



United States Department of the Interior
FISH AND WILDLIFE SERVICE



Pacific Islands Refuges and Marine National Monuments
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FINDING OF NO SIGNIFICANT IMPACT (FONSI)

**FOR THE PROPOSED MIDWAY SEABIRD PROTECTION PROJECT
BY THE U.S. FISH AND WILDLIFE SERVICE
MIDWAY ATOLL NATIONAL WILDLIFE REFUGE
PAPAHĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT**

PURPOSE AND NEED

The U.S. Department of the Interior's Fish and Wildlife Service ("the Service"), Pacific Islands Refuges and Marine National Monuments proposes to implement the project outlined in the Final Environmental Assessment (FEA) for the Midway Seabird Protection Project, issued January 2019. The project will be implemented by the Service, per the terms of the Papahānaumokuākea Monument Management Plan (USFWS, 2008) in partnership with other entities. The project consists of the complete eradication of the house mouse (*Mus musculus*) from Sand Island through the use of brodifacoum, and to maintain its rodent-free status in perpetuity. The brodifacoum would be dispersed aerially, by hand, and via bait stations.

House mice and black rats (*Rattus rattus*) became established on Midway Atoll's Sand Island ("Sand Island") more than 75 years ago during the U.S. Armed Forces occupancy of the island. House mice persisted there after black rats were eradicated in 1996 and are now the sole rodent and non-native mammal in the Northwest Hawaiian Islands. Mouse predation was first confirmed as the cause of death for Laysan albatross (*Phoebastria immutabilis*) during the 2015-2016 breeding season, with 42 dead adults and 70 nests abandoned in a 4-acre portion of the 1,128-acre island. During the following nesting season the affected area increased to 27 acres, in which 242 dead adults, 1,218 injured birds and 994 abandoned nests were found. Mouse predation was not observed in 2017/2018 or 2018/2019 due to temporary control measures. (See the No Action Alternative). Beyond predation of seabirds, the mice have known and suspected deleterious effects across the entire island ecosystem, acting as a disease vector, altering the floral communities, competing with native species, degrading the quality of nesting habitat, preying upon terrestrial invertebrates, altering soil chemistry, and disrupting the intertidal community structure.

Predation of vulnerable populations of native seabirds is a real and ongoing threat on Sand Island and demands an immediate and effective response. Prior to the introduction of rodents, Sand Island's seabird colonies and other native species existed in an environment relatively free of aggressive predation or herbivory. The eradication of mice from Sand Island will eliminate numerous substantial negative pressures on the native flora and fauna. A comparison of rodent-infested and rodent-free islands, and pre- and post-rodent eradication has shown that rodents depress the population size and recruitment of birds, reptiles, plants, and terrestrial invertebrates. Analysis of eradication of non-native mammals on islands from around the world has confirmed that eradication is usually followed by growth of seabird populations. Eradication of the house mouse from Midway Atoll National Wildlife Refuge (MANWR) would likely also facilitate the protection and restoration of multiple native species and habitats present in the refuge.

The Service is a bureau of the U.S. Department of the Interior cooperating with other agencies and organizations to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. This project is a collaborative effort with the U.S. Department of Agriculture's Animal and Plant Health Inspection Service, Wildlife Services and the National Wildlife Research Center. They are a Cooperating Agency on the Midway Seabird Protection project. The Service has also entered into a partnership with Island Conservation, an organization that promotes an integrated and coordinated approach to protecting, restoring and managing native populations of plants and animals and island ecosystems impacted by invasive alien species. Documents reviewed in the preparation of this Finding of No Significant Impact (FONSI) were the *Draft Environmental Assessment for the Midway Seabird Protection Project* (DEA), issued March 2018 and the *Final Environmental Assessment for the Midway Seabird Protection Project* (FEA), Biological Assessment issued November 9, 2018, Biological Opinion and Informal Consultation for the Midway Seabird Protection Project, issued January 30, 2019.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

With the cooperating agencies named above, the Service has completed the DEA and made it available to the public, reviewed public comments received, and completed the FEA and made it available to the public.

The Seabird Protection Project Objective:

Within 1 year of project implementation, non-native mice will be eradicated (population = 0) from Sand Island Midway Atoll National Wildlife Refuge for the benefit and protection of nesting albatross species (e.g. Laysan, short-tailed and black-footed, other nesting seabirds (e.g. Bonin petrel) and their habitats.

