



## 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:  
2013-F-0237

Tammy Adams, Ph.D  
Acting Chief, Permits, Conservation and Education Division  
Office of Protected Resources  
United States Department of Commerce  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Silver Spring, Maryland 20910

FEB 20 2014

Subject: Biological Opinion for the Final Programmatic Environmental Impact Statement for Hawaiian Monk Seal Recovery Actions, Hawaii Archipelago and Johnston Atoll

Dear Ms. Adams:

This Biological Opinion responds to your request for initiation of formal consultation with the U.S. Fish and Wildlife Service (Service) pursuant to the Endangered Species Act of 1973, as amended (Act). We initiated consultation on June 5, 2013. At issue are the impacts to the endangered Laysan finch (*Telespyza cantans*) resulting from Hawaiian monk seal (*Monachus schauinslandi*) recovery actions conducted by the National Marine Fisheries Service (NMFS) Pacific Islands Fisheries Center, Hawaiian monk seal Research Program (HMSRP) to continue population monitoring (including health, disease, and foraging research) on the endangered Hawaiian monk seal. In the course of conducting biological research on Hawaiian monk seals, researchers and technicians will camp and spend extended periods of time on Laysan Island and the islands in Pearl and Hermes Reef. In the past, seemingly benign activities such as camping or storage of supplies has led to the inadvertent death of several Laysan finches. This Biological Opinion will address the incidental take of the Laysan finch due to the presence of researchers working and camping on Laysan Island and the islands at Pearl and Hermes Atoll.

In your letter of June 5, 2013, you determined the proposed action “may affect but is not likely to adversely affect” the threatened green sea turtle (*Chelonia mydas*) on land, Nihoa millerbird (*Acrocephalus familiaris kingi*), short-tail albatross (*Phoebastria albatrus*), and Laysan duck (*Anas laysanensis*).

### Green sea turtle

The action area for your potential impact to green sea turtles is the areas under the jurisdiction of the Service within the Monument. The green turtle nests in the NWHI and may be affected by



the research activities when on land. Sleeping and basking green sea turtles are generally unaware of unobtrusive human presence. However, there is the possibility that some activities such as small boat transits and landings, capturing seals, and other research activities may startle basking turtles, causing them to relocate into the water. Best management practices have been included to minimize and avoid the unintentional harassment of basking and/or nesting green sea turtles while conducting research or camping on various islands. These measures include the following:

- Walking is prohibited on all beaches, from dusk to dawn, where adult turtles rest.
- All field camps will use maximum light control (shading, minimum wattage, etc.).
- All field camps must avoid disorienting hatchling turtles.

We concur with your determination that this action “may affect, but is not likely to adversely affect” terrestrial green sea turtles because researchers will follow the aforementioned minimization measures and adhere to best management practices to avoid basking and nesting green sea turtles.

#### Nihoa Millerbird

The Service in conjunction with American Bird Conservancy translocated 24 millerbirds from Nihoa Island to Laysan Island in September 2011, to decrease the risk of extinction from a catastrophic event on Nihoa. The Nihoa millerbirds on Laysan Island do not appear to show the same camp-following behavior as Laysan finch. Injury or death to Nihoa millerbirds is not expected from interactions with field camps and HMSRP activities on Laysan Island. It is possible that Millerbirds could be disturbed if they nest near field camps or if HMSRP researchers hike through the interior of the island.

We concur with your determination that this action “may affect, but is not likely to adversely affect Nihoa millerbirds because outlined activities are unlikely to result in adverse effects to the species.

#### Short-tail albatross

Short-tailed albatross have been sighted on Kure Atoll, Laysan Island and Midway Atoll where a pair has successfully nested each of the last two years. Albatross require a long straight-line ground trajectory to become airborne, and there is a small risk that they could fly into camera-mounted poles (e.g., at French Frigate Shoals or at other sites if erected) or shoreline pen fencing (erected temporarily to hold seals at any site) with possible injury. Camera-mounted poles have been maintained at French Frigate Shoals, and the HMSRP is not aware of any records of sea birds flying into the poles. Temporary pens have been seasonally maintained by HMSRP at Kure Atoll, Midway Atoll, and French Frigate Shoals for over ten years during summer months with no incidents of seabirds becoming entangled in the fence. However, during 3-month winter maintenance of a temporary pen at French Frigate Shoals in 2006, a single Laysan albatross (*P. immutabilis*) flew into the fencing and was injured, but survived.

The HMSRP will ensure that monk seal pens would not be placed in the vicinity of short-tailed albatross or their nests. For example, at Midway Atoll, the shore pen will not be on the same island where the short-tailed albatross decoys, sound recordings, and recent nesting occurred.

The placement of the pen would be on Sand Island, approximately 3 miles from the short-tailed albatross nesting location.

