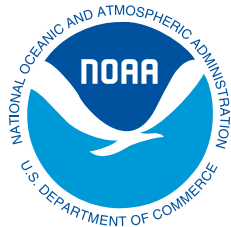


Prepared for:



# DRAFT Programmatic Environmental Impact Statement

Hawaiian Monk Seal Recovery Actions

August 2011

5.0 *NEPA COMPLIANCE, IMPLEMENTATION, AND ADAPTIVE MANAGEMENT OF THE PREFERRED ALTERNATIVE*

5.1 *IMPLEMENTATION OF THE HAWAIIAN MONK SEAL RECOVERY ACTIONS PEIS PREFERRED ALTERNATIVE UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT*

The purpose of this chapter is to:

- 1) Explain procedures that will be used to implement future National Environmental Policy Act (NEPA) compliance on permitting activities addressed in the Hawaiian Monk Seal Recovery Actions Programmatic Environmental Impact Statement (PEIS);
- 2) Document actions underway to address concerns raised during preparation of this PEIS regarding translocation, vaccinations, behavioral modification, and stakeholder and community coordination; and
- 3) Make recommendations for adaptive management of further actions associated with Hawaiian monk seal research and enhancement activities that have been suggested during the course of the NEPA process.

A number of recommendations for further actions were made during the scoping period that fall within two general categories:

- Monitoring plans for the translocation and vaccination processes, and
- Additional outreach and coordination with fishermen, local communities and Native Hawaiian Organizations.

The National Marine Fisheries Service (NMFS) determined it was most appropriate to address these issues outside the scope of any one alternative as these issues and recommendations are considered significant enough that they should be considered and implemented independent of any selected alternative.

5.1.1 *Need for NEPA Compliance*

This PEIS addresses research and enhancement permit activities that are proposed in the foreseeable future. NMFS staff, the permit applicant, and the general public should understand the process for preparing research and enhancement permit applications and how they would be reviewed for NEPA compliance using this PEIS. In addition to providing an overview of the NEPA compliance requirements, the following sections provide:

- Guidance to the Pacific Islands Fisheries Science Center (PIFSC) in preparing their permit applications;
- Information for other stakeholders regarding the level of subsequent NEPA review that would take place and when; and
- Monitoring plans for specific research and enhancement activities proposed under Alternatives 3 and 4.

### 5.1.2 *NEPA Compliance Review of Research and Enhancement Permit Applications using the PEIS*

The Hawaiian Monk Seal Recovery Actions PEIS covers proposed research and enhancement programs for monk seals over the next 10 years. Within this 10-year timeframe, permit applications will require a NEPA compliance review of the information presented in this PEIS. Future NEPA compliance reviews will depend on the scope of the proposed research and enhancement. Subsequent site-specific or more detailed actions within the scope of this PEIS and associated Record of Decision (ROD) will tier from the background information and evaluation of impacts presented herein. Tiered NEPA documents will focus on issues “ripe for decision” (CEQ 1986). This process is described in more detail in Section 5.1.2.1 below.

NMFS anticipates future submission of permit applications and permit amendments. Research and enhancement activities permit applications can be submitted at any time throughout the year, with one year lead-time recommended. At the time of submission, the NMFS Office of Protected Resources, Permits, Conservation, and Education Division (F/PR1) determines if the proposed activity is covered by the assessment of impacts in this PEIS. Additional information about the permit process can be found on the NMFS Office of Protected Resources website at <http://www.nmfs.noaa.gov/pr/permits/>.

The Record of Decision (ROD) for this PEIS (which will be published after the PEIS is made final) will identify any conditions of approval relevant to permit applications, and will provide a listing of research and enhancement permit activities addressed by the Preferred Alternative identified in the Final PEIS. Both the PEIS and the ROD represent decision documents that will be used for the purpose of documenting NEPA compliance of ongoing and future activities addressed within the PEIS.

Proposed research and enhancement permit activities identified and analyzed within the Preferred Alternative will be subject to routine NEPA compliance, as described in the following subsection (Section 5.1.1.2 Permit Review Procedures). Proposed research and enhancement permit activities not identified and analyzed in the Preferred Alternative will be subject to a separate NEPA

compliance review, the level of which will be determined when the application is submitted.

