



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

Frank Parrish, Ph.D.
Chief, Protected Species Division
National Marine Fisheries Service
Pacific Islands Fisheries Science Center
1845 Wasp Boulevard, Building 176
Honolulu, HI 96818

JUN 16 2014

Dear Dr. Parrish:

The National Marine Fisheries Service has issued Permit No. 16632-00 to the Pacific Islands Fisheries Science Center, Hawaiian Monk Seal Research Program, for research and enhancement activities on Hawaiian monk seals (*Monachus schauinslandi*). This permit is effective upon your signature and valid through June 30, 2019.

Here's what you need to do to use your permit:

1. Read the permit, including attachments. If you have questions, call your permit analyst – Amy Sloan or Courtney Smith – at 301-427-8401 before signing the permit.
2. Sign and date the original signature page and the signature page marked “file copy.”
3. Keep the original signature page with your permit. You need both as proof of your authorization to conduct the research and enhancement activities.
4. Send the “file copy” signature page to our office as proof of your acceptance of the permit.

Please keep email contact information current in our online database (<https://apps.nmfs.noaa.gov/>). You will receive automated email reminders of due dates for annual and final reports, and a notice prior to expiration of your permit.

Please return the signature page marked “file copy” to the Permits Division (F/PR1), 1315 East-West Highway, Silver Spring, MD 20910. You may also submit the “file copy” of the signature page by facsimile (FAX number: 301-713-0376) and confirm it by mail.

Sincerely,

Jolie Harrison
Acting Chief, Permits and Conservation
Division
Office of Protected Resources
(phone: 301-427-8401)

Enclosure
cc: Charles Littnan, Ph.D.





Permit No. 16632-00
Expiration Date: June 30, 2019
Reports Due: March 31, annually

PERMIT TO TAKE PROTECTED SPECIES¹ FOR SCIENTIFIC RESEARCH AND ENHANCEMENT PURPOSES

I. Authorization

This permit is issued to the NMFS Pacific Islands Fisheries Science Center, Protected Species Division, Hawaiian Monk Seal Research Program (hereinafter “Permit Holder”), 1845 Wasp Boulevard, Building 176, Honolulu, HI 96818 [Responsible Party: Frank Parish, Ph.D.], pursuant to the provisions of the Marine Mammal Protection Act of 1972 as amended (MMPA; 16 U.S.C. 1361 *et seq.*); the regulations governing the taking and importing of marine mammals (50 CFR Part 216); the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*); and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR Parts 222-226).

II. Abstract

The objectives of the permitted activity, as described in the application, are to carry out research and enhancement activities designed to conserve and recover the endangered Hawaiian monk seal (*Monachus schauinslandi*). Research is intended to identify impediments to recovery, inform the design of conservation interventions, and evaluate those measures. Enhancement activities are designed to improve the survival and reproductive success of individual monk seals, with the intent to improve subpopulation and overall species’ status.

III. Terms and Conditions

The activities authorized herein must occur by the means, in the areas, and for the purposes set forth in the permit application, and as limited by the Terms and Conditions specified in this permit. Permit noncompliance constitutes a violation and is grounds for permit modification, suspension, or revocation, and for enforcement action.

A. Duration of Permit

1. Personnel listed in Condition C.1 of this permit (hereinafter “Researchers”) may conduct activities authorized by this permit through June 30, 2019. This permit expires on the date indicated and is non-renewable. This permit may be extended by the Director, NMFS Office of Protected Resources, pursuant to applicable regulations and the requirements of the MMPA and ESA.

¹ “Protected species” include species listed as threatened or endangered under the ESA, and marine mammals.

2. Researchers must immediately stop permitted activities and the Permit Holder must contact the Chief, NMFS Permits and Conservation Division (hereinafter “Permits Division”) for written permission to resume:
 - a. If serious injury or mortality² of protected species reaches that specified in Table 1 of Appendix 1. See Condition E.2 for reporting requirements.
 - b. If authorized take³ is exceeded, including unintentional takes of protected species not listed in this permit. See Condition E.2 for reporting requirements.
3. The Permit Holder may continue to possess biological samples⁴ acquired⁵ under this permit after permit expiration without additional written authorization, provided the samples are maintained as specified in this permit.

B. Number and Kind(s) of Protected Species, Location(s) and Manner of Taking

1. The tables in Appendix 1 outline the number and kind of protected species authorized to be taken and the locations, manner, and time period in which they may be taken.
2. Researchers working under this permit may collect visual images (e.g., photographs, video), in addition to the photo-identification or behavioral photo-documentation authorized in Appendix 1, as needed to document the permitted activities, provided the collection of such images does not result in takes.
3. The Permit Holder may use visual images or audio recordings collected under this permit, including those authorized in Table 1 of Appendix 1, in printed materials

² This permit allows for unintentional serious injury and mortality caused by the presence or actions of researchers up to the limit in Table 3 of Appendix 1. This includes, but is not limited to: deaths or injuries sustained by animals during capture and handling, or while attempting to avoid researchers or escape capture; and deaths resulting from infections related to sampling procedures. Note that for marine mammals, a serious injury is defined by regulation as any injury that will likely result in mortality.

³ By regulation, a take under the MMPA means to harass, hunt, capture, collect, or kill, or attempt to harass, hunt, capture, collect, or kill any marine mammal. This includes, without limitation, any of the following: The collection of dead animals, or parts thereof; the restraint or detention of a marine mammal, no matter how temporary; tagging a marine mammal; the negligent or intentional operation of an aircraft or vessel, or the doing of any other negligent or intentional act which results in disturbing or molesting a marine mammal; and feeding or attempting to feed a marine mammal in the wild. Under the ESA, a take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to do any of the preceding.

⁴ Biological samples include, but are not limited to: carcasses (whole or parts); and any tissues, fluids, or other specimens from live or dead protected species; except feces, urine, and spew collected from the water or ground.

⁵ Authorized methods of sample acquisition are specified in Appendix 1.

(including commercial or scientific publications) and presentations provided the images and recordings are accompanied by a statement indicating that the activity was conducted pursuant to a NMFS Permit. This statement must accompany the images and recordings in all subsequent uses or sales.