The project will include the following elements:

1. Mouse eradication with rodenticide, via multiple distribution methods: (i) aerial broadcast; (ii) hand broadcast; and (iii) bait stations. Up to three applications will occur; the first application will occur in July or August and each successive application roughly 7-12 days after the previous application.
2. Monitor project activities for impacts to non-target species and for effectiveness in mouse eradication.
3. Implement plan to mitigate potential effects to non-target species.
4. Institute long-term biosecurity plan to avoid the reintroduction of rodents in perpetuity.

No Action Alternative (Current Management)

The Service analyzed the effects of a No Action Alternative. Under the No Action Alternative, Sand Island's mouse population would not be the subject of a targeted eradication project. Limited mouse control efforts would continue including trapping, hand broadcasting of AGRID3, and the use of bait stations. Under the No Action alternative, the current negative effects of mice on MANWR's seabird populations and terrestrial ecosystem would continue in perpetuity. Labor intensive control efforts would continue and take time away from other resource management priorities. The impacts of crushing nesting burrows of Bonin petrels (*Pterodroma hypoleuca*) and other ground nesting species from hand broadcasting rodenticide would continue. These effects would be additive to other, unrelated future effects on the resources such as storm surges and tsunamis. The No Action alternative would not achieve the project objective and it would not resolve the ongoing threat to seabirds from mice on Sand Island.

Proposed Action

The project, as described in the FEA, consists of the island-wide distribution of bait pellets containing rodenticide. The toxicant to be applied would be Brodifacoum 25ppm, which is a pelleted rodenticide bait intended for conservation purposes for the control or eradication of invasive rodents on islands or vessels. Brodifacoum is an EPA registered coumarin-based anticoagulant. It is a vertebrate toxicant that acts by interfering with the blood's ability to form clots, which causes sites of even minor tissue damage to bleed continuously. Brodifacoum is a commonly used rodenticide in the United States, where the use at Sand Island is modeled on successful island rodent eradication efforts worldwide. Specifically, the use was informed through analysis of 944 documented attempts at rodent eradication, across 10 different rodent species, on 692 islands globally. In total as of 2015, 87 of those attempts were specifically related to mouse eradication on 76 islands in 17 countries. The three fundamental principles which guide all successful eradications, regardless of species or locations, and which have shaped the Preferred Alternative are:

1. Every individual of the target species must be put at risk with the proposed eradication technique(s).
2. The technique(s) employed must remove individuals from the target population at a rate greater than they can breed (i.e., their replacement rate).
3. Immigration of new specimens of the target species must be zero, or effectively managed to zero, by identifying and eliminating immigrant specimens.

For the highest likelihood of success, the rodenticide bait must be applied across the entire land area of the island into every potential mouse territory; because of this, the Proposed Action Alternative will incorporate multiple distribution methods. Bait will be broadcast from hoppers suspended under helicopters at a rate in accordance with the product label. Up to three bait drops are planned on Sand Island using 1-2 helicopters to apply the majority of the bait. The portion of the airfield within the Foreign Object Debris management area, portions of the coastal fringe where retaining structures and eroding sand create undercut areas, piers, buffer zones around fresh water ponds, and indoor commensal areas, which are not conducive for aerial distribution, will be addressed with a combination of hand broadcast and bait stations.

MITIGATION AND MONITORING MEASURES

The application of rodenticide via multiple means of distribution presents potential environmental hazards to non-target natural resources, including birds, fish, marine mammals, and invertebrates. Precautions must also be taken to prevent harmful exposure to the implementing crew and the residential population of Sand Island before, during, and after application. Mitigation includes specific measures or practices that would reduce, avoid or eliminate the potential for adverse effects to occur to the biological, human, and physical environments. The following are some of the mitigation measures connected with this project, where a full list of all measures can be found within the FEA:

- Training ground-based staff to identify and avoid trampling or disturbing endangered plants while conducting operations;
- Training ground-based staff to identify and avoid damaging seabird burrows while conducting operations;
- Capturing and relocating vulnerable non-target species to avoid rodenticide exposure, including the implementation of a Laysan Duck Mitigation Plan involving their capture, care, and release;
- Implementing measures to minimize the potential for rodenticide bait to enter the marine environment;
- Implementing measures to reduce the potential for adverse impacts to sea turtles;
- Implementing measures to reduce the potential for adverse impacts to Hawaiian monk seals;
- Implementing a shorebird protection plan; and
- Compliance with terms and conditions for Laysan duck identified in the Biological Opinion.