#### 5.1.2.1 *Permit Review Procedures*

Applications for new permits and amendments or modifications to permits for research or enhancement activities on Hawaiian monk seals will be reviewed by NMFS F/PR1. New permit application and permit amendments are processed using the following procedures:

- NMFS review of the permit application and the Final Hawaiian Monk Seal Recovery Actions PEIS and ROD to determine if the proposed research and enhancement is within the scope of the Preferred Alternative. In addition, permit applications are distributed for a 30-day public review and comment;
- A Memorandum to the File will be prepared if the proposed research or enhancement activities in the permit application was identified and analyzed within the range of alternatives presented in the Final PEIS. The Memorandum would document that NEPA compliance for issuance of the permit is provided by the Final PEIS and any conditions of approval apply as documented in the ROD. A copy of the ROD would be attached to the Memorandum;
- Site-specific or more detailed actions may tier from this PEIS in the form of an Environmental Assessment (EA), EA accompanied by a Finding of No Significant Impact (FONSI), or Environmental Impact Statement (EIS), depending on the potential impacts of the activity. These tiered documents would be very focused, incorporating by reference much of the detailed background information and evaluation of impacts presented herein;
- For any research and enhancement activities proposed in future permit applications that is not within the range of alternatives presented and analyzed in this PEIS, a Categorical Exclusion, EA or EIS would be prepared. The level of NEPA analysis will depend on the potential effects of the proposed new activity.

#### 5.1.2.2 *Reporting Requirements*

NMFS F/PR1 requires annual and final reports from permit holders. Special reports are also required for activities including, but not limited to live captures; lethal takes; initial importation of marine mammal parts; and transfer, export, or re-importation of marine mammal parts. In addition, permit holders must report on unexpected events they observe that could impose significant adverse effects

upon the permitted species or the ecosystem of which they are part (Reporting and Recordkeeping Requirements Final Rule 1996).

NMFS F/PR1 has a publicly accessible, web-based permit application and permit tracking system that includes information on: project information and description; location and take information; NEPA evaluation; project contacts; permit status; permit modifications; and reports. This web page is publicly accessible by interested parties (<http://www.pifsc.noaa.gov/psd/>).

The NMFS PIFSC has a publications webpage that includes technical memoranda, journal publications, data reports, conference proceedings, etc. and more related to Hawaiian monk seal research, which is publicly accessible by interested parties (<http://www.pifsc.noaa.gov/psd/>).

The NMFS Office of Protected Resources (OPR) also has a publication web page that includes current and past Stock Assessment Reports for Hawaiian monk seals. PIFSC research and monitoring data is used to generate these reports, which include population trends and abundance estimates, distribution, factors limiting recovery, and other information pertinent to the status of Hawaiian monk seals. Please see <http://www.nmfs.noaa.gov/pr/sars/>.

## 5.2

### *MONITORING PLAN FOR THE TWO-STAGE TRANSLOCATION PROCESS*

Concerns were raised during scoping regarding the proposed translocation process. Specifically, some stakeholders wanted details about how researchers would choose release or recipient sites in the Main Hawaiian Islands (MHI) and how the process would be evaluated for effectiveness over time.

The proposed two-stage translocation strategy is an option included in Alternative 4 (Preferred Alternative) and detailed in Appendix E that is aimed at improving juvenile Hawaiian monk seal survival. The strategy involves temporarily moving weaned female pups from the Northwestern Hawaiian Island (NWHI) subpopulations where there is very low juvenile survival to alternate sites (in either the NWHI or the MHI) where juvenile survival is higher, and then returning them several years later. A multitude of variables exist that contribute to uncertainty of outcomes, thus the translocation program would be monitored and guided by a complex and adaptive decision framework described in Appendix E.

A 'decision framework' is a tool that helps guide decisions throughout a process, in this case, the monk seal translocation process. Many of the inputs to the decision framework rely on direct observation of key indicators such as population status, juvenile survival rates, and outcomes from previous translocation actions. Also, at various points in the decision framework, researchers would use a computer model (called a stochastic simulation model)

updated with the most recent seal population data to estimate the likely range of benefits associated with different choices.