4. The Chief, Permits Division may grant written approval for photography, filming, or audio recording activities not essential to achieving the objectives of the permitted activities, including allowing persons not essential to the research (e.g., a documentary film crew) to be present, provided:
 - a. The Permit Holder submits a request to the Permits Division specifying the location and nature of the activity, approximate dates, and number and roles of individuals for which permission is sought.
 - b. Non-essential photography, filming, or recording activities will not influence the conduct of permitted activities or result in takes of protected species.
 - c. Persons authorized to accompany the Researchers for the purpose of such non-essential activities cannot participate in the permitted activities unless duly qualified and authorized under Section C.
 - d. The Permit Holder and Researchers do not require compensation from the individuals in return for allowing them to accompany Researchers.
5. Researchers must comply with the following conditions related to the manner of taking:
 - a. Researchers must carry out permitted activities efficiently and use biologists experienced in capture, tagging, and sampling techniques to minimize handling time of seals and disturbance to haulout areas.
 - b. To the maximum extent feasible to minimize disturbance:
 - i. Only take target animals, retrieve carcasses, or collect opportunistic samples (e.g., scat) when other seals are not in the immediate vicinity, particularly mother/pup pairs; and
 - ii. Move carcasses to a secure area away from other seals for necropsies.
 - c. Only experienced, well-trained personnel may perform intrusive procedures (e.g., blood sampling, administering drugs). For activities involving the use of sedatives, an experienced veterinarian must be present.
 - d. Researchers must use sterile disposable needles, biopsy punches, and other sampling tools to the maximum extent practicable (always use disposable needles for blood sampling and injections). Researchers must thoroughly

clean and disinfect non-disposable equipment between animals and, as needed, immediately prior to each use.

- e. Researchers must immediately cease activities if the situation is life threatening to a seal, if a seal has an adverse reaction to a drug, or if a seal shows signs of acute or protracted alarm reaction (e.g., overexertion, constant muscle tensions, abnormal respiration or heart rate) that may lead to serious injury, capture myopathy, other disease conditions, or death; and monitor and treat the animal as determined appropriate by the Principal Investigator, Co-investigator, or attending veterinarian.
- f. Researchers must monitor seals that have been captured, treated, or are recovering from immobilizing drugs to ensure they resume normal behavior and have an opportunity to recover without undue risk of drowning or injury from other animals.
- g. To the maximum extent feasible without causing further disturbance, researchers must monitor seals following any disturbance (e.g., captures) to determine if seals had adverse reactions, were seriously injured, or died as a result of Researchers' actions. In the event a seal is seriously injured or dies, a report must be submitted to the Chief, Permits Division in accordance with Condition E.2.
- h. In the rare event a nursing pup is orphaned as a result of any activities authorized in this permit, the pup must be humanely provided for (i.e., placed in a Stranding facility for rehabilitation or humanely euthanized). Rehabilitation must be done in consultation with the Marine Mammal Health and Stranding Response Program (MMHSRP) and under the authority of the MMHSRP permit. Pups that are euthanized count against the total number of animals authorized for unintentional mortality in Appendix 1, Table 3.
- i. De-worming and vaccination:
 - i. If treatment or any artifact of treatment significantly compromises the health and welfare of a seal, Researchers must halt treatments and contact the Chief, Permits Division as soon as feasible. The Permit Holder must submit a written incident report as described in Condition E.2. The Permits Division may grant authorization to resume treatments based on review of the incident report and in consideration of the Terms and Conditions of this permit.
 - ii. The Permit Holder must provide with each annual report: a description of how the treatments proceeded, any problems encountered, and observed effects of the treatments (adverse and beneficial).

- iii. Prior to initiating full-scale de-worming treatments or prophylactic vaccination treatments, the Researchers and veterinarians must determine that the treatments have no significant adverse effects to seals; and for de-worming, that the treatments are beneficial to survival.
- j. Euthanasia:
- i. Over the duration of the permit, up to 10 moribund seals may be humanely euthanized if an experienced on-site veterinarian determines that there is a high probability of the death of the animal due to its condition.
 - ii. Over the duration of the permit and as a last resort after consideration of translocation and removal to permanent captivity, up to 10 adult male seals may be humanely euthanized if they are known or strongly suspected of causing serious injury or mortality of conspecifics.
 - iii. An experienced veterinarian must conduct the euthanasia. An exception may be made in rare cases necessitating immediate action if highly trained and qualified Researchers are available and consult with an experienced veterinarian. After necropsy, parts not retained from seals chemically euthanized must be collected for environmentally safe disposal.
 - iv. In the event a seal is euthanized, a written incident report must be submitted to the Chief, Permits Division in accordance with Condition E.2.
- k. Translocations:
- i. The Permit Holder must submit, in accordance with Condition E.2, a written incident report in the event a seal dies, is seriously injured, or experiences significant health problems due to the translocation process.
 - ii. The Permit Holder must submit with the annual report the following information regarding translocated seals:
 - 1. The number of seals, by age and sex, translocated each year;
 - 2. A summary of health assessments, post-release movement and foraging behavior and any re-sight information including body condition; and
 - 3. Estimates of survival rates for all translocated seals (for the period from date of translocation to date of the annual report).

- l. Unmanned aerial and amphibious vehicles:
 - i. If animals react to the presence of unmanned vehicles, Researchers must slowly increase the altitude/distance to minimize disturbance; and
 - ii. The Permit Holder must submit with the annual report data on disturbance rates of seals specific to unmanned aerial and amphibious vehicles in addition to other disturbances.

- m. For health assessment sampling and instrumentation, annually up to 10 animals may be captured, released/not fully processed, and recaptured for full processing (to account for failed capture/processing attempts).

- n. Researchers working in Northwestern Hawaiian Islands must adhere to the following U.S. Fish and Wildlife Service conditions:
 - i. Walking is prohibited on all beaches, from dusk to dawn, where adult sea turtles rest.
 - ii. All field camps must use maximum light control (shading, minimum wattage, etc.).
 - iii. All field camps must avoid disorienting hatchling turtles.
 - iv. Researchers must follow U.S. Fish and Wildlife Service mitigation measures to minimize injury or mortality of Laysan finch and other endangered bird species, and report injuries or mortalities as required.

6. The Permit Holder must comply with the following conditions and the regulations at 50 CFR 216.37 for biological samples acquired or possessed under authority of this permit.
 - a. The Permit Holder is ultimately responsible for compliance with this permit and applicable regulations related to the samples unless the samples are permanently transferred according to NMFS regulations governing the taking and importing of marine mammals (50 CFR 216.37) and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR 222.308).