Monk seal shore pens will normally be erected in the fall, after the short-tailed albatross breeding season and fledging of hatchlings. However, pens could be erected at any time of year. If shore pens are erected, the height of the pen would be below 5 ft. HMSRP researchers would increase monitoring of pens on windy days. Pens would be dismantled immediately after use, which typically would not exceed two weeks for holding seals. In the unlikely event that a short-tailed albatross were to fly into a shore pen, the pen would be taken down and the Monument and Service would be contacted for guidance. HMSRP field camps in the North Western Hawaiian Islands are typically supplied and staffed using vessels, rather than aircraft. The use of an aircraft may occasionally occur at Midway Atoll or French Frigate Shoals, which could pose a risk to short-tailed albatross. Requirements of the Monument would be in place to ensure the overall effects of air strikes on albatross and other birds is minimal (PMNM 2008). These include:

- Night flights for most of the year at Midway;
- Vegetation management along the runways to modify bird flight and nesting behavior;
- Flight path advisories given to pilots; and
- Runway clearing of birds and other wildlife by personnel prior to landing and takeoffs.

We concur with your determination that this action “may affect, but is not likely to adversely affect” short-tail albatross because researchers will follow the aforementioned minimization measures and adhere to best management practices to avoid adverse impacts to short-tail albatross.

#### Laysan duck

The Laysan duck is found on Laysan Island and Midway Atoll. Although these ducks primarily use vegetated upland and lake/lowland habitats, a few ducks on Laysan use the camp area to get freshwater, insects, and shade (Service 2009a). Coastal habitats are used more frequently during the post-breeding season (September through February) than the breeding season. Flocks of up to 70 Laysan ducks were recorded on the coast during the post-breeding season (Service 2009a).

HMSRP researchers could disturb ducks near camp. There is a small possibility that ducks in coastal areas could fly or run into the temporary monk seal holding pens when foraging. However, Laysan ducks have never interacted with shore pens used by the HMSRP since 1981 and any such occurrence is not expected. Thus, no injury or mortality to Laysan ducks is expected.

We concur with your determination that this action “may affect, but is not likely to adversely affect Laysan duck because outlined activities are unlikely to result in adverse effects to the species.

This response represents the Service's Biological Opinion regarding the effects of the proposed project on the Laysan finch pursuant to the Act. This consultation is based on information obtained from research permit applications, your Final Programmatic Environmental Impact

Statement and other information available to us. A full administrative record is available at our office. Details of the proposed Hawaiian monk seal research and population enhancement activities can be found in the Final Programmatic Environmental Impact Statement for Hawaiian Monk Seal Recovery Actions, Hawaii Archipelago and Johnston Atoll.

### **CONSULTATION HISTORY**

March 11, 2013. P. Michael Payne Chief, Permits, Conservation and Education Division, National Marine Fisheries Service sent Barry Stieglitz, Project Leader for the Hawaiian and Pacific Islands National Wildlife Refuges and Northwestern Hawaiian Islands Marine National Monument, a letter requesting formal consultation for activities related to Final Programmatic Environmental Impact Statement for Hawaiian Monk Seal Recovery Actions, Hawaii Archipelago and Johnston Atoll.

June 3, 2013. Christine Ogura, Acting Pacific Island and Remotes Refuge Manager, informed National Marine Fisheries Service that our office should take the lead on preparing this Biological Opinion.

June 5, 2013. Mr. Payne transmitted the letter requesting formal consultation for activities related to Final Programmatic Environmental Impact Statement for Hawaiian Monk Seal Recovery Actions, Hawaii Archipelago and Johnston Atoll.

July 15, 2013. Aaron Nadig, Service Fish and Wildlife Biologist, had a phone call with Amy Sloan, NMFS Office of Protected Resources to discuss past interactions with Laysan finch under previous Biological Opinion and proposed covered activities under the PEIS.

July 25, 2013. Ms. Sloan provided excerpts from PEIS and additional Laysan Finch information requested on July 15 phone conversation.

### **DESCRIPTION OF THE PROPOSED ACTION**

The Final Programmatic Environmental Impact Statement for Hawaiian Monk Seal Recovery Actions, Hawaii Archipelago and Johnston Atoll (NMFS 2013) fully describes the proposed actions and is incorporated by reference herein. A brief description of the proposed action is provided below. This Biological Opinion will include effects from recovery actions conducted by the NMFS Pacific Islands Fisheries Center, HMSRP to continue population monitoring (including health, disease, and foraging research) on the endangered Hawaiian monk seal. This consultation covers only activities authorized or permitted within the Monument. The HMSRP proposes to continue existing permitted activities in the Hawaiian Archipelago and Johnston Atoll including:

- Population assessment of seals (e.g., ground surveys; flipper tagging and marking for identification);
- Health and disease studies (e.g., capture, sedation, tissue sampling, weights and morphometrics);

- Foraging studies (e.g., telemetry studies, scat collection);
- De-worming research (e.g., fecal samples, testing anti-parasite treatments);
- Translocation of weaned pups within the NWHI to improve juvenile survival;
- Mitigation of fishery interactions (e.g., disentanglement, removal of hooks); and
- Mitigation of adult male aggression (e.g., removal of aggressive males).