Two decision trees, one for each of the two stages of the translocation strategy, have been developed to support decision-making and assessment as translocation projects progress. The Stage 1 decision tree addresses translocation of weaned Hawaiian monk seal pups from areas of lower survival to areas of higher survival. The Stage 2 decision tree addresses returning previously translocated seals from the recipient site to their donor sites. The decision framework is described in detail in Appendix E and is briefly characterized below.

The decision framework consists of several progressive steps and is designed to structure the decision making process so as to maximize the benefits and reduce the risks associated with the translocation project, including the following:

- NMFS would carefully choose the donor and recipient sites would be carefully chosen to achieve the greatest possible benefit (in terms of increasing juvenile survival and enhancing the population);
- Public input would also play a role in deciding the most appropriate release sites, especially in the MHI. Specific release sites would be chosen both to minimize potential conflict with beach and ocean users and maximize the chances that the translocated seals are successful. Seals will be most successful when they are released in remote areas where they are less likely to encounter people. It should be recognized that weaned seals will begin to travel around the island where they were released and will even swim between islands;
- NMFS would monitor recipient sites to ensure the capacity of a site to support additional monk seals is not exceeded. This would be determined from observations of juvenile condition and survival at each site, supplemented by simulation modeling to better quantify the probable benefit;
- NMFS would suspend translocation actions in response to unforeseen developments such as the failure to return previously translocated seals to their natal site or region once they reach the stipulated age;
- While seals are in the wild at the recipient site, NMFS would monitor them to learn as much as possible about their location, activities, health and welfare, and whether any human-seal interactions were occurring. Initially seals would be monitored with satellite transmitters, and later through regular population assessments; or, if in the MHI, through the established Hawaiian monk seal sighting network; and

- Translocated seals that become socialized or involved in human-seal interactions would be managed in the same fashion as other seals through behavior modification or other measures appropriate to the situation.

Proper care and safe transport of seals as well as mitigating risks of transmitting disease via translocations are other important considerations that NMFS has accounted for. Details of the measures involved in selection, health screen, care in captivity, quarantine and unforeseen contingencies are addressed in Appendix F. NMFS has a great deal of experience handling and transporting monk seals, especially weaned pups, and best practices developed to date will be employed. As new information accrues during the implementation of future translocations, this would augment and help refine protocols further.

As envisioned, the translocation project would initially be implemented as a small scale experiment. The first phase may involve the experimental translocation of a small number of juvenile seals from one site to another (*e.g.*, from MHI to NWHI) to better assess how well the second stage of the translocation would proceed. As the project proceeds, results from the preceding actions would be used to inform future efforts and better predict the expected outcome from each candidate action. For example, researchers are particularly interested in knowing how survival of translocated seals would differ from those that have spent their entire lives at a site. Once there are data with which to assess that difference, it would be used to better refine the predictions from the simulation model.

Two particular areas of concern for Hawaiian monk seals with two-stage translocation include:

- Minimizing the risk of disease transmission; and
- Minimizing stress and the potential for harm during the actual process of capturing, transporting and releasing seals.

These details are covered in depth in Appendix F. In brief, seals being considered for translocation would be given a thorough health screening prior to completion of the translocation operation. Veterinary care would be provided from the point of capture until release, and quarantine procedures would be followed as appropriate to avoid transporting an ill animal and exposing other seals to infectious disease. Translocated seals would also be monitored closely after release to detect any health problems that may arise.

### 5.3

#### *PLAN FOR THE VACCINATION PROCESS*

The proposed vaccination program is somewhat unique among the actions in this PEIS, in that it is designed to address a potential, rather than a realized,

threat to the Hawaiian monk seal. That is, according to research to date, infectious disease does not currently appear to be significantly impacting the species. However, there is great potential for infectious disease to have devastating effects on the species.