 - b. The Permit Holder must receive written approval from the Permits Division to use samples for purposes not related to the permitted objectives.

 - c. Samples must be maintained according to accepted curatorial standards and must be labeled with a unique identifier (e.g., alphanumeric code) that is connected to on-site records with information identifying the:
 - i. Species and, where known, age and sex;
 - ii. Date of collection, acquisition, or import;
 - iii. Type of sample (e.g., blood, skin, blubber);
 - iv. Origin (i.e., where collected or imported from); and
 - v. Legal authorization for original collection or import.

- d. Biological samples belong to the Permit Holder and may be temporarily transferred to Authorized Recipients identified in Appendix 2 without additional written authorization, for analysis or curation related to the objectives of this permit. The Permit Holder remains responsible for the samples, including any reporting requirements.
 - e. The Permit Holder may request approval of additional Authorized Recipients for analysis and curation of samples related to the permit objectives by submitting a written request to the Permits Division specifying:
 - i. The name, affiliation, and address of the recipient;
 - ii. The types of samples to be sent (species, tissue type); and
 - iii. The type of analysis or whether samples will be curated.
 - f. Sample recipients must be authorized pursuant to 50 CFR 216.37 prior to permanent transfer of samples and transfers for purposes not related to the objectives of this permit.
 - g. Biological samples cannot be bought or sold.
7. Researchers must comply with the following conditions for animals used in captive research or transferred to permanent captivity, as applicable:
- a. Hawaiian monk seals must be transported and maintained in captivity in compliance with the Animal Welfare Act (AWA) and AWA implementing regulations “Specifications for the Humane Handling, Care, Treatment, and Transportation of Marine Mammals” (9 CFR Part 3, Subpart E).
 - b. Prior to removing adult male seals from the wild for permanent captivity, the Permit Holder must provide:
 - i. Confirmation that a facility has agreed to permanently house the seals, the facility’s specifications and AWA license or registration, and whether such facility has a permit to obtain the animal(s); and
 - ii. Plans for temporary care of the animals prior to transfer to the permanent facility, if applicable.
 - c. Animals undergoing research in captivity must be closely monitored to determine if research activities are having an adverse effect on the individuals. An attending veterinarian must be available for emergencies, illnesses, and for treating any health problems associated with the research.

C. Qualifications, Responsibilities, and Designation of Personnel

1. At the discretion of the Permit Holder, the following Researchers may participate in the conduct of the permitted activities in accordance with their qualifications and the limitations specified herein:

a. Principal Investigator – Charles Littnan, Ph.D.

b. Co-Investigators –

All activities except procedures conducted only by veterinarians (i.e., sedation, blood and biopsy sampling): Jason Baker, Ph.D., Brenda Becker, Shawn Farry, John Henderson, Thea Johanos, Angie Kaufman, Jessica Lopez, Lizabeth Kashinsky, Tracy Wurth, Mark Sullivan, and Chad Yoshinaga; and

All activities: Michelle Barbieri, DVM, Robert Braun, DVM, and Gregg Levine, DVM.

c. Research Assistants – personnel identified by the Permit Holder or Principal Investigator and qualified to act pursuant to Conditions C.2, C.3, and C.4 of this permit

2. Individuals conducting permitted activities must possess qualifications commensurate with their roles and responsibilities. The roles and responsibilities of personnel operating under this permit are as follows:

a. The Permit Holder is ultimately responsible for activities of individuals operating under the authority of this permit. Where the Permit Holder is an institution/facility, the Responsible Party is the person at the institution/facility who is responsible for the supervision of the Principal Investigator.

b. The Principal Investigator (PI) is the individual primarily responsible for the taking, import, export and related activities conducted under the permit. The PI must be on site during activities conducted under this permit unless a Co-Investigator named in Condition C.1 is present to act in place of the PI.

c. Co-Investigators (CIs) are individuals who are qualified to conduct activities authorized by the permit, for the objectives described in the application, without the on-site supervision of the PI. CIs assume the role and responsibility of the PI in the PI's absence.

- d. Research Assistants (RAs) are individuals who work under the direct and on-site supervision of the PI or a CI. RAs cannot conduct permitted activities in the absence of the PI or a CI.
3. Personnel involved in permitted activities must be reasonable in number and essential to conduct of the permitted activities. Essential personnel are limited to:
 - a. Individuals who perform a function directly supportive of and necessary to the permitted activity (including operation of vessels or aircraft essential to conduct of the activity);
 - b. Individuals included as backup for those personnel essential to the conduct of the permitted activity; and
 - c. Individuals included for training purposes.
4. Persons who require state or Federal licenses to conduct activities authorized under the permit (e.g., veterinarians, pilots) must be duly licensed when undertaking such activities.
5. Permitted activities may be conducted aboard vessels or aircraft, or in cooperation with individuals or organizations, engaged in commercial activities, provided the commercial activities are not conducted simultaneously with the permitted activities.
6. The Permit Holder cannot require or receive direct or indirect compensation from a person approved to act as PI, CI, or RA under this permit in return for requesting such approval from the Permits Division.
7. The Permit Holder or PI may designate additional CIs without prior approval from the Chief, Permits Division provided:
 - a. A copy of the letter designating the individual and specifying their duties under the permit is forwarded to the Permits Division by facsimile or email on the day of designation;
 - b. The copy of the letter is accompanied by a summary of the individual's qualifications to conduct and supervise the permitted activities; and
 - c. The Permit Holder acknowledges that the designation is subject to review and revocation by the Chief, Permits Division.
- i. Where the Permit Holder is an institution/facility, the Responsible Party may request a change of PI by submitting a request to the Chief, Permits Division that includes a description of the individual's qualifications to conduct and oversee the activities authorized under this permit.

D. Possession of Permit

1. This permit cannot be transferred or assigned to any other person.
2. The Permit Holder and persons operating under the authority of this permit must possess a copy of this permit when:
 - a. Engaged in a permitted activity;
 - b. A protected species is in transit incidental to a permitted activity; and
 - c. A protected species taken or imported under the permit is in the possession of such persons.
3. A duplicate copy of this permit must accompany or be attached to the container, package, enclosure, or other means of containment in which a protected species or protected species part is placed for purposes of storage, transit, supervision or care.