The complete suite of all mitigation measures for this project are provided in the FEA and in compliance documents. Mitigation measures to minimize potential effects are an integral part of the project and necessary to support this FONSI.

To ensure that the Proposed Action is meeting the aforementioned project objective of mouse eradication in perpetuity on Sand Island, and to ensure the effects are below the criteria for significance, an implementation and effectiveness monitoring program will be implemented for the project. Effectiveness monitoring will be done to ensure the efficacy of mouse eradication and effects to the biological, physical, and human environments are at acceptable levels as described in the FEA. Evaluation of monitoring results will determine whether further restoration activities are needed, to alter the mitigation measures, and/or to continue with the proposed management action. Lastly, strict biosecurity measures will be implemented and maintained permanently.

SUMMARY OF EFFECTS

The FEA analyzed the potential for effects to the following resources: land use, access, climate, visual resources, fuel facilities, energy, communications, air quality, geological resources, socioeconomic resources, solid waste, historical and cultural resources, airfield operations, water resources, noise, wastewater and stormwater, hazardous materials and waste, and biological

resources. The FEA determined that there would be short-term and localized minor effects to airfield operations, water resources, noise, wastewater and stormwater, hazardous materials and waste. The analysis concluded that these impacts would be less than significant.

Short-term effects to biological resources are expected and require mitigation identified above to eliminate or reduce their intensity to non-target species. It was also determined there would be a long-term beneficial, though localized effects on all biological resources due to the elimination of mice on Sand Island. Several Best Management Practices (BMPs) and other protocols have been identified to ensure no significant impact on natural resources, human safety, and water quality. These are discussed in greater detail throughout the FEA.

EFFECTS TO THE ENVIRONMENT

Human Environment

Implementation of the proposed action would result in short-term, minor safety risks related to: (i) conducting aerial broadcast operations; (ii) conducting hand broadcast operations in dilapidated and compromised structures; and (iii) broadcasting a toxicant, in this case brodifacoum. The analysis determined that the project would not have a significant effect on the human environment.

Specific risks include handling the brodifacoum, loading the bait hopper, and flying the helicopters. To address this, a USFWS contractor will be required to establish and maintain safety programs and comply with all guidelines for handling bait pellets and operating or maintaining aircraft. In addition, the Contractor will comply with all existing aviation, airfield, and installation safety procedures and standards.

Because the project involves the broadcast of a toxicant, a potential short-term impact on safety on Sand Island is the potential for accidental poisoning of staff and contractors. For the proposed action, only USFWS and its Contractor would come in contact with brodifacoum. Those handling the bait will be directly supervised by personnel with appropriate State Pesticide Applicator Certifications. Inadvertent contact with brodifacoum by island residents may occur in several ways, including: (i) direct consumption of bait by personnel unfamiliar with its appearance; (ii) incidental consumption of bait through inadvertent contamination of food stocks through direct contact with bait or secondary transmission via rodent feces or urine; or (iii) secondary ingestion of the toxicant through consumption of animals that were primary consumers of the bait. The brodifacoum concentration on the bait being proposed for use under the conservation label would require that an adult ingest 1.3 lbs. (600 g) of bait to achieve an average fatal dose; this would be equivalent to ingesting 600 bait pellets. Treatment of brodifacoum poisoning includes the use of Vitamin K1 to counter the effects. Physician-controlled Vitamin K1 supplements would be available for all Sand Island, MANWR residents during and after the eradication operation. Island residents will be fully educated on the operation and will be informed through a variety of communications including by signs in both English and Thai language.

Installation staff would be educated on the entire program and how to deal with operation mishaps, accidental release or poisoning, and contamination of food stocks or drinking water by brodifacoum. In addition, certain restrictions would be placed on residents during the proposed action, such as limiting the number of individuals authorized to come into contact with the bait to further mitigate the potential for inadvertent safety risks. Personnel would be advised to limit their outdoor activities on those days where bait is aerially applied along recommendations to wear long

sleeves and long pants. Procedures would also be implemented to protect potable water supplies. Over the longer-term, the proposed action would have a beneficial effect on safety by eliminating an invasive pest species that can act as a disease vector, contaminate food supplies, and damage infrastructure. While important, these beneficial effects are less than significant as these effects are localized and common.

Migratory Birds

The Service has concluded that implementation of the BMPs and mitigation measures will minimize effects (take) of migratory birds protected under the Migratory Bird Treaty Act, including seabirds and shorebirds. The potential numbers of migratory birds that might be taken will be negligible relative to island and overall populations of these species. The nature of the project actions and its mitigation measures, including timing the bait application for the period when most shorebirds have migrated North to their breeding grounds and capture and care of shorebirds (see Appendix C of the FEA), will ensure that no significant impact to migratory birds.