Two factors make disease outbreaks especially concerning:

- 1) Hawaiian monk seals have been largely isolated for most of their evolutionary history in the Hawaiian Archipelago. Until humans arrived on the islands, there were no terrestrial mammals (and their associated diseases) except the Hawaiian hoary bat. Now there are numerous domestic, feral and invasive mammals on the islands that pose a threat as disease vectors.
- 2) The monk seal population is already quite small and has extremely low genetic diversity, which may make the species especially vulnerable to the outbreak of a new disease.

Because of these concerns, NMFS is committed to being prepared to rapidly respond to, if not prevent, outbreaks of the perceived greatest viral disease threats through vaccination research and enhancement activities. There are currently two types of viral disease that pose a great potential threat to monk seals, but for which vaccines have already been developed.

Morbillivirus' are a group of related viruses that cause disease in a wide variety of species. Morbillivirus outbreaks have caused mass die offs in other seal populations, including a 1988 event in which approximately 18,000 (70% of the population) harbor seals (*Phoca vitulina*) in Europe died from Phocine Distemper Virus (PDV) infection (Heide-Jørgensen *et al.* 1992). A second outbreak occurred in the North Sea in 2002, which killed over 20,000 harbor seals (Jensen *et al.* 2002). Outbreaks of canine distemper virus (CDV) killed 5-10,000 Baikal seals (*Pusa sibirica*) in 1987-1988 (Grachev *et al.* 1989) and 10,000 Caspian seals (*P. caspica*) in 2000 (Kennedy *et al.* 2000).

West Nile virus (WNV) is a mosquito-borne pathogen that causes disease in a wide variety of wildlife, domesticated species and humans. WNV is currently not present in Hawaii, and the State has rigorous surveillance and response plans for this virus due to its public health importance. Although WNV has not been known to affect wild marine mammals to date, the death of a captive monk seal in Texas from WNV infection indicates monk seals are susceptible. It has also killed captive harbor seals in the mainland U.S. Thus, the possibility of extensive mortality in monk seals exists if the virus were to be introduced to Hawaii.

Fortunately, vaccines are in existence for both WNV and morbillivirus. There are two main concerns when giving an existing vaccine to a new species. The first is that the vaccine is safe (does not cause disease or any dangerous reaction) and the second is that it is effective (actually protects the animal from disease as



intended). Both the vaccines for WNV and CDV have been proven safe and effective in other species and have been tested on some captive monk seals with no ill effects (see Appendix D).

The proposed vaccination activities (detailed in Appendix D) for Hawaiian monk seals involve two primary elements as follows:

- 1) Continue research to test these vaccines on captive seals, confirm the vaccines' safety, and determine whether the expected immune response occurs by following up with blood tests; and
- 2) Be prepared with response plans should a "trigger" occur (for example, a case of morbillivirus in a wild monk seal). Even in the case of such a response, vaccinations would be initially limited to the population perceived to be at immediate risk, and would be expanded only after confirmation of safety and efficacy.

Prophylactic (preventative) vaccination may be considered in the future, but again, only after careful and conservative incremental testing proves that such an approach would be safe and effective.

#### 5.4

#### ***PLAN FOR DEVELOPMENT OF A BEHAVIOR MODIFICATION PROGRAM***

As described in Section 2.6, a variety of aversive and disruptive stimuli may be considered for behavioral modification.

Behavioral modification that does not involve the use of aversive stimuli and which does not necessitate a research permit includes humans altering their behavior in the presence of a curious seal by avoiding eye contact and ignoring the seal; refraining from making noise near, touching, swimming with, and feeding seals; and moving away and leaving an area when seals actively approach humans. Following these guidelines would be an essential component to preventing the development of abnormal socialization of seals with humans.

The behavior modification program would be a joint effort between NMFS and their partners, with the primary lead being the PIFSC initially (during development). This partnership would also have a public nexus as it would require participation by the community in reporting and describing seal behaviors/interactions throughout the process. NMFS would establish a Behavior Modification Advisory Committee that would consist of a group of researchers and managers (internal and external) to help with the development and implementation of the program. This committee would also serve to determine if an animal of concern is a candidate for behavioral modification, continue to advise as each case progresses, and provide recommendation for modifying or escalating techniques.

