- All personnel entering the Refuge must comply with the general rules for alien species control to minimize the risk of alien species introductions to the Refuge. All personnel shall ensure that boots, clothing and personal effects are free of dirt, seeds, and insects.

### Pōpolo

Pōpolo is a sprawling or trailing shrub up to 3 feet (1 meter) tall, in the nightshade family (Solanaceae) family (Symon 1999, p. 1273). Typical habitat for this species is coral rubble or sand in coastal sites up to 490 feet (150 meter) elevation, in the coastal ecosystem (Symon 1999, p. 1273). Pōpolo has been known to occur on the islands of Hawai‘i, Maui, Molokai, Ni‘ihau, O‘ahu, Kaua‘i, Nihoa, Laysan, Pearl and Hermes Reef, Midway Atoll, and Kure Atoll (Christophersen and Caum 1931, p. 6, 18, 19, & 35-36; Lamoureux 1963, p. 6; Clapp *et al.* 1977, p. 36; Symon 1999, p. 1273). Populations of pōpolo currently occurs on the islands of Hawai‘i (Bio 2008, in litt.; Conry 2012, in litt.), Moloka‘i (Aruch 2005, in litt.), Kure Atoll (unknown number of individuals), Midway Atoll (approximately 260 individuals on Sand, Eastern, and Spit islands), Laysan (approximately 490 individuals), Pearl and Hermes Reef (30 to 100 individuals), and Nihoa (8,000 to 15,000 individuals) (Rehkemper 2006, in litt.; Tangalin 2006 in litt.).

The relatively isolated occurrences of pōpolo on the Northwestern Hawaiian Islands are negatively affected (on the low-lying islands) by non-native plants and by stochastic events such as tsunamis. Climate change may result in alteration of the environmental conditions and ecosystems that support this species. Pōpolo may be unable to tolerate or respond to changes in temperature and moisture, or may be unable to move to areas with more suitable climatic regimes (Fortini *et al.* 2013, p. 89). Critical habitat has not been determined for this species.

Pōpolo was thought to be extirpated at Midway Atoll, but a small population was discovered on Spit Island in 1996 by FWS (Starr and Martz 1999 as cited in USFWS and FAA 2017). Seeds were taken from the plants, propagated in the greenhouse on Sand Island, and out-planted in and around wetlands on Sand and Eastern Islands, in order to reforest areas impacted by the clearance of invasive ironwood trees. The plants were not thought to have established on Sand Island, although 2 large plants were discovered on the southeast side of the island in January of 2012 (Klavitter 2013 as cited in USFWS and FAA 2017).

In 2016, pōpolo were among the plants selected for revegetation of a section of ironwood forest cleared under recommendation by the FAA to protect visibility during the approach of aircraft to the runway (Dur-Schultz 2016). It will not be necessary for crew or equipment to enter the revegetation area during the repairs.

To avoid and minimize potential project impacts to pōpolo:

- Prior to construction or material stockpiling, any sensitive areas near sites would be clearly marked to contain disturbance areas to the minimum amount needed to work safely.
- A biological monitor will be on-site during all work activities and will conduct pre-work surveys to determine the presence of species of concern in the seawall repair area.

- All personnel entering the Refuge must comply with the general rules for alien species control to minimize the risk of alien species introductions to the Refuge. All personnel shall ensure that boots, clothing and personal effects are free of dirt, seeds, and insects.

#### *Analysis of Effects*

The short-tailed albatross is known to nest on Midway and may occur within the proposed project area. However, by incorporating the above avoidance and minimization measures [e.g., expected work to occur prior to the seasonal return (late October to early August), daily surveys by a biologist to confirm there are no short-tailed albatross within 150 feet of the construction area, if a bird is found within 150 feet then all operations would be shut down until the bird voluntarily leaves the area] disturbance to birds or nests (eggs and/or chicks) and crushing of birds or nests is not probable, and, therefore, the effects of the project are discountable. Because effects from the action are discountable, the proposed project is not likely to adversely affect the short-tailed albatross.