New activities proposed include:

- Expanding the scope and number of seal translocations, including:
  - • moving seals with unmanageable human interactions from the MHI to the NWHI;
  - • taking seals three years of age and older from the MHI to NWHI to examine their subsequent survival; and
  - • using a two-stage translocation program where weaned pups are taken from areas of lower survival to areas of higher survival (no seals would be moved from the NWHI to the MHI as part of two-stage translocation under the proposed permit).
- Research and development of tools for modifying seal behavior to minimize interactions with humans and fishing gear in the MHI.
- Potential use of de-worming as a tool to improve juvenile survival.
- Supplementing monk seal diet using feeding stations in NWHI locations where rehabilitated seals are released.
- Vaccination studies and potential use of vaccines to mitigate infectious diseases including West Nile Virus and Morbilliviruses.
- Chemical alteration of aggressive male monk seal behavior using a testosterone suppressant.

Both NMFS and the Service maintain camps at Laysan Island. In addition to the camp at Laysan, NMFS personnel set up temporary field camps when they are working on the islands at Pearl and Hermes Atoll. Laysan finches are not fearful of humans and readily enter field camps in search of food and water. In the past, unfortunate incidents led to the mortality of several Laysan finches to include: (1) drowning in containers that filled with rain water during cloud bursts while biologist were away from the camp; (2) entrapment or entanglement in camping equipment such as tents; and (3) following a research vessel and flying down the smoke stack.

The action area pursuant to section 7 regulations consists of “all areas to be affected directly or indirectly by the Federal action.” The action area for this Biological Opinion for Laysan finch is Laysan Island and the islands in Pearl and Hermes Reef. Currently there is no federally designated critical habitat for Laysan finch.

#### Conservation Measures to Avoid and Minimize Impacts to Laysan Finch

When used in the context of the ESA, “conservation measures” represent actions proposed by the Federal action agency that are intended to further the recovery of and/or minimize or compensate for project effects on the species under review. Because conservation measures are part of the

Project Description and committed to by the action agency, their implementation is required under the terms of the consultation.

In the past, seemingly benign activities such as camping or supply storage have led to the inadvertent death of several Laysan finches. The following Best Management Practices (BMPs) are incorporated to avoid and minimize take of Laysan finch:

*To minimize accidental drownings:*

- a. Buckets will always be overturned so that they cannot collect rainwater.
- b. Laundry buckets must have lids while laundry is soaking.
- c. Buckets, bowls, and any other vessels large enough to hold a small bird containing water for dish washing or any other purpose will always be attended or covered securely.
- d. Tarps (e.g., those covering propane) will be tucked in tightly so that they cannot collect rainwater.
- e. Garbage cans used for desalinization will have netting placed between the can and the lid. Care will be taken to make sure the lids close properly; faulty positioning of hoses can interfere with proper closure.

*To minimize accidental entanglement:*

- a. Loose threads on fabric will be burned to minimize the risk of entanglement. Birds' feet can become entangled when fabric is hung out to dry.
- b. Loose threads will be cut off tents and tarps.
- c. Anything with small mesh (e.g., mist nets) will be stored in closed ziploc bags to avoid entanglement.
- d. Tent doors will be kept completely closed at all times (day and night) to preclude entry by birds.

*To minimize impacts from general camping:*

- a. Camp supplies and water jugs will be aligned with ample space between rows so that small birds cannot become entrapped.
- b. Storage jugs will always be capped.
- c. Burn barrels will be attended at all times when burning trash. When burn barrels are not in use, any vents or rust-eaten holes in the barrel or lid will be covered with rocks or other objects.
- d. For stability reasons, buckets will not be stacked more than two high. All personnel will watch for leaning buckets or water jugs and level the surface beneath leaning buckets, if necessary.
- e. Birds will not be fed or allowed access to human food because dependency on the camp food by these birds may result in adverse impacts to them during or after camping periods.
- f. Camp gear shall be checked daily during the nesting season to ensure finches are not building nests on or under camping gear.

*Quarantine to Avoid Transport of Invasive Species*

In addition to the measures described above, personnel working in the Monument must follow terrestrial quarantine protocols for moving between islands and packing for field camps (see

Appendix 1). These measures will minimize the potential for the introduction of non-native plant or insect taxa to the Monument. These strict quarantine measures will decrease the potential that invasive taxa will become established and modify the habitat for Laysan finch or green sea turtles.

