

## **Possible Management Response Options for Responding to Hawaiian Monk Seal Haul-Out Events in the Main Hawaiian Islands**

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Reports of Hawaiian monk seals hauling out in the main Hawaiian Islands to rest, molt, and give birth have increased in recent years. The occurrence and potential for increased abundance of seals in this area offers important opportunities for improving prospects of the species' recovery and for enhancing public awareness of their conservation needs. In some cases, however, seals have been harassed and disturbed by people and attacked by dogs. In other cases, seals have exhibited aggressive behavior toward people and pets, occasionally biting or attempting to bite them. Some seals also have hauled out with fishing hooks embedded in their mouth or other parts of their body or with other types of injuries requiring treatment or intervention. Because of the endangered status of monk seals and patterns of human use and development along shorelines around the main Hawaiian Islands, resource managers must be prepared to respond to monk seal haul-out events in ways that recognize and balance the best interests of both the seals and people in a wide range of possible haul-out situations.

To meet this need, resource managers need an effective public education and outreach program and an established set of procedures and protocols to guide decisions on what management actions are appropriate in different situations. The participants in this workshop are being asked to help develop that public education program and those procedures and protocols. To stimulate thinking and discussion in this regard, this paper presents a list of possible management options (Table 1) and protocols. The list of options is organized in the form of a decision tree (Figure 1) that would begin with a report of a hauled monk seal and progress through a range of possible responses. The list includes a public education and awareness task, six options intended to record data and/or protect monk seals in ways that would allow seals to use shoreline habitats without human interference, and four options that would involve interventions to alter the seals' habitat-use patterns.

This list is not meant to be exhaustive or to suggest that any of the identified options has been or should be adopted. Although participants may wish to recommend government and non-government entities appropriate to carry out specific actions, this paper focuses only on what might be done, rather than who should do it. As a general matter, any actions recommended by workshop participants or adopted by management agencies will almost certainly require an adaptive management approach. That is, management measures likely will change over time based on unpredictable developments, experience, and new information. In this regard, a companion document has been prepared to encourage thinking about possible research activities that may be needed to evaluate the effectiveness of adopted management options and provide the information for making informed decisions on strengthening, improving, or otherwise changing them as necessary.

## 1. Implement a Public Education and Awareness Program.

To minimize the risk of adverse interactions between seals and people, a strong public education and outreach program will be essential. Such a program should deliver a well-thought-out and consistent message to all segments of the public that may encounter monk seals, including local residents and tourists. **Workshop participants should identify major information points to be transmitted through the public outreach program as well as appropriate vehicles (e.g, brochures, films, signs, public service announcements, etc.) to deliver those points.** For example, major information points might include the following:

- the biological status of monk seals;
- the legal status and protection requirements;
- prohibited activities (e.g., feeding, harassing, or encouraging direct interactions with people) and what to do if seals are encountered in different situations;
- monk seal sightings that should be reported and how to report them;
- major elements of the program to conserve monk seals and the agencies and groups involved in protecting them;
- ways to learn more about monk seals;
- others.

## 2. Maintain a System for Receiving and Recording Monk Seal Haul-Out Reports

In most cases a response process cannot begin until a hauled-out seal is reported an individual or office responsible for deciding what action, if any, may be warranted. Therefore, as a first step, **workshop participants should consider how haul-out events should be reported and recorded.** For example, should reports be received only over the phone through direct contact with a person authorized to initiate a follow-up response, should reports be taken by a data recorder who would then pass that information on to an authorized person, should monk seal haul-outs be reported through the same numbers used for reporting other events (e.g., for stranded turtles or entangled whales) or a separate number, should there be separate numbers for each island, and could other means (fax, recorded messages, or e-mail) also be used to submit reports. **Workshop participants also might consider whether reports should be requested for all observed haul-outs or only certain haul-outs, and if so, which ones.**

When receiving a report, a standard list of questions should probably be posed in order to make an initial decision about what, if anything, should be done. As discussed below, the first decision might be a determination to do nothing or to have a trained, authorized individual visit the site to verify the report and assess the situation. To help make such a determination, **workshop participants should identify what information to request from people reporting haul-out events.** Possibilities in this regard might include the following:

- time and date of the report;
- the name and contact information for the person reporting the haul-out event;

- location and number of seals seen;
- when was the seal last seen and how frequently it was seen previously;
- how long has the seal been there and what is it doing (e.g., resting, swimming, nursing);
- is someone watching the seal currently;
- a description of the animal (e.g., is the observer sure it was a seal);
- are there any signs of injury to the seal;
- are there any apparent imminent threats (e.g., people or dogs interacting with the seal)
- what is the seal's setting (on a sandy beach, a rocky ledge, amidst a crowd of people, on an empty beach, etc.)
- did the seal have a tag on its hind flipper and, if so, the tag's color and number, if known;
- were any distinguishing scars or marks seen on the seal;
- other information.

**Workshop participants also should identify means of notifying the public about when and how to report monk seal haul-out events.** Currently, phone numbers for reporting distressed monk seals are advertised through brochures about monk seals and protected marine species in Hawaii, agency internet web pages, public outreach talks, and recorded messages on central phone numbers for key agencies, such as the National Marine Fisheries Service. Are these steps adequate and if not, what additional steps should be taken?

### **3. Take No Action Based on Initial Report**

Once a report has been received, one optional response would be to record the information and take no further action. **Workshop participants should identify what criteria or guidelines would warrant a decision to take no action based on the initial report.** Possibilities in this regard might include the following:

- inadequate information on the location of the animal;
- the animal has already been reported and a response determined;
- the seal was reported to have returned to the water and left the area;
- the sighting occurred more than some minimum time before it was reported (e.g., one day?);
- the seal is at an inaccessible or remote site where disturbance is unlikely or minimal;
- others?

### **4. Send an Individual to the Site to Investigate and Assess the Situation**

A second alternative in response to a reported haul-out event is to send an individual to the site to verify the sighting, assess the situation, determine what, if any action may be needed, and collect additional data. All reports not meeting criteria for taking no action could be candidates for a follow-up site visit by an on-site investigator. Alternatively, separate or additional criteria might be developed to determine when a investigator should be dispatched to the site. As a first

step, those receiving the report might prioritize response needs into two or more levels of urgency. **Workshop participants should consider whether and what system of prioritization might be appropriate for dispatching investigators and what conditions might be attached to each priority.** For example, reports of injured seals or seals in potentially adverse circumstances (e.g., presence on a crowded beach, being attacked by dogs, or being harassed by people) might be accorded first priority, with a set minimum response time. Other reports might be accorded a second priority with a longer minimum response time.

Once an investigator arrives at the site, he or she should probably have a specific set of duties and responsibilities to carry out. **Workshop participants should identify what duties and responsibility an investigator should have.** For example, investigators might be assigned the following tasks:

- assess and record the seal's condition;
- address any immediate needs that may be apparent (e.g., move people back from seals if they are too close and establish a safe perimeter around the seal);
- assess whether and what additional management actions may be needed (e.g., post a monitor, cordon off a section of beach, etc. – see below);
- contact a supervisor to discuss further management options or directly contact others for assistance (e.g., monitors, veterinarians, law enforcement personnel, etc.);
- remain on scene until additional help arrives if necessary;
- record certain data on the seal and the situation (e.g., location, date, presence of tags and tag data, the seal's behavior and position on the beach, evidence of injuries or molting, interactions with people, etc.);
- others.

On-site investigators also may be directed not to take certain actions such as any direct handling of seals. Investigators should probably receive training and meet certain qualifications in order to properly assess the situation. **Workshop participants should identify whether and what qualifications, knowledge, and training on-site response personnel should possess.** For examples investigators might be required to receive training and have knowledge in the following areas:

- basic information on monk seal behavior and life history to determine if the seal is resting, molting, pregnant, etc.;
- legal requirements for protecting monk seals under applicable federal and state law;
- assessing the types of injuries that might be seen on monk seals;
- working with the public and answering common questions;
- phone numbers and contacts for veterinarians, law enforcement officials, monk seal researchers, etc.;
- recording basic data on the seal's identity and behavior;
- others.