The program would also consist of implementation teams. These are the groups that would be on-site monitoring and documenting behaviors/interactions and applying any behavioral modification methods. Implementation teams would receive training to maintain consistent data records, safety protocols, and application of behavior modification techniques. It is important that these techniques be administered properly according to a standardized research plan designed to address the specific behaviors displayed by each seal, and that the efficacy of methods applied be accurately recorded. Therefore only people that have proper authorization and training would be allowed to apply behavioral modification techniques, including aversive conditioning techniques. A core mission of these teams would also be conducting outreach to explain the actions being undertaken and educating the public on proper behaviors to prevent the socialization of seals with humans.

Behavioral modification techniques would be applied only in situations where wild seals are beginning to regularly demonstrate behaviors that put themselves or humans at risk. Some examples include (but are not limited to):

- 1) Regularly interacting with snorkelers, divers or other ocean users. These interactions are directed behavior towards humans which could include rubbing, scratching, biting, soliciting feeding, and more. Early on when these behaviors are novel or low in terms of aggression, low-level aversive stimuli or alternatively, positive stimuli or removing the positive stimuli to redirect behaviors, may be applied. If these behaviors are more ingrained the level of aversive stimuli applied may be escalated as appropriate.
- 2) Regularly interacting with fishermen or fishing gear. Seals that repeatedly target nets or fishing lines are at risk of drowning, hooking, entanglement and other injuries. Some deterrents may be effective at discouraging seals from supplementing their diet by depredating fishing gear.

There are a number of aversive or possibly positive stimuli that could be used for monk seals. It is difficult to predict the efficacy of any technique until it is applied. Any method would be carefully tested in an experimentally rigorous fashion to determine it is safe and effective prior to being adopted as an approved tool for monk seal behavior modification. Hawaiian monk seals or other pinnipeds in captivity may be used to test each method prior to initiating research trials on wild monk seals.

The successful development of this program would depend in large part on public input and cooperation. Of particular importance would be immediate notification of any seal exhibiting the early stages of habituated behavior. This would require ongoing dialogue with ocean users and interest groups likely to encounter seals in their recreation or commercial activities. By identifying which

tools are most appropriate for each situation, and having an implementation team trained in the proper application of each technique, NMFS hopes to reduce the likelihood that monk seal recovery in the MHI would be accompanied by any hardship or inconvenience for the public.

## 5.5 *UNANTICIPATED DISCOVERY OF HISTORIC OR CULTURAL PROPERTIES*

An Unanticipated Discovery Plan (UDP) would be developed by NMFS for use during research and enhancement activities. In the event that historic or cultural resources are encountered in the course of executing research and enhancement activities, the UDP would provide guidance about how to minimize impacts. While no impacts to historic or cultural resources are anticipated, the precautionary measure of a UDP would be in place.

## 5.6 *RECOMMENDATIONS FOR COORDINATION WITH STAKEHOLDERS AND COMMUNITIES*

Close coordination between NMFS and key stakeholders and community members is recommended to facilitate implementation of activities proposed in the preferred alternative. Ocean-oriented stakeholders and community members, such as fishers, surfers, coastal property managers, etc., are among those most likely to encounter monk seals or most likely to have unique knowledge or experience that would be useful for successful implementation of the proposed activities in the MHI. This section summarizes community-based programs currently supported by NMFS and discusses how these or similar programs could facilitate implementation of the proposed activities, especially implementation of the proposed archipelagic-wide translocation and behavior modification activities.

### 5.6.1 *Native Hawaiian and Community-Based Programs*

NMFS initiated a suite of programs in late 2010 that are designed to improve local community support for, and participation in, Hawaiian monk seal recovery and response in the MHI. These programs include a Native Hawaiian liaison program, a cultural practitioner network program, and a community liaison program.

The objectives of the Native Hawaiian liaison and cultural practitioner network programs are:

- Increased levels of support among Native Hawaiians for Hawaiian monk seal recovery and inhabitation of the MHI;
- Increased levels of participation by Native Hawaiians in Hawaiian monk seal recovery and management activities;

- Enhanced collaboration on Hawaiian monk seal recovery efforts between NMFS staff and partners, and Native Hawaiian practitioners and community leaders; and
- Enhanced consideration of traditional Native Hawaiian conservation and management practices, and enhanced incorporation of Native Hawaiian cultural practices and protocols in the NMFS Hawaiian monk seal recovery program.