Endangered Short-tailed Albatross

Twenty-one species of seabirds are known to breed or roost on Sand Island; one species, the short-tailed albatross, is federally-listed as Endangered. Only 2-3 individuals of this species are present on Sand Island and the one pair that is present will be at the end of its breeding period by the time of the bait application. All these individuals leave Midway in mid to late June and, thus, they will be absent during the operation. Therefore, there will no effect to this species from implementing project actions.

Endangered Laysan Duck

The Service in the FEA has determined that project implementation “may affect, and likely to adversely affect” Laysan Ducks. As a result, a Laysan Duck Mitigation Strategy has been crafted by the Service and other stakeholders; the mitigation strategy involves removing ducks from Sand Island to eliminate or minimize exposure to bait pellets during treatments, caring for the ducks on nearby Eastern Island, and releasing the ducks back to Sand Island once monitoring indicates residual levels of brodifacoum are considered safe for the species. Implementation of the Laysan Duck Mitigation Strategy would minimize this species’ exposure to brodifacoum during and post-operation and mitigate spatial and temporal risks resulting from the proposed action; thereby, the potential effects to this species are considered to be temporary and minor.

A biological opinion was issued by the Pacific Islands Fish and Wildlife Office for the endangered Laysan duck on Jan 30, 2019. In this opinion, the USFWS determined that the Midway Seabird Protection Project, as proposed, is not likely to jeopardize the continued existence of Laysan ducks because it is not anticipated to appreciably reduce the reproduction, numbers, or distribution of the Laysan duck. No critical habitat has been designated for this species; therefore, none will be affected. The Opinion determined reasonable and prudent that refuge and monument staff will minimize the potential for injury and mortality of Laysan ducks due to capture, handling, transporting, captive care, and from implementation efforts to eradicate mice from Sand Island.

The USFWS staff and contractors involved with implementing the proposed action will comply with the Incidental Take Statement and all required terms and conditions identified in the Biological Opinion. A licensed veterinarian with avian experience and an aviculturist with

waterfowl and incubation experience will provide on-site supervision of capture specialists and duck protection team members. The USFWS staff and contractors will comply with protocols and reporting requirements regarding finding injured, sick, or dead Laysan ducks. Based on the above assessments, implementing all mitigation measures identified for protection of the Laysan duck, will reduce effects below the threshold of significance.

ESA Listed Cetaceans and Sea Turtles

The Service has determined that the proposed action is “not likely to adversely affect” federally listed cetaceans or sea turtles. BMPs and mitigation measures will be followed. These include ship-strike avoidance measures by reducing vessel’s speed to 5-10 knots in the presence of, and in known areas for, listed marine species as well as maintaining a 200-meter buffer around marine species encountered at sea. During bait drops, a biological monitor will be on site to monitor sea turtles for disturbance and exposure risk. To reduce disturbance to turtles on land, the bait will be delivered by helicopter over areas with sea turtles. During aerial bait broadcast, helicopters would avoid hovering near turtle basking areas. In addition, all project personnel on the ground would maintain a 100-foot buffer from any sea turtles during operations.

Endangered Hawaiian Monk Seal and Critical Habitat

The Service has determined that implementation of the project is “not likely to adversely affect” Hawaiian monk seals or its designated critical habitat. Mitigation measures for avoiding disturbance to monk seals will be followed as will measures to avoid dispersal of rodenticide bait into the marine environment. A biological monitor will be present to monitor project activities and monitor seals throughout the bait drop for disturbance and exposure risk. Bait will be delivered by helicopter over monk seals to minimize disturbance. Helicopters will avoid hovering near monk seals and will be equipped with a deflector to minimize drift into the marine environment. All project personnel on the ground will maintain a 100-foot buffer from basking seals during operations. A detailed plan will be established prior to beginning of the action to respond to a sick or dead seal if found during or immediately after baiting operations.

Other Listed Species of Plants and Animals

The Service has determined that the implementation of the project is “not likely to adversely affect” two listed species of plants, the Pōpolo and the Lo‘ulu. The Service has determined that there will be “no effect” on other listed species of plants or animals in the action area.

The project has been reviewed by the appropriate agencies with authority to permit the proposed action. The project has their concurrence as long as all recommended mitigation and effects minimization measures are followed. They have further agreed that implementation of the project will not cause significant harm to federally protected species.