## STATUS AND ENVIRONMENTAL BASELINE OF THE SPECIES

### Laysan Finch

#### Species Description

The Laysan finch is a member of the *Fringillidae* family with an overall length of 6 to 6.5 in (15 to 16 cm). It is one of four remaining finch-billed Hawaiian honeycreepers and is closely related to the smaller Nihoa finch. The Laysan finch is a large honeycreeper with a heavy bill. Males have yellow plumage with a whitish belly and a grey neck, while females are generally duller in color with brown streaking.

#### Listing Status

The Laysan finch was federally listed as endangered in 1967 (Service 1967).

#### Historical and Current Distribution

When discovered on Laysan in 1890, Laysan finches were considered “exceedingly common.” Visitors to Laysan circa 1915 described the species as “abundant” and estimated 2,700 in 1911 and 4,000 in 1915. However, Laysan finches declined sharply after the vegetation on Laysan virtually disappeared subsequent to rabbit introduction circa 1903. As few as 100 Laysan finches may have remained in 1923 (Service 2008). Rabbit extirpation by members of the Tanager Expedition in 1923 undoubtedly saved the Laysan finch from extinction. An estimated 1,000 Laysan finches in 1936 increased to 5,000 by 1950. Service surveys in the 1970s and 1980s suggested as many as 10,000. Laysan finches were translocated to an island in Pearl and Hermes Atoll in 1967. There were 108 birds left on Laysan that year, which grew to an estimated 523 by 1983 (Service 2008).

#### Ecology

Laysan finches lay their eggs generally late April to early June in clumps of bunchgrass, though other nesting sites, such as holes in rocky areas and even buildings (formerly present on Laysan), have been documented. *Eragrostis* spp. is currently the most common bunchgrass and most common nest site for shallow-cup nests averaging three eggs (range two to four). Nests are usually located several centimeters above the ground, centered in a grass clump, and well concealed. Incubation is about 16 days and the nestling period 15 days. Fledging is often in late July or early August (Service 2008).

#### Threats

Threats to Laysan finch are: 1) degradation and loss of habitat resulting from invasive alien species; 2) demographic effects of environmental stochasticity on small isolated populations; and 3) global warming and sea level rise that would increase storm frequency and magnitude increasing rainfall and wave height in Hawaiian Islands National Wildlife Refuge. In recent years, monotypic stands of the invasive plant *Verbesina encelioides* have been documented

replacing much of the native vegetation on the Southeast Island of Pearl, thus reducing nesting and foraging resources for Laysan finches (Service 2008).

### Environmental Baseline

The Laysan finch population on Laysan Island has been monitored on an annual basis since 1966 (except 1980–1982). The estimated 44-year average Laysan finch population size was 10,029 (Underwood 2013) with population appearing stable and most likely at carrying capacity. Population estimates have ranged from >20,000 in 1976 to approximately 3,600 finches in 2007. The population at Pearl and Hermes Atoll was estimated as 329 in 2010, down from 600 to 900 in 2003 and 1,105 in 2002 (Service 2008).

## **EFFECTS OF THE ACTION**

### Laysan Finch

The Laysan finch is a highly inquisitive bird that constantly inspects and probes all types of objects. While this behavior may benefit the species in its natural environment, it can be problematic in human-altered environments. The Laysan finch does not appear innately wary of manmade items, possibly because it evolved in isolation from human-altered environments. Situations that one would not normally think of as hazards to wildlife become sources of Laysan finch mortality such as drowning, entanglement and entrapment. Both NMFS and the Service maintain camps at Laysan Island. In addition to the camp at Laysan, NMFS personnel set up field camps when they are working on the islands at Pearl and Hermes Atoll. Since Laysan finches are tame to human presence, they enter these field camps in search of food and water. Unintentional mortality or serious injury of Laysan finches has occurred in the past, and in all likelihood will occur in the future. Past mortalities resulted from events such as drowning in camp containers filled with water, becoming trapped in camp tents and entanglement in loose strings and netting. In May 2009, seven to ten Laysan finches flew out to the R/V Oscar Elton Sette as it was taking researchers to an islet in the Pearl and Hermes Atoll. It is thought the birds may have flown out to the ship in search of food and water as these resources were scarce on the island. Unfortunately, several of the birds flew down the smokestack of the ship and one was killed. This is the first known occurrence of this behavior and subsequently it is believed this was an anomalous event. This is another example of the type of odd behavior exhibited by these birds that can lead to unanticipated mortality (Flint 2009, pers. comm.). In 2009, the Service issued incidental take of up to 10 Laysan finch mortalities over a five-year period in a Biological Opinion analyzing NMFS research of Hawaiian monk seals on Pearl and Laysan (Service 2009b); eight mortalities have occurred to date (Johanos 2011). Of those 8 in 2011, five Laysan finches died at Pearl and Hermes during a single incident after a lid was left off a pallet tub and then accumulated rainwater. In response to these unfortunate incidences, the HMSRP has reviewed its training protocols for staff working at Laysan Island and Pearl and Hermes, and placed a renewed emphasis on the avoidance and minimization measures described below. The March 2011 tsunami may have affected the Laysan finch on Laysan, but no carcasses were found (Rehkemper 2011). There were no lethal takes of Laysan finches in 2012.