E. Reports

1. The Permit Holder must submit annual, final, and incident reports containing the information and in the format specified by the Permits Division.
 - a. Reports must be submitted to the Permits Division by one of the following:
 - i. The online system at <https://apps.nmfs.noaa.gov>; or
 - ii. An email attachment to the permit analyst for this permit; or
 - iii. A hard copy mailed or faxed to the Chief, Permits Division.
 - b. You must contact your permit analyst for a reporting form if you do not submit reports through the online system.
2. Incident reports: must be submitted within two weeks of serious injury and mortality events or exceeding authorized takes.
 - a. The incident report must include a complete description of the events and identification of steps that will be taken to reduce the potential for additional serious injury and research-related mortality or exceeding authorized take.
 - b. In addition to the written report, the Permit Holder must contact the Permits Division by phone (301-427-8401) or email as soon as possible, but no later than within two business days of the incident.

- c. If authorized mortality is reached or takes are exceeded, the Permits Division may grant authorization to resume permitted activities based on review of the incident report and in consideration of the Terms and Conditions of this permit.
3. Annual reports describing activities conducted during the previous permit year (from January 1 to December 31) must:
 - a. Be submitted by March 31 each year for which the permit is valid; and
 - b. Include a tabular accounting of takes and a narrative description of activities and effects.
4. Final report summarizing activities over the life of the permit must be submitted by December 31, 2019, or, if the research concludes prior to permit expiration, within 180 days of completion of the research.
5. Research results must be published or otherwise made available to the scientific community in a reasonable period of time. Copies of technical reports, conference abstracts, papers, or publications resulting from permitted research must be submitted the Permits Division.

F. Notification and Coordination

1. The Permit Holder must provide written notification of planned field work to the applicable NMFS Region at least two weeks prior to initiation of each field trip/season. If there will be multiple field trips/seasons in a permit year, a single summary notification may be submitted per year.
 - a. Notification must include:
 - i. Locations of the intended field study and/or survey routes;
 - ii. Estimated dates of activities; and
 - iii. Number and roles of participants (e.g., PI, CIs, boat driver, Research Assistant “in training”).
 - b. Notification must be sent to the Assistant Regional Administrator for Protected Resources at the Pacific Islands Region, 1845 Wasp Boulevard, Building 176, Honolulu, HI 96818; phone: (808) 725-5000; fax: (808) 973-2941; Email (preferred): nmfs.pir.research.notification@noaa.gov.
2. Researchers must coordinate with the Marine Mammal Health and Stranding Response Program/NMFS Pacific Islands Regional Stranding Coordinator on disentanglements, necropsies, and translocations of seals within the main Hawaiian Islands.

G. Observers and Inspections

1. NMFS may review activities conducted under this permit. At the request of NMFS, the Permit Holder must cooperate with any such review by:
 - a. Allowing an employee of NOAA or other person designated by the Director, NMFS Office of Protected Resources to observe and document permitted activities; and
 - b. Providing all documents or other information relating to the permitted activities.

H. Modification, Suspension, and Revocation

1. Permits are subject to suspension, revocation, modification, and denial in accordance with the provisions of subpart D [Permit Sanctions and Denials] of 15 CFR part 904.
2. The Director, NMFS Office of Protected Resources may modify, suspend, or revoke this permit in whole or in part:
 - a. In order to make the permit consistent with a change made after the date of permit issuance with respect to applicable regulations prescribed under section 103 of the MMPA and section 4 of the ESA;
 - b. In a case in which a violation of the terms and conditions of the permit is found;
 - c. In response to a written request⁶ from the Permit Holder;
 - d. If NMFS determines that the application or other information pertaining to the permitted activities (including, but not limited to, reports pursuant to Section E of this permit and information provided to NOAA personnel pursuant to Section G of this permit) includes false information; and
 - e. If NMFS determines that the authorized activities will operate to the disadvantage of threatened or endangered species or are otherwise no longer consistent with the purposes and policy in Section 2 of the ESA.

⁶ The Permit Holder may request changes to the permit related to: the objectives or purposes of the permitted activities; the species or number of animals taken; and the location, time, or manner of taking or importing protected species. Such requests must be submitted in writing to the Permits Division in the format specified in the application instructions.

3. Issuance of this permit does not guarantee or imply that NMFS will issue or approve subsequent permits or amendments for the same or similar activities requested by the Permit Holder, including those of a continuing nature.

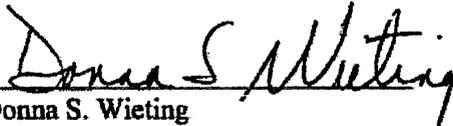
I. Penalties and Permit Sanctions

1. A person who violates a provision of this permit, the MMPA, ESA, or the regulations at 50 CFR 216 and 50 CFR 222-226 is subject to civil and criminal penalties, permit sanctions, and forfeiture as authorized under the MMPA, ESA, and 15 CFR part 904.
2. NMFS shall be the sole arbiter of whether a given activity is within the scope and bounds of the authorization granted in this permit.
 - a. The Permit Holder must contact the Permits Division for verification before conducting the activity if they are unsure whether an activity is within the scope of the permit.
 - b. Failure to verify, where NMFS subsequently determines that an activity was outside the scope of the permit, may be used as evidence of a violation of the permit, the MMPA, the ESA, and applicable regulations in any enforcement actions.

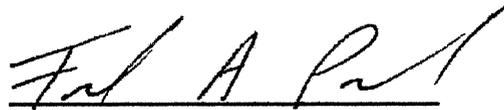
J. Acceptance of Permit

1. In signing this permit, the Permit Holder:
 - a. Agrees to abide by all terms and conditions set forth in the permit, all restrictions and relevant regulations under 50 CFR Parts 216, and 222-226, and all restrictions and requirements under the MMPA, and the ESA;
 - b. Acknowledges that the authority to conduct certain activities specified in the permit is conditional and subject to authorization by the Office Director; and

- c. Acknowledges that this permit does not relieve the Permit Holder of the responsibility to obtain any other permits, or comply with any other Federal, State, local, or international laws or regulations.