FINDING OF NO SIGNIFICANT IMPACT

The proposed action is directly intended to protect vulnerable populations of native seabirds from predation by mice and indirectly facilitate the protection and restoration of multiple native species and habitats present within the Midway Atoll National Wildlife Refuge. In evaluating the project, the following criteria were considered: (i) consistency with agency guidelines and policies; (ii) extent to which it meets the Services’ purpose and need; (iii) extent to which it responds to or helps

resolve and minimize the environmental issues raised in public comments, and (iv) the context and intensity of the impacts disclosed in the FEA.

1. *Agency Guidelines and Policies.* The project is consistent with the relevant Presidential Order and Service statutes, described below. The Service is directed by the Endangered Species Act of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended, to conserve ecosystems upon which threatened and endangered species depend; and the Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j, not including 742 d-1, 70 Stat. 119), as amended, gives general guidance which can be construed to include alien species control, particularly, that the Secretary of Interior take steps “required for the development, management, advancement, conservation, and protection of fish and wildlife resources.”

In addition:

- Presidential Executive Order 13112 on Invasive Species (as amended December 8, 2016 by Executive Order 13751): Section 2(a)(1)(2)(iv) states that federal agencies shall, “provide for restoration of native species and habitat conditions in ecosystems that have been invaded.”
 - The Papahānaumokuākea Monument Management Plan (PMMP), adopted by co-trustees the Secretaries of Commerce and the Interior, identified strategy AS-4 “Eradicate the house mouse population on Sand Island, Midway Atoll, within 15 years.”
2. *Purpose and Need.* The purpose of the proposed action is to eradicate non-native mice from Sand Island and maintain its rodent-free status in perpetuity, which will facilitate the restoration of the natural island ecosystem.
 3. *Public Comment.* 107 comments on the DEA were received from the public. Those comments were addressed by the Service and impacts associated with identified issues were minimized by adopting mitigation plans, primarily related to Laysan ducks.
 4. *Effects.* As disclosed in the FEA and summarized above, project implementation is not expected to result in significant impacts to physical and biological resources or the human environment.

Based on the above criteria, the Service has concluded that the project is consistent with its guidelines, achieves the purpose and need, and will not have a significant effect on the human environment and, therefore, does not constitute an action that normally requires preparation of an Environmental Impact Statement (EIS). Adverse environmental effects that could occur will be negligible to moderate in intensity as well as temporary and localized in nature. There are no significant impacts on public health and safety, wetland/waters of the U.S., threatened and endangered species or their designated critical habitat, wilderness, socioeconomic resources, or island uses. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the proposed action will not violate any federal, state, or local environmental protection laws.

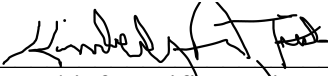
The Service has found the FEA and a Biological Assessment prepared for the project adequately supports the issuance of the following required permits and approvals:

- National Environmental Policy Act (NEPA) Environmental Assessment (Final EA, January 2019)
- Section 7, Endangered Species Act (ESA) (Informal Consultation completed with NMFS, December 6, 2018) Formal Consultation completed with USFWS, January 30, 2019)

- Section 106, National Historic Preservation Act (NHPA) (Completed May 2, 2018)
- Essential Fish Habitat (EFH) (EFH Consultation completed September 20, 2018)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Environmental Protection Agency issued a Supplemental Label for Midway in 2018)
- National Pollutant Discharge Elimination System (NPDES) Permit
- Papahānaumokuākea Marine National Monument Permit

Conclusion

Based on our review and evaluation of the information contained in the FEA and comments received, I have determined that implementing the project will not constitute a major Federal action significantly affecting the quality of the human environment within the meaning of section 102(2)(C) of the National Environmental Policy Act of 1969. The project is not without precedent and is not similar to actions that would normally require preparation of an EIS. Accordingly, preparation of an EIS for the proposed action is not required. Interested parties are being notified of our decision.



 Refuge Chief, Pacific Region (Acting)
 National Wildlife Refuge System

2/4/19

 Date

Note: This Finding of No Significant Impact and supporting references are available for public review at the USFWS Refuges and Monuments Office, 300 Ala Moana Blvd. Room 5-231, Honolulu, HI and at USFWS, Division of Planning and Visitor Services, 911 NE 11th Avenue, Portland, Oregon 97232. These documents can also be found on the refuge website: https://www.fws.gov/refuge/midway_atoll/.