The conservation measures described in the project description will reduce the risk of inadvertent mortality due to drowning, entanglement and/or entrapment of Laysan finches at the campsite.

In addition, reducing the risk by eliminating problematic situations such as turning over buckets and not stacking camp materials will reduce the potential for inadvertent mortality of Laysan finch. The conservation measures outlined in this biological opinion to minimize the risk of harm to Laysan finches have been followed by the researchers for several years. There has been a decrease in the number of Laysan finch mortalities associated with the campsites in recent years due to the strict adherence to these measures (Rehkemper 2009, pers. comm.).

Based on the bird's inquisitive nature and lack of fear of humans, it is imperative that researchers try to anticipate situations that may result in take of Laysan finches and use their best judgment to avoid potential situations that may lead to Laysan finch mortality. As demonstrated in the past, when experiencing water and food stress, these birds will exhibit unusual behavior when interacting with humans that has resulted in mortality. Researchers, in coordination with Refuge and Service biologists, will be able to decrease finch mortality by adaptively modifying activities or camp sites if and when a new situation arises that harms Laysan finch.

### Invasive Species

The quarantine measures required for persons working in the Monument will minimize the potential for introducing non-native plant and insect taxa within the Monument. As demonstrated in numerous insular habitats, the unintentional introduction of non-native taxa has had unintended and devastating consequences for insular biota (Cuddihy and Stone 1990). It is already thought that the introduction of *Verbesina encelioides* has altered the ecology of Pearl and Hermes Reef to such an extent that Laysan finches are affected by the change in vegetation composition and structure. Since the researchers have been and will continue to strictly adhere to the quarantine requirements as outlined in Appendix 1, the likelihood of introduction of other non-native taxa is greatly reduced. This measure also reduces the risk that researchers will negatively impact Laysan finch through the introduction of invasive taxa.

## CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, local or private actions that are reasonably certain to occur within the area of action subject to consultation. Future Federal actions will be subject to the consultation requirements established in section 7 of the Act and, therefore, are not considered cumulative for the proposed action. The Service maintains a camp on Laysan Island and in the past there have been occasional Laysan finch mortalities in the vicinity of the camp as a result of human actions. The Service is unaware of any other future State, local, or private actions that are reasonably certain to occur within the action area covered in this Biological Opinion and that would not be subject to consultation.

## CONCLUSION

After reviewing the current status of the Laysan finch, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's Biological Opinion that implementation of the proposed action is not likely to jeopardize the continued

survival and recovery of the Laysan finch in the wild. No critical habitat has been designated for this species; therefore, none will be affected.

### **INCIDENTAL TAKE STATEMENT**

Section 9 of the Act and Federal regulations promulgated pursuant to section 4(d) of the Act prohibit the take of endangered or threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

### **AMOUNT OR EXTENT OF TAKE**

Based on Laysan finch mortality associated with human activity on Laysan and the islands at Pearl and Hermes Atoll in the past, it is the Service's opinion no more than two Laysan finch will be taken in the form of mortality per year, and a total of 20 individuals per decade as a result of HMSRP research and monk seal recovery activities.

The Service will not refer the incidental take of any migratory bird for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §703-712), if such take is in compliance with the terms and conditions specified herein.

#### Effect of the Take

The take of two Laysan finches annually represents a small fraction of the approximately 10,029 birds on Laysan. The take would not be of sufficient size or magnitude to have population level effects. We have determined that this level of anticipated take is not likely to jeopardize the survival or recovery of the Laysan finch.

#### Reasonable and Prudent Measures

The reasonable and prudent measures given below, with their implementing terms and conditions, are designed to minimize the impacts of incidental take that might otherwise result from the proposed actions. If, during the course of the action, the level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. In addition, the action that caused the taking must cease; the action agency must immediately provide an explanation of the causes of the

taking; and must review with the Service the need for possible modification of the reasonable and prudent measures. The following reasonable and prudent measure is necessary and appropriate to minimize the effect of take on Laysan finch.

1. NMFS shall minimize the potential for harassment, harm, or mortality of Laysan finch.

#### Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the Service and any subsequent project applicant, must ensure compliance with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are nondiscretionary.

The following terms and conditions implement reasonable and prudent measure number one.

1. If any unforeseen activity or action results in the harm or mortality of Laysan finches, all practicable means will be taken to apply avoidance or minimization measures to reduce the risk of additional take from that activity.
2. All Laysan finch mortalities that are a result of actions which are associated with research activities described above shall be reported to our office within five (5) days of the incident.
3. If an incidental death occurs that has not been addressed in this Biological Opinion, the Service will be contacted as soon as logistically feasible to discuss the cause of the mortality and determine the most appropriate method to avoid future mortalities from this new risk factor.
4. Dead Laysan finches will be sent to Dr. Thierry M. Work at the National Wildlife Health Center, Honolulu Field Station (U.S. Geological Survey-Biological Resources Discipline) for a necropsy. The method of shipment and preservation will be determined in coordination with Dr. Work.