The Laysan duck is known to forage, nest, and/or utilize areas within the vicinity of the proposed project area. By incorporating the above avoidance and minimization measures (e.g., Refuge staff to conduct surveys for nests prior to work or construction insuring the project site is free of any protected species prior to transporting materials or beginning any repair work, construction activities will be delayed well before any protected species is close enough to the project area to risk physical injury, Laysan ducks will not be approached or fed, if a Laysan duck is observed within the area, work will not occur until the animal(s) voluntarily leave the area) disturbance to Laysan ducks that are incubating eggs or tending young broods and nest abandonment is not probable, and therefore the effects of the project are discountable. Additionally, by incorporating these avoidance and minimization measures inadvertent injury or death to Laysan ducks from vehicle or golf cart operation is not probable, and, therefore, the effects of the project are discountable. Because effects from the action are discountable, the proposed project is not likely to adversely affect the Laysan duck.

The green sea turtle is known to occur on Midway and may occur within the proposed project area. By incorporating the above avoidance and minimization measures (e.g., biological monitor to conduct pre-work surveys to determine the presence of species of concern, work not commencing until the monitor confirms that all sensitive species have left the area, the authority of the biological monitor to shut down disturbance causing construction activities if a protected species is present within 150 feet of the seawall repair area, no stockpiling of project-related materials in the intertidal zone, reef flats, or stream channels, and no construction activities to occur at night) disturbance to green sea turtles or their nests is not probable, and, therefore, the effects of the project are discountable. Because effects from the action are discountable, the proposed project is not likely to adversely affect the green sea turtle.

The hawksbill sea turtle is known to occur on Midway and may occur within the proposed project area. By incorporating the above avoidance and minimization measures (e.g., biological monitor to conduct pre-work surveys to determine the presence of species of concern, work not commencing until the monitor confirms that all sensitive species have left the area, the authority of the biological monitor to shut down disturbance causing construction activities if a protected species is present within 150 feet of the seawall repair area, no stockpiling of project-related materials in the intertidal zone, reef flats, or stream channels, and no construction activities to

occur at night) disturbance to hawksbill sea turtles or their nests is not probable, and, therefore, the effects of the project are discountable. Because effects from the action are discountable, the proposed project is not likely to adversely affect the hawksbill sea turtle.

Loulu is known to occur within the proposed project area. By incorporating the above avoidance and minimization measures (e.g., any sensitive areas near sites would be clearly marked prior to construction or material stockpiling, a biological monitor will conduct pre-work surveys to determine the presence of species of concern in the seawall repair area, all personnel entering the Refuge to comply with the general rules for alien species control to minimize the risk of alien species introductions to the Refuge) disturbance (i.e., trampling or soil compaction) to loulu is not probable, and, therefore, the effects of the project are discountable. Because effects from the action are discountable, the proposed project is not likely to adversely affect loulu.

Pōpolo may occur within the vicinity of the proposed project area. By incorporating the above avoidance and minimization measures (e.g., any sensitive areas near sites would be clearly marked prior to construction or material stockpiling, a biological monitor will conduct pre-work surveys to determine the presence of species of concern in the seawall repair area, and all personnel entering the Refuge to comply with the general rules for alien species control to minimize the risk of alien species introductions to the Refuge) disturbance (i.e., trampling or soil compaction) to pōpolo is not probable, and, therefore, the effects of the project are discountable. Because effects from the action are discountable, the proposed project is not likely to adversely affect pōpolo.

### *Summary*

Based upon the above, we concur that the proposed action may affect, but is not likely to adversely affect the short-tailed albatross, Laysan duck, green sea turtle, hawksbill sea turtle, loulu, and pōpolo. Unless the project description changes, or new information reveals that the action may affect listed species in a manner or to an extent not considered, or a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to section 7 of the ESA is necessary.

If you have any questions or concerns regarding this consultation, please contact Jiny Kim, Fish and Wildlife Biologist (phone: 808-792-9400, email: [jiny\\_kim@fws.gov](mailto:jiny_kim@fws.gov)). In future correspondences please reference the Service file number 01EPIF00-2017-I-0277.

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