Donna S. Wieting
Director, Office of Protected Resources
National Marine Fisheries Service

JUN 16 2014
Date Issued


Frank Parrish, Ph.D.
Chief, Protected Species Division
Pacific Islands Fisheries Science Center
Responsible Party

6-16-14
Date Effective

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Appendix 1: Tables Specifying the Kinds of Protected Species, Locations, and Manner of Taking

Tables Key: Main Hawaiian Islands (MHI) = Hawaii, Maui, Molokai, Kahoolawe, Lanai, Oahu, Kauai, Niihau, and all smaller islands and offshore islets, including, but not limited to, Kaula Rock, Lehua, Molokini, etc. Northwestern Hawaiian Islands (NWHI)=Nihoa Island (Is.), Necker Is., French Frigate Shoals, Laysan Is., Lisianski Is., Pearl and Hermes Reef, Midway Atoll, Kure Atoll, and Gardner Pinnacles.

TABLE 1. ANNUAL RESEARCH TAKES OF HAWAIIAN MONK SEALS in the Hawaiian Archipelago (MHI and NWHI), and Johnston Atoll. World-wide import/export of monk seal biological samples. Activities may occur at any time of year.							
Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures/Details	Task/Location
1	All	Male and Female	250	5	Harass	Observation, mark resight; Observation, monitoring; Observations, behavioral; Photo-id; Remote video monitoring Disturbance from visual observation/photo-ID during ground monitoring (includes terrestrial/amphibious unmanned vehicles), vessel and aerial surveys (includes unmanned aerial surveys), and installation/repair of remote video cameras	1. Monitoring in MHI
2			100	3			1. Monitoring at Nihoa Is.
3			75	3			1. Monitoring at Necker Island
4			250	5			1. Monitoring at French Frigate Shoals
5			10	1			1. Monitoring at Gardner Pinnacles
6			400	5			1. Monitoring at Laysan Is.
7			275	5			1. Monitoring at Lisianski Is.
8			400	5			1. Monitoring at Pearl and Hermes Reef
9			150	5			1. Monitoring at Midway Atoll
10			200	5			1. Monitoring at Kure Atoll
11			5	3			1. Monitoring at Johnston Atoll
12	All ¹	Male and Female	60	3	Capture/ Handle/ Release	Instrument, internal (e.g., PIT); Mark, flipper tag; Measure; Restrain, hand; Restrain, net; Sample, vibrissae (clip); Ultrasound	2a. Tagging in MHI
13			25	3			2a. Tagging at Nihoa Is.
14			15	3			2a. Tagging at Necker Is.
15			100	3			2a. Tagging at French Frigate Shoals: 35 pups may also have a sonic (flipper) tag applied

TABLE 1. ANNUAL RESEARCH TAKES OF HAWAIIAN MONK SEALS in the Hawaiian Archipelago (MHI and NWHI), and Johnston Atoll. World-wide import/export of monk seal biological samples. Activities may occur at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures/Details	Task/Location
16			75	3		Restraint for flipper and PIT tags, retain flipper plugs/skin, cut vibrissae, measure length and girth, ultrasound Seals captured for other tasks in Tables 1 & 2 (e.g., health screening) may also be flipper and PIT tagged or re-tagged ¹ Excludes obviously pregnant and lactating females and includes any remaining nursing pups at end of field season	2a. Tagging at Laysan Is.
17			70	3	2a. Tagging at Lisianski Is.		
18			70	3	2a. Tagging at Pearl and Hermes Reef		
19			50	3	2a. Tagging at Midway Atoll		
20			50	3	2a. Tagging at Kure Atoll		
21			5	3	2a. Tagging at Johnston Atoll		
22			100	1	2b. Re-tagging in the Hawaiian Archipelago: Replace broken, damaged, or lost tags on previously tagged animals		
23	All	Male and Female	150	3	Harass	Mark, bleach Close approach to apply temporary bleach marks Seals captured for other tasks in Tables 1 & 2 may also be bleach marked	3. Bleach marking in MHI
24			60	3			3. Bleach marking at Nihoa Is.
25			30	3			3. Bleach marking at Necker Is.
26			250	3			3. Bleach marking at French Frigate Shoals
27			250	3			3. Bleach marking at Laysan Is.
28			250	3			3. Bleach marking at Lisianski Is.
29			250	3			3. Bleach marking at Pearl and Hermes Reef
30			100	3			3. Bleach marking at Midway Atoll
31			150	3			3. Bleach marking at Kure Atoll
32			5	3			3. Bleach marking at Johnston Atoll

TABLE 1. ANNUAL RESEARCH TAKES OF HAWAIIAN MONK SEALS in the Hawaiian Archipelago (MHI and NWHI), and Johnston Atoll. World-wide import/export of monk seal biological samples. Activities may occur at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures/Details	Task/Location
33	All ²	Male and Female	40	2	Capture/Handle/Release	Anesthesia, injectable sedative; Instrument, internal (e.g., PIT); Mark, bleach; Mark, flipper tag; Measure; Restrain, hand; Restrain, net; Sample, blood; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (pull); Ultrasound; Weigh ² Includes any healthy seal except obviously pregnant females, lactating females and nursing pups	4a. Health assessment/ disease investigation on healthy seals in the Hawaiian Archipelago and Johnston Atoll Capture and sedation for health screening (blood, swabs, blubber biopsy, vibrissae); weigh, measure, ultrasound; mark if not already; recapture to resample; may be combined with other tasks involving capture (e.g., deworming)
34			60	2		Same as above AND with: Instrument, external (e.g., VHF, TDR); recapture to resample AND remove instruments	4b. Health assessment/ disease investigation AND foraging research on healthy seals in the Hawaiian Archipelago and Johnston Atoll
35	All	Male and Female	As warranted	1	Sampling	Salvage (carcass, tissue, parts) Necropsy any seal found dead, that died during restraint, or that was euthanized; after, use seal tissue as bait for permitted shark removals (excluding chemically euthanized seals); incidental harassment covered in Table 3	5. Necropsy in the Hawaiian Archipelago and Johnston Atoll

TABLE 1. ANNUAL RESEARCH TAKES OF HAWAIIAN MONK SEALS in the Hawaiian Archipelago (MHI and NWHI), and Johnston Atoll. World-wide import/export of monk seal biological samples. Activities may occur at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures/Details	Task/Location
36	All	Male and Female	1,100	As warranted	Sampling	Collect, molt; Collect, other; Collect, scat; Collect, spew Collect parts and excrement (placentae, molted fur/skin, scat, spew, etc.) from haul out sites; incidental harassment covered in Table 3	6. Opportunistic retrieval of unlimited samples in the Hawaiian Archipelago and Johnston Atoll from up to 1,100 seals annually
37	All	Male and Female	As warranted	As warranted	Import/export/receive	Import/export/receive, parts	7a. Export and re-import unlimited Hawaiian monk seal samples world-wide
38		Male and Female					7b. Import and re-export unlimited Mediterranean monk seal samples world-wide