### **CONSERVATION RECOMMENDATIONS**

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. The term "conservation recommendations" has been defined as suggestions from the Service regarding discretionary measures to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information. The recommendations provided here relates only to the proposed action and do not necessarily represent complete fulfillment of the agency's 7(a)(1) responsibilities for these species.

1. As described above, *Verbesina encelioides* has invaded several islands within the Monument and has decreased the utility of these invaded islands as habitats for many bird species. The Service recommends the personnel implementing monk seal research and enhancement activities learn to identify *V. encelioides* and document its presence on each island. If the plant is identified where it has not been documented in the past, the plants

should be photographed and their locations mapped or marked by GPS. This information should be shared with Mr. Barry Stieglitz, Project Leader for the Hawaiian and Pacific Islands National Wildlife Refuges and Northwestern Hawaiian Islands Marine National Monument.

### REINITIATION-CLOSING STATEMENT

This concludes formal consultation on this action. As required in 50 CFR § 402.16, reinitiation of consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operation causing such take must cease pending reinitiation.

As stated in the Conclusion (above), the Service's finding of non-jeopardy is based in large part on the conservation measures. Should there be a failure to carry out any or all of the described measures, or if the measures are not effective, or if these measures are modified in any way without Service coordination, reinitiation of consultation will be required. If you have any questions regarding this Biological Opinion, please contact Aaron Nadig at (808) 792-9400.

Sincerely,



Jess Newton  
Acting Deputy Field Supervisor:  
Geographic Division

**REFERENCES**

Cuddihy, L.W., and C.P. Stone. 1990. Alteration of native Hawaiian vegetation: effects of humans, their activities and introductions. University of Hawaii, Honolulu. 138 pp.

Flint, B. 2009. U. S. Fish and Wildlife Service, Supervisory Wildlife Biologist, Pacific Islands Remotes. Telephone conversation with Patrice Ashfield, July 1, 2009.

Johanos, T. 2011. National Oceanic and Atmospheric Administration, Lead, Monk Seal Population Assessment Program, Pacific Islands Fisheries Science Center, Honolulu, Hawaii. Email correspondence with Tim Langer during July-August.

PMNM (Papahānaumokuākea Marine National Monument). 2008. PMNM management Plan, Honolulu, Hawaii.

NMFS 2013. NMFS Hawaiian Monk Seal Recovery Actions Programmatic Environmental Impact Statement and Permit Application File No. 16632: Effects to U.S. Fish and Wildlife Service Species

Rehkemper, C. 2009. Biologist, Papahānaumokuākea National Marine Monument. Telephone conversation with Patrice Ashfield June 30, 2009

Rehkemper, C. 2011. United States Fish and Wildlife Service, Refuge Biotechnician, Papahānaumokuākea National Marine Monument. Personal communication with Tim Langer, PIFWO biologist, on September 22.

Service (United States Fish and Wildlife Service). 1967. Endangered and threatened wildlife, listings of endangered and threatened fauna. Federal Register 32:48.

Service. 1984. Recovery Plan for the Northwestern Hawaiian Islands Passerines. Department of the Interior, U.S. Fish and Wildlife Service, Portland, Oregon.

Service. 2008. Laysan finch (honeycreeper) (*Telespiza cantans*) 5-Year Review: Summary and Evaluation.

2009a. Revised recovery plan for the Laysan duck (*Anas laysanensis*). United States Fish and Wildlife Service. Portland, Oregon. 114 pp.

Service 2009b. Biological opinion for the Issuance of a Permit to Conduct Field Research on the Hawaiian Monk Seal, Hawaii and Johnston Atoll. United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service and United States Department of the Interior, Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, Honolulu, Hawaii. 18 pp.

Underwood, J. 2013. Population Status of the Endangered Laysan Finch. The Wilson Journal of Ornithology, 125(1):159-164. 2013.