### **5. Based on an On-Site Investigator's Findings, Take No Further Action.**

In some cases, based on the investigators findings, it may be determined that no further action is required. **Workshop participants should identify criteria that would warrant a decision to take no further management action.** Possibilities in this regard might include the following:

- no seal was found at the reported location;
- the seal left the beach while the investigator was present;
- the seal is resting at a remote, isolated location where disturbance is unlikely;
- others.

### **6. Based on an On-Site Investigator's Findings, Post a Seal Monitor.**

In some cases, based on the on-site investigator's findings, it may be determined that an individual should be stationed on site to monitor the seal during the duration of its presence. To help determine when and what steps might be taken in this regard, **workshop participants should identify criteria for determining when it would be appropriate to post a monitor to watch the seal.** For example, criteria for posting a monitor might include the following:

- any mother/pup pair;
- any molting seal likely to be present on the beach for several days;
- any seal on a beach where human activity exceeds some defined level;
- others.

In some cases, continuous monitoring (24 hours a day or during all daylight hours) may be needed, while in other cases, periodic monitoring might be adequate. **Workshop participants should consider whether different levels of monitoring would be appropriate and if so, how to determine the appropriate monitoring levels.**

**Workshop participants also should consider precisely what duties a posted monk seal monitor should have and what sort of training, if any, they should have.** Possibilities with regard to their duties include the following:

- answering questions from the public and handing out brochures or flyers with information on monk seals and protection needs;
- consulting responsible resource managers in cases where enforcement or other forms of assistance seem necessary;
- moving no-entry perimeters and signs if seals move;
- collecting data on seal behavior and interactions with people or animals;
- others.

Possibilities with regard to training and qualifications include the following:

- general knowledge of federal and state monk seal protection regulations;
- basic knowledge of monk seal biology;
- answers to frequently asked questions and sources of additional information;
- contact numbers for resource managers, law enforcement personnel, veterinarians, research staff;
- collecting data on seal behavior and interactions with people and other animals;
- others.

**7. Based on an On-Site Investigator's Findings, Restrict Human Access to a Portion of the Beach.**

In some cases, based on the on-site investigator's finding, steps may be needed to protect the seal from potential sources of human disturbance by placing tape or some other marker around the seal to mark an area within which people would be excluded while the seal remains on the beach. **Workshop participants should identify criteria for determining when it would be appropriate to establish a no-entry perimeter around a seal.** These criteria might be the same or similar to those used to determine whether to post a monitor and might include the following:

- any mother-pup pair;
- any molting seal likely to be present for several days;
- any seal on a beach where human activity exceeds some defined level;
- others situations.

The distance of the perimeter around the seal may vary depending on the behavior and condition of the seal, the number of people using the beach, and the length and width of the beach. For example, a relatively small perimeter consistent with minimum distances established by guidelines or regulations (e.g., 50 yd) might be adequate to protect a resting seal not expected to remain on the beach for a long period, while a larger perimeter may be needed to protect a molting seal or a nursing female and pup that may be present on a beach for several weeks. **Workshop participants should consider whether the size of no-entry zones should vary in different circumstances and, if so, what criteria could be used for deciding on the size of no-entry areas.**

**8. Install a Physical Barrier to Restrict Monk Seal Movements in Certain Beaches or Swimming Areas.**

To prevent seals from using certain nearshore waters popular for swimming and sunbathing, it might be possible to install fencing, netting, or some other type of barrier. Similarly, it may be

possible to install a low fence along the waterline that beachgoers could step over, but that would prevent seals from hauling out on the beach. Fenced enclosures also might be installed in some cases to temporarily contain an injured seal or a mother-pup pair during a period when special protection or care is needed. Such barriers might be used temporarily, seasonally, or permanently, depending on need. **Workshop participants should consider whether the installation of physical barriers to exclude seals from certain areas or to contain them temporarily for special protection would be appropriate in certain situations and, if so, (1) what sort of barriers might be most appropriate (e.g., nets, fencing, other), (2) what criteria should be used to select areas where barriers should be tested or applied and (3) what steps should be taken ensure that barriers pose a negligible risk of injury to people and wildlife.** For example criteria for selecting areas or circumstances for testing or installing physical barriers might include the following:

- the frequency at which seals occur at a site (e.g., presence of a certain number of seals or their occurrence on a certain percentage of days);
- areas where human activity or facilities pose a particularly high risk of injury to a seal;
- special protection needs such injured such as haul-outs involving injured seals or mother-pup pairs;
- others.