These programs include:

- Interactive meetings and information sharing sessions with Native Hawaiians, NMFS, partner agencies, Non-Governmental Organizations (NGO's), and response volunteers;
- Identifying and reporting on opportunities and constraints to achieving monk seal recovery in the MHI; and
- Developing and maintaining a network of Hawaiian cultural practitioners and kūpuna (elders) to advise NMFS and to conduct cultural protocols during Hawaiian monk seal response and other monk seal management and recovery-related activities.

The community liaison program is designed to work in concert with the Hawaiian liaison program. The target group for the community liaison program includes long-time island residents and kama'āina (people born in Hawai'i), including and in addition to Native Hawaiians, who have family ties, knowledge and experience in the MHI shoreline areas and coastal waters inhabited by Hawaiian monk seals. The community liaison program uses team members called "community liaisons," funded under contract or grant, working on the islands of Kaua'i, O'ahu, Maui, Moloka'i, and Hawai'i. These community liaisons work part-time under NMFS leadership and in close partnership with other NMFS programs and other government and non-governmental partners. Tasks conducted under this program include:

- Recruiting local community members, including kama'āina and long-time residents, to join the marine mammal response network (described in Section 5.4.2) and actively participating in Hawaiian monk seal response and recovery activities;
- Identifying causes and sources of concern or conflict within the local community regarding NMFS monk seal recovery policies and activities, and recommending to NMFS actions to address the concerns and resolve the conflicts;
- Planning and facilitating productive and constructive information-sharing and "talk story" meetings between NMFS personnel (including

response staff and volunteers) and various community members and organizations;

- Serving as a liaison between NMFS and local coastal property owners and local coastal resource users to help ensure timely and adequate shoreline access by NMFS staff, volunteers, contractors, vehicles, and equipment to conduct marine mammal response and Hawaiian monk seal recovery activities;
- Observing and evaluating monk seal response and recovery activities, including volunteer monk seal incident responses in the field, and recommending changes and enhancements to improve local community support for and acceptance of these activities;
- Documenting and communicating to NMFS descriptions of community residents' knowledge, understanding, attitudes toward and assessments of NMFS monk seal response and recovery activities; and
- Conducting public outreach and education in the community and schools regarding monk seal conservation and natural history in close coordination with NMFS marine mammal response and monk seal recovery staff.

Although only recently initiated, the community-based programs outlined above appear to have engaged several Native Hawaiian community leaders and other local stakeholders to actively support and participate in monk seal response and recovery activities.

## 5.6.2

### *Marine Mammal Response Network*

NMFS manages the Marine Mammal Response Network in Hawai'i in partnership with several government and non-government partners, and with oversight and authorization from the NMFS National Marine Mammal Health and Stranding Response Program. The network is comprised of island-based response coordinators who oversee the activities of numerous volunteers and partner agency staff. The network:

- Responds to monk seals (and other marine mammals) that are reported to be sick, injured, entangled, or hooked in the MHI.
- Responds to "routine" monk seal haul outs to monitor seals, and when seals are in areas of high human use, cordon off a "seal protection zone" around the seal to protect the seal from disturbance and alert the public that a seal is resting on the beach.
- Conducts outreach and education activities, such as giving presentations at schools and staffing information booths at community events.

The network has grown significantly over recent years, and now has hundreds of trained volunteers and NMFS-funded coordinators on every island in the MHI except Lānaʻi and Niʻihau. The sighting data that accrue from this network of observers contribute directly to monk seal population assessment tasks in the MHI. For example, resights of known seals are used to calculate age-specific survival rates, reproductive rates, and movements. Sightings of previously unknown seals, along with any identifying marks that may distinguish them, are particularly useful because they help determine the number of seals present in the MHI.

The sighting data are also used to characterize seal distribution and haulout habitat and for a variety of other purposes. While this system is distinct from that used to estimate abundance and demographic rates in the NWHI, it is well suited for seal research in the MHI, where seals are distributed over a vastly larger area and where it would take a very large staff to canvas and detect all of the seals now reported through the sighting network.