## Appendix 1



## Appendix 1: Terrestrial Quarantine Protocol

### PAPAHANAUMOKUAKEA MARINE NATIONAL MONUMENT TERRESTRIAL QUARANTINE PROTOCOLS FOR MOVING BETWEEN ISLANDS AND ATOLLS AND PACKING FOR FIELD CAMPS

February 2008

The islands and atolls of the Papahānaumokuākea Marine National Monument (Monument) and the Hawaiian Islands National Wildlife Refuge are special places providing habitat for many rare, endemic plants and animals. Many of these species are formally listed as Endangered under the Endangered Species Act. Endemic plants and insects, and the predators they support, are especially vulnerable to the introduction of competing or consuming species. Such introductions may cause the extinction of island and reef endemics, or even the destruction of entire island ecosystem or reef ecological communities. Notable local examples include the introduction of rabbits to Laysan Island in 1902, which caused the extinction of numerous plant and insect species, and three endemic land bird species; the introduction of rats to many Pacific Islands causing the elimination of many burrowing seabird colonies; the introduction of the annual grass, sandbur, to Laysan Island where it has crowded out native bunch grass thus, eliminating nesting habitat for the Endangered Laysan finch; and, the introduction and proliferation of numerous ant species throughout the Pacific Islands to the widespread detriment of endemic plant and insect species.

Several of the islands within the Monument are especially pristine, and as a result are rich in rare and special plants and animals. Nihoa Island has at least 17 endemic and rare insect species, five endangered plants and two endangered birds. Necker Island has endangered plants and 11 endemic insects. Laysan Island has endangered plants, nine endemic arthropods and the endangered Laysan finch and Laysan duck. Other islands in the Monument, such as Lisianski, and islands in Atolls such as Pearl and Hermes Reef and French Frigate Shoals provide homes for a variety of endemic and/or endangered species and require special protection from alien species.

Other Pacific Island such as Kure and the “high islands” (Oahu, Hawaii, Maui, Kauai, etc.) as well as, certain islands within Midway Atoll, Pearl and Hermes Reef and French Frigate Shoals have plants and/or animals that are of high risk for introduction to the relatively pristine islands discussed above. Of special concerns are snakes, rats, cats, dogs, ants and a variety of other insect and plant species. Harmful plant species of highest concern that we know of are *Verbesina encelioides*, *Cenchrus echinatus*, and *Setaria verticillata*.

The Co-trustees are responsible for the management and protection of the islands, reefs and wildlife of the Monument. No one is permitted to set foot within the Monument without the express permission of the Co-trustees through the permitting process. Because of the above concerns, the following restrictions on the movement of personnel and materials throughout the Monument exist.

**Definitions:**

New Off the shelf and never used anywhere but the island in question.

Clothing All apparel, shoes, and socks, over and under garments.

Soft Gear All gear such as daypacks, fanny packs, packing foam or similar material, camera bags, camera/binocular straps, microphone covers, nets, holding or weighing bags, bedding, tents, luggage, or any fabric or material capable of harboring seeds, spores, or insects.

Frozen Sealed in a clean or new container and put in a freezer for at least 48 hours to kill any insects or animals and damage any seeds that may be harbored within.

**The following conditions and rules apply to the all islands within the Monument with the exception of those at French Frigate Shoals and Midway Atoll:**

**General Rules:**

1. Regardless of origin or destination, inspect and clean all equipment, supplies, etc., just prior to any trip to the Monument. Carefully clean all clothing, footwear and soft gear following use to minimize risk of cross contamination of materials between islands.
2. Pack supplies in plastic buckets with fitted lids or other sealable metal or plastic containers so they can be thoroughly cleaned inside and out. Cardboard is not permitted on the islands. Cardboard boxes disintegrate in a short time and harbor seeds, animals, etc., which cannot be easily found or removed. Wood is not permitted unless sealed on all surfaces. Wooden boxes can also harbor insects and seeds and therefore are only allowed if they are well constructed (tight fitting seams are required). All wood must be treated, and inside and outside surfaces must be painted or varnished to provide a smooth, cleanable finish that seals all holes.
3. Freeze or tarp and fumigate then seal all equipment (clothes, books, tents, everything) just prior to departure. Food and cooking items need not be fumigated but should be cleaned and frozen, if freezable. Cameras, binoculars, radios, and other electronic equipment must be thoroughly cleaned, including internal inspection whenever possible, but do not need to be frozen or fumigated. Such equipment can only be packed in wooden crates if treated as in #2 above. Any containers must contain new, clean packing materials and be frozen or fumigated.
4. At present, Tern Island is the singular exception to the above rule, having less stringent rules due to the large number of previously established alien species. Careful inspection of all materials and containers is still required. However, it is acceptable to use wooden and cardboard containers for transporting supplies to Tern Island. Also, there is no requirement for freezing or fumigating items disembarked at Tern. Although requirements for Tern Island are more lax, the Monument is still concerned about the possibilities of new introductions. Do not wear clothing to Tern Island that has been worn at Pearl and Hermes, Midway Atoll or Kure Atoll.

5. To avoid transport of seeds from within the boats used between island and atolls in the Monument the following steps must be taken. For islands with safe or sandy landing conditions, one should keep quarantine shoes/socks inside quarantine containers until the island is reached. One should go ashore bare foot, and then don the quarantine shoes. Non-quarantine shoes should be removed in the small boat, put into a bucket or some kind of sealed container, and left enclosed in that container until the person departs the island. The sealed container, if clean on the outside, may be taken ashore, but should not be opened ashore. For landings which are rocky, rough, and relatively unsafe (such as Mokumanamana and Nihoa) for safety reasons, quarantine shoes should be donned when inside the small boats, but care should be taken to look for seeds and insects which may be in the small boat and ensure they do not get ashore.