TABLE 2. ANNUAL ENHANCEMENT AND RESEARCH TAKES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Activities may occur at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Task/Location/Details
1	All ³	Male and Female	30	2	Capture/Handle/Release	Anesthesia, injectable sedative; Instrument, external (e.g., VHF, TDR); Instrument, internal (e.g., PIT); Mark, bleach; Mark, flipper tag; Measure; Other; Restrain, hand; Restrain, net; Sample, blood; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (pull); Ultrasound; Weigh	1a. Health assessment/ disease investigation/ foraging instrumentation research/ treatment enhancement on unhealthy seals in the Hawaiian Archipelago and Johnston Atoll Sedation and restraint for health screening of unhealthy seals with instrumentation; other = treat as warranted (e.g., lance and clean abscess, administer antibiotic, deworm) ³ Treatment enhancement includes any age/sex/condition seal
2			As warranted	As warranted			Anesthesia, injectable sedative; Instrument, external (e.g., VHF, TDR); Instrument, internal (e.g., PIT); Mark, bleach; Mark, flipper tag; Measure; Other; Restrain, hand; Restrain, net; Sample, vibrissae (clip); Sample, vibrissae (pull)

TABLE 2. ANNUAL ENHANCEMENT AND RESEARCH TAKES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Activities may occur at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Task/Location/Details
3	Pup/ Juvenile ⁴	Male and Female	300 ⁵	8	Capture/ Handle/ Release	Administer drug, IM; Administer drug, subcutaneous; Collect, scat; Instrument, internal (e.g., PIT); Mark, bleach; Mark, flipper tag; Measure; Other; Restrain, hand; Restrain, net; Sample, fecal loop; Ultrasound; Weigh	2a. Intestinal parasite treatment (deworming research and enhancement) Up to 4 deworming treatments annually using oral or injectable drugs with weight, girth and length, ultrasound, and fecal sampling; 4 post-treatment recaptures with all measurements and sampling; scat collection; other = oral administration ⁴ Includes weaned pups approx. older than 120 days post weaning and juveniles up to age 3 in any health/body condition ⁵ 300 seals total annually for all treatment methods in Rows 3-5; medical treatments at discretion of veterinarian; may be combined with other tasks in Tables 1 & 2
4				4	Capture/ Handle/ Release	Administer drug, topical; Collect, scat; Measure; Restrain, hand; Restrain, net; Sample, fecal loop; Ultrasound; Weigh	2b. Intestinal parasite treatment (deworming research and enhancement) Up to 4 topical deworming treatments with capture/weigh/measure/ultrasound and fecal sampling and scat collection
5				8	Harass	Administer drug, topical; Collect, scat	Up to 8 additional topical deworming treatments without capture (12 total/year) with scat collection

TABLE 2. ANNUAL ENHANCEMENT AND RESEARCH TAKES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Activities may occur at any time of year.							
Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Task/Location/Details
6	Nursing Pup	Male and Female	As warranted	6	Capture/Handle/Release	Restrain, hand; Transport	<p>3a. Translocation enhancement: Establishing/re-establishing maternal association in the Hawaiian Archipelago and Johnston Atoll</p> <p>As warranted (estimated 20 seals/year), capture and translocate abandoned nursing pups to natural or foster mother</p>
7	All ⁶	Male and Female	As warranted	3	Capture/Handle/Release	Anesthesia, injectable sedative; Captive, maintain temporary; Instrument, external (e.g., VHF, TDR); Instrument, internal (e.g., PIT); Mark, flipper tag; Measure; Other; Restrain, cage; Restrain, hand; Restrain, net; Restrain, other; Sample, blood ; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (pull); Transport; Ultrasound; Weigh	<p>3b. Translocation enhancement: Risk alleviation in the Hawaiian Archipelago and Johnston Atoll</p> <p>As warranted (estimated 60 seals/year), haze or translocate seals in high risk areas within or between any subpopulation in the species range via boat, ship, vehicle, or aircraft; conduct health assessments, treat if warranted, and instrument; includes temporary holding during translocation; other = haze from harmful situations or treat if warranted</p> <p>⁶Includes any age/sex/condition seal including pups near weaning that are at high risk of mortality</p>

TABLE 2. ANNUAL ENHANCEMENT AND RESEARCH TAKES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Activities may occur at any time of year.							
Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Task/Location/Details
8	Pup	Male and Female	20	3	Capture/Handle/Release	Anesthesia, injectable sedative; Captive, maintain temporary; Instrument, external (e.g., VHF, TDR); Instrument, internal (e.g., PIT); Mark, bleach; Mark, flipper tag; Measure; Restrain, cage; Other; Restrain, hand; Restrain, net;	3c-1. Translocation enhancement: 1 st stage of 2-stage translocation within the NWHI or from the MHI to NWHI but <i>NOT from NWHI to MHI</i> Translocation of weaned pups from areas of low survival via boat, ship, vehicle, or aircraft; includes health screening, instrumentation, and temporary holding; other = treat if warranted
9	Juvenile/ Subadult	Male and Female	30	3	Capture/Handle/Release	Restrain, other; Sample, blood; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (pull); Transport; Ultrasound; Weigh	3c-2. Translocation enhancement: 2 nd stage of 2-stage translocation within or between any subpopulation in the species range; seals born in the MHI and previously taken to the NWHI may be returned to the MHI Surviving seals previously translocated as weaned pups returned to their natal or other suitable site (includes seals above from 1 st stage translocation that remained at recipient site until at least age 2); translocation via boat, ship, vehicle, or aircraft; includes health screening, instrumentation, and temporary holding; other = treat if warranted