### **5.6.3**      *Outreach and Collaboration with Fishers*

NMFS has a tradition of working with fishers in Hawaiʻi on a variety of issues related to fisheries management and conservation, and has recently begun partnering with government agencies, non-government organizations, and individual fishers to develop collaborative efforts supporting monk seal recovery in the MHI. Through its Protected Species Cooperative Conservation program, NMFS has awarded a grant (under Section 6 of the Endangered Species Act) to the Hawaiʻi Department of Land and Natural Resources (DLNR) to support Hawaiian monk seal (and sea turtle) conservation activities, including outreach and response coordination activities with local fishers.

NMFS has also recently developed a set of guidelines and recommendations for fishers to help prevent and mitigate monk seal interactions with fisheries. As a result of recent meetings and correspondences with individual fishers based on Kāuaʻi, Molokaʻi and Maui, NMFS has plans to enhance its collaboration with fishers to protect seals from hooking and entanglement as well as to reduce seal depredation and other adverse effects on fishing gear and catch. One initiative under consideration is a pilot program intended to partner with a small group of boat and shore-based fishers to document and mitigate fishery-seal interactions associated with the various types of fishing gear and methods used extensively in the MHI.

### **5.6.4**      *Outreach and Collaboration with Other Community Members*

NMFS has also recently begun to collaborate on monk seal recovery initiatives with other community members who have a presence along the shorelines or in the coastal waters of the MHI. This includes:

- Partnering with several hotels and resorts to conduct training with their staff and outreach with their guests so that seals are able to haul out and rest undisturbed in front of hotel and resort properties. Guests are able to enjoy a unique wildlife viewing experience and still use a large portion of the shoreline for many other recreational activities.
- Partnering with non-governmental organizations, such as conservation-oriented non-profits, to conduct community outreach promoting responsible wildlife viewing and reporting of monk seal sightings, injuries, and human-seal interactions.

### 5.6.5 *Incorporating Community Feedback into Research and Enhancement Activities*

To support activities proposed in the preferred alternative, coordination with community members should continue to draw on extensive two-way communication and information sharing between NMFS and the key stakeholders and community members as discussed above. This would be facilitated by continuing and expanding programs, such as those discussed above, that entail meetings, outreach events, and other interactive and participatory activities.

If adequately engaged and motivated, local community members can support monitoring and reporting of location-specific and historical information that could be especially valuable before, during and after the proposed translocation, behavior modification, and vaccination activities. This support could include monitoring and reporting of monk seals and assessment of various local environmental factors. For instance, with NMFS support and coordination, community members could monitor and report on the behavior of seals before and after behavior modification techniques are applied. In another example, community members could use their local environmental knowledge to help NMFS assess and select appropriate sites for the release of translocated seals. The various types of community-based support can be summarized as follows:

#### Monk Seal Monitoring and Reporting:

- Detecting and reporting seal presence or absence;
- Documenting and confirming individual seal identification;
- Observing and reporting seal behaviors;
- Observing and reporting seal health and body condition; and
- Observing and reporting seal behaviors, seal health and body condition, human-seal interactions, and fishery interactions.

#### Environmental and Habitat Assessment:

- Observing and reporting human uses – types and levels of shoreline use, fishing, etc.; and
- Observing and reporting monk seal uses – frequency of foraging, pupping, resting, molting, etc.

Community-based programs and activities, such as those described above, can be used to build capacity within local communities to conduct monitoring on temporal and spatial scales that would otherwise be extremely difficult to achieve. In addition to supporting wide spread coverage and timely monitoring and reporting, these programs could also help NMFS and its partners be more aware of, and responsive to, emerging opportunities and constraints to monk seal recovery throughout the MHI.

Other programs conducted by NMFS and partners, including education and outreach efforts that target the general public and other audiences, such as students and teachers, could also support implementation of the proposed activities to varying degrees. Descriptions of these efforts are provided on the NMFS PIRO PRD web site:

[http://www.fpir.noaa.gov/PRD/prd\\_outreach\\_education1.html](http://www.fpir.noaa.gov/PRD/prd_outreach_education1.html)



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