#### **Rules Regarding Clothing and Soft Gear:**

1. Any personnel landing boats at any island should have clean clothes and shoes.
2. Any personnel going ashore at any island and moving inshore from the immediate area in which waves are breaking at the time of landing must have new footwear, new or island specific clothes and new or island specific soft gear. All must be frozen for at least 48 hours prior to landing.
3. At the discretion of the local FWS representative, personnel from the NOAA ships or any other vessel servicing the Monument may be allowed on shore to visit pre-designated areas for guided tours. For such tours, personnel must have new footwear, new clothes and new soft gear all frozen for at least 48 hours prior to landing.
4. Any personnel entering any vegetated area, regardless of how sparse the vegetation, must have new footwear, new clothes and new soft gear all frozen for at least 48 hours prior to landing.
5. Clothing or gear coming off Kure and Midway should never be moved to any of the other refuge islands. During transit, clothing and gear coming off Kure and Midway must be carefully sequestered to avoid contamination of gear bound for cleaner islands. Special care must be taken to avoid contaminating gear storage areas and quarters aboard transporting vessels with seeds or insects from these islands.

#### **Rules Regarding Food:**

1. All fresh food is prohibited.
2. Tomatoes (any variety), ray sunflower seeds, alfalfa seeds, mustard seeds.
3. Bulk dried fruits are allowed but should be frozen solid for at least one day to kill any insects.
4. Seeds from sprouting species such as alfalfa, mustard and cress, commonly used for sprouted greens, could potentially become established and cannot be brought to the islands. Other species, such as mung beans, soy beans, and radishes, would not likely to survive on the islands and can be used for fresh greens.
5. Soil can contain many seeds, eggs, larvae, etc., and cannot be transported to or between islands.
6. All other food that can be safely frozen (this does not apply to food in cans or glass jars) must be packaged in air tight containers just as all other gear and frozen for 48 hours.

**Additional Rules for Travel to Nihoa and Necker (Mokumanamana) Islands:**

Nihoa and Mokumanamana are the most pristine locations in the Monument. Nihoa is home to the highest number of federally listed endangered species in the Monument. Many areas of these small rugged islands are inaccessible. Introduction of any alien species could have disastrous results in a very short time. It would be almost impossible to mount any kind of control or eradication program on these islands should an alien species become established. Because of these reasons, access to Nihoa and Mokumanamana are strictly limited, and rules governing entry are more stringent. Access to Nihoa and Mokumanamana by permittees will only be allowed under the accompaniment and supervision of a U.S. Fish and Wildlife Service (Service) Representative. The representative, who shall be appointed by the U.S. Fish and Wildlife Service Monument Superintendent, will work with permittees to assure careful compliance with all rules for inspection, handling and preparation of equipment. The Service Representative will have the authority to control and limit access to various parts of the island to protect animals, plants and archaeological sites, especially endangered species. The Service Representative will have the authority to disallow access to the island, or order an immediate departure from the island if conditions for working on the island are not met or are violated in any way.

1. All field equipment made out of fabric material or wood must be new and never previously used in the Northwestern or main Hawaiian Islands. Equipment previously purchased or made for use on Nihoa and Mokumanamana that has been carefully sealed and stored while away from Nihoa and Mokumanamana, and not used elsewhere, may also be brought onto the island. Rules for freezing and/or fumigating are as described for other sites in the Monument (see above).
2. Clothing, footwear (shoes, slippers, socks, etc.), daypacks (soft gear) must be new, unused, or previously only used on Nihoa (or Mokumanamana) and carefully sealed and stored while off of the island. Hard gear such as camera and equipment must be thoroughly cleaned and inspected.

**Additional Rules for Travel Within Pearl and Hermes Atoll:**

In recent years *Verbesina encelioides* has been introduced to Southeast Island within Pearl and Hermes Atoll. This noxious weed has taken over a large portion of the island. To prevent the further spread of this weed to the other islands within this atoll the following precaution must be taken:

1. Every person should have one set of quarantine gear and clothing for Southeast Island and one set of quarantine gear and clothing for all other islands in the atoll. For instance the same clothing, and if needed camping gear, may be used at North and Seal Kittery, but anything used at southeast needs to stay off all other islands in the atoll. Do not use the outer islet clothing and gear on Southeast Island.
2. Carefully inspect small boats and their associated equipment when traveling between islands at Pearl and Hermes Atoll. Since folks likely take one anchor ashore and put one anchor in the water there is potential for seed dispersal on anchor lines as well as from within the small boats. This needs to be watched very carefully.