TABLE 2. ANNUAL ENHANCEMENT AND RESEARCH TAKES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Activities may occur at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Task/Location/Details
10	Juvenile/ Subadult/ Adult ⁷	Male and Female	6	3	Capture/ Handle/ Release	Anesthesia, injectable sedative; Captive, maintain temporary; Instrument, external (e.g., VHF, TDR); Instrument, internal (e.g., PIT); Mark, bleach; Mark, flipper tag; Measure; Other; Restrain, cage; Restrain, hand; Restrain, net; Restrain, other; Sample, blood; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (pull); Transport; Ultrasound; Weigh	3d. Translocation research to determine survival of translocated seals to inform 2-stage translocation Translocations within or between any subpopulation in the species range including moving seals with unmanageable behavior in MHI to NWHI but excluding moving seals from the NWHI to MHI; translocation via boat, ship, vehicle, or aircraft; includes health screening, instrumentation, and temporary holding; other = treat if warranted ⁷ Excludes obviously pregnant females and lactating females and nursing pups
11	Adult	Male	20	2	Capture/ Handle/ Release	Anesthesia, injectable sedative; Captive, maintain permanent; Captive, maintain temporary; Instrument, external (e.g., VHF, TDR); Instrument, internal (e.g., PIT); Mark, bleach; Mark,	4a. Adult male removal enhancement in the Hawaiian Archipelago and Johnston Atoll Aggressive males translocated or removed from the wild to permanent captivity; includes health screening, instrumentation, and temporary holding; other = treat if warranted

TABLE 2. ANNUAL ENHANCEMENT AND RESEARCH TAKES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Activities may occur at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Task/Location/Details
						flipper tag; Other; Restrain, cage; Restrain, net; Sample, blood; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (pull); Transport	
12	Adult	Male	As warranted	As warranted	Harass	Hazing	4b. Adult male hazing enhancement in the Hawaiian Archipelago and Johnston Atoll Aggressive males hazed away from conspecific victims in cases of immediate risk of injury or death or when specific males repeatedly attack conspecifics
13	All ⁸	Male and Female	As warranted	As warranted	Capture/ Handle/ Release	Anesthesia, gas w/intubation; Anesthesia, injectable sedative; Captive, maintain temporary; Other; Restrain, cage; Restrain, hand; Restrain, net; Sample, vibrissae (clip); Sample, vibrissae (pull); Transport	5. Disentangling and dehooking enhancement in the Hawaiian Archipelago and Johnston Atoll Disentangle/dehook with or without sedation; other = may require surgery with anesthesia at a facility with temporary holding and treatment; as warranted (estimated <75 seals/year) ⁸ Includes any age/sex/condition seal

TABLE 2. ANNUAL ENHANCEMENT AND RESEARCH TAKES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Activities may occur at any time of year.							
Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Task/Location/Details
14	Pup/ Juvenile	Male and Female	12	As warranted	Release captive animals	Supplemental feeding	6. Supplemental feeding enhancement in the NWHI Supplemental feeding of post-rehabilitated seals; seals may be fed at daily or longer intervals for up to a year; includes seals rehabilitated under MMHSRP permit and released in the NWHI
15	All ⁹	Male and Female	20	As warranted	Capture/ Handle Release	Anesthesia, injectable sedative; Captive, maintain temporary; Instrument, external (e.g., VHF, TDR); Instrument, internal (e.g., PIT); Mark, bleach; Mark, flipper tag; Other; Restrain, cage; Restrain, net; Sample, blood; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (pull); Transport; Weigh	7. Behavioral modification research and enhancement in the MHI Intentional harassment and aversive (or positive) conditioning to prevent seals from socializing with humans/alter behavior of seals socialized to humans or behaving in a manner dangerous to seals or public safety; includes: hazing and herding using visual, aural, and tactile stimuli and acoustic harassment devices/deterrents; capture and translocation; temporary captivity for chemical taste aversion trials and use in wild if safe and effective; etc. ⁹ Excludes lactating females and nursing pups

TABLE 2. ANNUAL ENHANCEMENT AND RESEARCH TAKES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Activities may occur at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Task/Location/Details
16	All ¹⁰	Male and Female	1,100	4	Capture Handle/Release	Anesthesia, injectable sedative; Other; Restrain, hand; Restrain, net; Sample, blood; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (pull)	8. Vaccination research and enhancement in the Hawaiian Archipelago Vaccinations and sampling for antibody testing in wild seals and seals undergoing rehabilitation under the MMHSRP permit; prophylactic vaccinations and vaccinations in response to outbreaks ¹⁰ Research sampling excludes obviously pregnant females, lactating females and nursing pups

TABLE 3. INCIDENTAL HARASSMENT AND MORTALITIES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Annually at any time of year unless otherwise specified.						
Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Task/Location/Details
1	All	Male and Female	400	1	Incidental take	1. Incidental harassment during any research or enhancement activity in the Hawaiian Archipelago and Johnston Atoll Incidental disturbance to non-target seals during field research and enhancement including captures, opportunist sample collection, necropsy, etc.
2	All	Male and Female	2	1	Unintentional mortality	2a. Unintentional mortality during research in the Hawaiian Archipelago and Johnston Atoll Up to 4 unintentional mortalities over a 5-year period not to exceed 2 deaths in any one year. During any research activity in the wild; includes humane euthanasia if warranted
3	Pup	Male and Female	2	1	Unintentional mortality	2b. Unintentional mortality during enhancement in the Hawaiian Archipelago and Johnston Atoll Up to 4 unintentional mortalities of weaned pups over a 5-year period not to exceed 2 deaths in any one year; during any enhancement activity; includes humane euthanasia if warranted
4	Juvenile/ Subadult	Male and Female	4	1	Unintentional mortality	2c. Unintentional mortality during enhancement in the Hawaiian Archipelago and Johnston Atoll Up to 8 unintentional mortalities of juveniles or subadults over a 5-year period not to exceed 4 in any one year; during any enhancement activity; includes humane euthanasia if warranted

TABLE 3. INCIDENTAL HARASSMENT AND MORTALITIES of Hawaiian monk seals in the Hawaiian Archipelago and Johnston Atoll. Annually at any time of year unless otherwise specified.						
Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Task/Location/Details
5	Adult	Male	2	1	Unintentional mortality	2d. Unintentional mortality during enhancement in the Hawaiian Archipelago and Johnston Atoll Up to 4 unintentional mortalities of adult males over a 5-year period not to exceed 2 in any one year; during any enhancement activity
6	Adult	Male	10	1	Intentional (Directed) Mortality	3a. Intentional mortality of adult males during enhancement in the Hawaiian Archipelago and Johnston Atoll Humane euthanasia of up to 10 aggressive adult males over a 5-year period as a last resort after consideration of translocation and permanent captivity
7	All	Male and Female	10	1	Intentional (Directed) Mortality	3b. Intentional mortality of moribund or severely injured seals in the Hawaiian Archipelago and Johnston Atoll during research and enhancement Humane euthanasia of up to 10 moribund or severely injured seals over a 5-year period at discretion of veterinarian