Possible criteria for installing barriers might include measures to:

- clearly mark the location of barrier at all times for boaters, swimmers, and beach goers
- precautions to prevent seals, sea turtles, and other wildlife from becoming trapped or entangled in the structure;
- others.

#### **9. Based on an On-Site Investigator's Findings, Haze Seals to Discourage Their Use of Certain Beaches.**

In some cases, the best interests of both seals and people might be served by hazing animals to the extent legally authorized so as to discourage their use of areas where there is a high risk of direct interactions between seals and people or their pets. For example, on heavily used beaches, actions to protect hauled out seals from disturbance may encourage their increased use of those beaches. Over time, this could increase the probability of direct interactions between people and seals that could result in injuries to both seals or people or create an unmanageable situation. Conversely, controlled harassment or hazing of seals to discourage their use of heavily populated areas could encourage them to use less heavily populated areas where adverse interactions are less likely. **Workshop participants should consider whether hazing seals may be warranted in some situations, and, if so, criteria for determining when it would be appropriate to do so.**

If it is determined that hazing seals may be appropriate in some situations, **workshop participants also should identify what methods should be tested, and what training or qualifications should be required for those who would be authorized to haze seals.**

**10. Based on an On-Site Investigator's Findings, Capture and Move the Monk Seal(s) to Another Location.**

In some cases, the best interests of both seals and people might be served by capturing seals and relocating them to areas where they would be less likely to interact with people and be more easily protected. For example, capturing and moving seals might be warranted if behaviors that could lead to site fidelity (e.g., pupping and nursing) are occurring at a location that poses risks to seals and people. **Workshop participants should consider whether capturing seals may be warranted in some situations, and if so, criteria for determining when it would be appropriate to capture and relocate seals.**

If it is determined that capturing and moving seals may be appropriate in certain situations, **workshop participants should consider how it might be done in a manner that would not injure seals, the necessary training or qualifications of those who would be authorized to capture and move seals, places where seals might be moved to, and the types of follow-up monitoring needed to determine the fate of moved seals.**

**11. Based on an On-site Investigator's Findings, Undertake Medical Intervention.**

In some cases, haul-out events may involve injured or sick seals. For example, seals may haul out entangled in rope or line, with hooks embedded in their lips or with wounds from shark bites, boat propellers, or interactions with other seals. In other cases, seals may exhibit signs of illness from diseases, natural or anthropogenic toxins, or malnutrition. In such cases it may be appropriate to capture a seal to disentangle it or administer medical attention. In some cases, it may be appropriate to take a seal into temporary or permanent captivity for more intensive treatment or monitoring. **Workshop participants should identify criteria for determining when medical intervention or rescue work might be warranted, the qualifications that rescue personnel should have to treat seals for different types of injuries or conditions, and the procedures to be followed in deploying qualified personnel.**

Table 1. List of possible management options.

1. Modify existing public education and outreach programs.
2. Modify and maintain reporting network as necessary.
3. Receive monk seal haul-out report and take no action.
4. Receive monk seal haul-out report and dispatch on-site investigator to verify and assess situation.
5. Based on the investigator's findings, take no action.
6. Based on the investigator's findings, post monitor.
7. Based on the investigator's findings, establish no-entry perimeter around seal or close part of the beach.
8. Based on the investigator's findings, install a physical barrier to restrict monk seal movements at certain beaches or swimming areas.
9. Based on the investigator's findings, haze seal to discourage its presence at that location.
10. Based on the investigator's findings, capture and relocate seal.
11. Based on the investigator's findings, dispatch rescue/medical intervention team.

Figure 1. Flow Chart of Possible Management Options to Respond to Monk Seals Haul-Out Events in the Main Hawaiian Islands