TABLE 4. ANNUAL TAKES OF NON-RELEASABLE Hawaiian monk seals in permanent captivity in the U.S. Annually at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Details
1	Adult	Male	10	6	Captive, maintain permanent (research, enhancement)	Administer drug, IM; Anesthesia, injectable sedative; Observations, behavioral; Restrain, cage; Restrain, net; Sample, blood; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (pull)	1. Chemical behavioral modification research on adult male seals Capture, sedation, biomedical sampling, administration of testosterone reduction agent; follow up sampling to monitor testosterone and behavior
2	All	Male and Female	20	20	Captive, maintain permanent (research, enhancement)	Intentional harassment	2. Behavioral modification research Intentional harassment for behavioral modification; aversive conditioning and other methods including but not limited to hazing, herding, etc. as included in Table 2
3	All	Male and Female	20	5	Captive, maintain permanent (research, enhancement)	Administer drug, IM ; Anesthesia, injectable sedative; Other; Restrain, net; Sample, blood; Sample, nasal swab	3. Vaccination research Vaccinations approx. on day 0 and 14 and serum and nasal sampling on days 0, 24, 42, and 365. Seals injected 2x/year and sampled 4x/year; first sampling combined with first injection for a total of 5 takes per animal per year

TABLE 4. ANNUAL TAKES OF NON-RELEASABLE Hawaiian monk seals in permanent captivity in the U.S. Annually at any time of year.

Line No.	Life Stage	Sex	No. Animals	Takes Per Animal	Take Action	Procedures	Details
4	All	Male and Female	20	As warranted	Captive, maintain permanent (research, enhancement)	Anesthesia, injectable sedative; Instrument, external (e.g., VHF, TDR); Instrument, internal (e.g., PIT); Mark, bleach; Mark, flipper tag; Other; Restrain, cage; Restrain, net; Sample, blood; Sample, blubber biopsy; Sample, swab all mucus membranes; Sample, vibrissae (cut); Sample, vibrissae (pull); Ultrasound; Weigh	4. Validation research Research to validate or test field methods listed in Tables 1 & 2
5	Adult	Male	20	1	Captive, maintain permanent (research, enhancement)	Captive, maintain temporary; Other	5. Adult male removal enhancement Temporary holding at any APHIS-approved facility of aggressive adult males removed into permanent captivity until recipient facility is permitted; other = chemical taste aversion trials

TABLE 5. ANNUAL INCIDENTAL HARASSMENT OF CETACEANS during Hawaiian monk seal research and enhancement activities. Annually at any time of year.

Line No.	Species	Life Stage	Sex	No. Animals	Takes per Animal	Take Action	Procedures	Task/Location
1	Dolphin, spinner	All	Male and Female	500	5	Harass	Incidental harassment	1a. Incidental harassment in the Hawaiian Archipelago during any research or enhancement activity
2	Dolphin, bottlenose	All	Male and Female	20	1	Harass	Incidental harassment	1b. Incidental harassment in the Hawaiian Archipelago during any research or enhancement activity

Appendix 2: NMFS-Approved Parts Authorized Recipients for Permit No. 16632-00.

Biological samples authorized for collection or acquisition in Tables 1 - 4 of Appendix 1 may be transferred to the following Authorized Recipients for the specified disposition, consistent with Condition B.6 of the permit.

Authorized Recipient	Sample Disposition
Colorado State University, Diagnostic Laboratory, College of Veterinary Medicine (Fort Collins, CO)	Analysis
Dalhousie University, Dept. of Biology (Halifax, Nova Scotia, Canada)	Analysis
IDEXX Veterinary Services (West Sacramento, CA)	Analysis
NOAA, National Ocean Service (Charleston, SC)	Analysis
Oklahoma Animal Disease Diagnostic Lab (Stillwater, OK)	Analysis
USGS-NWHC-HFS (Honolulu, HI)	Analysis and curation
National Wildlife Health Center (Madison, WI)	Analysis
National Veterinary Services Laboratory (Ames, IA)	Analysis
The Marine Mammal Center (Sausalito, CA)	Analysis
CAHFS Thurman Lab, University of California-Davis (Davis, CA)	Analysis
Marine Ecosystem Health Diagnostic and Surveillance Laboratory, University of California (Davis, CA)	Analysis
Washington Animal Disease Diagnostic Lab, Washington State University College of Veterinary Medicine (Pullman, WA)	Analysis
U.S. Department of Agriculture, Animal Parasitic Diseases Lab (Beltsville, MD)	Analysis
Athens Diagnostic Laboratory, College of Veterinary Medicine University of Georgia (Athens, GA)	Analysis
Mystic Aquarium, Department of Research and Veterinary Services (Mystic, CT)	Analysis
Molecular Parasitology Unit, Laboratory of Parasitic Diseases, National Institutes of Allergy and Infectious Diseases, National Institutes of Health (Bethesda, MD)	Analysis
Sackler Institute of Comparative Genomics, American Museum of Natural History (New York, NY)	Analysis
Cornell Stable Isotope Lab, Cornell University (Ithaca, NY 14853)	Analysis
School of Veterinary Medicine, University of Wisconsin (Madison, WI)	Analysis
Diagnostic Virology Laboratory, National Wildlife Health Center, United States Geological Survey, Department of the Interior (Madison, WI)	Analysis
Mote Marine Laboratory (Sarasota, FL)	Analysis
Northwest Fisheries Science Center, Environmental Conservation Division (Seattle, WA)	Analysis

Authorized Recipient	Sample Disposition
Dave S. Rotstein, DVM, MPVM, Dipl. ACVP, NOAA Center for Marine Animal Health, Department of Pathobiology, College of Veterinary Medicine, University of Tennessee (Knoxville, TN)	Analysis
Bigelow Laboratory (West Boothbay Harbor, ME)	Analysis
American Museum of Natural History	Analysis
Bishop Museum	Analysis
University of Illinois Zoological Pathology Program	Analysis
Johns Hopkins School of Medicine	Analysis
University of Florida, College of Veterinary Medicine (Gainesville, FL)	Analysis