

Enhancing the Future of the Hawaiian Monk Seal

Recommendations for the NOAA Recovery Program



An endangered Hawaiian monk seal rests on a patch of marine debris in the Northwestern Hawaiian Islands.
Photo: NOAA
Cover Photos: Daniel Fox

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Marine Conservation Institute

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If all the beasts were gone, men would die from a great loneliness of spirit, for whatever happens to the beasts also happens to the man.

All things are connected.

- Chief Seattle (Suwamish Tribe)





*Hawaiian monk seal, 'ilioholoikauaau, and green turtle hatchling, honu, at French Frigate Shoals.
Photo: Mark Sullivan/NOAA HMSRP*

Preface: Purpose, Scope, and Acknowledgments

This report on the Hawaiian Monk Seal Recovery Program was undertaken by Marine Conservation Institute for the purpose of enhancing the conservation of one of the world's most endangered seals. In 2004, our attention was drawn to the continued population decline of the Hawaiian monk seal when we joined conservation organizations in Hawai'i to advocate for the establishment of a permanently protected marine reserve in the Northwestern Hawaiian Islands, the area where the majority of monk seals live. After Papahānaumokuākea Marine National Monument was created in 2006, we concluded that the monk seal, one of the monument's iconic species, needed to be a higher conservation priority for the National Oceanic and Atmospheric Administration (NOAA), the agency with legal responsibility for its recovery.

Over the last eight years, we have learned a great deal about the monk seal's plight, as well as its needs. Most monk seal conservation work is funded by NOAA and executed by the National Marine Fisheries Service (NMFS). Although significant progress has been made in many ways by NOAA staff, we are struck by four things: (1) despite decades of government effort the overall monk seal population continues to decline, principally because of low survivorship of seals in the Northwestern Hawaiian Islands; (2) in the Main Hawaiian Islands where a smaller population of monk seals is increasing, seal recovery has become politically controversial, because some fishermen and communities believe monk seals negatively impact local fisheries; animosity toward the monk seal is thought to be partly responsible for a number of unsolved monk seal killings; (3) recovery work is currently undercut by an inadequate NOAA budget as well as internal and external coordination issues in implementing the recovery plan; and (4) the recovery program needs greater transparency and accountability in order to prosper.

Marine Conservation Institute undertook a broad review of the recovery program to summarize the current status of the monk seal, explain how the program is organized and functions, identify issues constraining the program's effectiveness, and make recommendations to resolve them. The report is organized into three chapters. Chapter I provides an overview of the monk seal's status and controversies surrounding the seal. Chapter II describes the organization and function of the seal management structure. Chapter III presents seven key issues that constrain the seal's recovery.

To prepare this report, we interviewed federal and state agency officials throughout the management hierarchy, met with congressional staff and members of the Hawai'i legislature, analyzed agency documents and reports, and conducted outreach meetings with fishermen and community leaders on Kaua'i who are particularly concerned about the monk seal's impact on their lives. Our interviews were conducted with the understanding that interviewees would remain anonymous to foster free expression and frankness. However, the report's findings and conclusions are solely those of Marine Conservation Institute.

Our advocacy work on behalf of the Hawaiian monk seal has been underwritten primarily by the Bowman Family Foundation and the Woodtiger Fund. We are grateful to the leaders of both foundations for their commitment to saving Earth's rare species and maintaining our planet's biodiversity. We thank Douglas Wheeler and Ryan Bickmore of the law firm, Hogan Lovells US LLC, who provided excellent pro bono policy advice and legal analyses in support of the report. We also thank the many senior officials and staff at NOAA, the Hawai'i Department of Natural Resources, and the US Fish and Wildlife Service for the time they spent providing information for this report. In addition, we owe special thanks to the residents of Kaua'i who shared their views on the monk seal with our consultant, Honua Consulting. Mr. David W. Laist made a number of insightful comments on the draft that were invaluable due to his extensive knowledge of, and involvement in, monk seal conservation policy.

Executive Summary

Marine Conservation Institute undertook this report on the Hawaiian Monk Seal Recovery Program for the purpose of enhancing the conservation prospects of one of the world's most endangered pinnipeds. The Hawaiian monk seal (*Neomonachus schauinslandi*), whose estimated population now hovers between 900 and 1,100 animals, has suffered a 60-year decline despite the efforts of National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) and others to reverse it. Although some may view the seal's fate as hopeless, it is not. Despite difficult circumstances, NMFS and its partners have made progress on several fronts to slow the seal's decline. Encouragingly, NMFS estimates that up to 32 per cent of all seals living in 2012 were alive because of hundreds of interventions taken by the agency over many years to enhance the survival of individual seals at risk.

Nevertheless, the recovery program faces several challenges that must be met if the program is going to meet its current long term goal of having a population of 3,200 seals, with 500 individuals in the main Hawaiian Islands (MHI) and 2,900 in the Northwestern Hawaiian Islands (NWHI). With a good strategy, sufficient resources, and effective coordination among its several partners, we think NMFS can accelerate progress toward achieving and maintaining a healthy population of monk seals. But it is not going to be easy.

1. Making the Monk Seal's Recovery a National Priority within NOAA

Issue: NOAA, acting through the National Marine Fisheries Service, is responsible for recovering the Hawaiian monk seal but is not pursuing this objective with the intensity of commitment commensurate with the seal's national and international significance or its needs. The Hawaiian monk seal is the nation's most endangered seal, and one of the world's most endangered marine mammals. Firm support for its recovery should be one of NOAA's highest priorities, and one that merits intense focus.

In 2007, NMFS adopted a revised Hawaiian monk seal recovery plan that projected a program budget need of over \$7 million annually. At the time the plan was released, NMFS was spending only one third of that amount (about \$2.6 million) on the Monk Seal Recovery Program. For unclear reasons, NOAA chose to ignore its own report and persisted in sending low budget requests to Congress. In response, Marine Conservation Institute and other nonprofit organizations have had to intervene repeatedly to ask Congress to increase the budget for monk seal recovery. The result has been roller-coaster funding that undermines program effectiveness by creating planning and implementation uncertainty, and diminishes the ability of NMFS to deal with basic recovery needs such as preventing the deaths of young seals in the NWHI, where the seal's numbers continue to decline.

Recommendation: The NOAA Administrator should make it clear that the monk seal's recovery is a top priority for the agency, and back this up by increasing the base budget for monk seal recovery to \$7 million annually by 2017. In addition, NOAA's leaders should ensure that all NOAA bureaus and offices, such as the National Ocean Service's (NOS) Office of National Marine Sanctuaries (ONMS) and the Office of Law Enforcement are making optimum contributions to the recovery effort.

2. Improving the Recovery Program Management Structure

Issue: Under the NMFS organizational structure, the regional administrator of the Pacific Islands Regional Office (PIRO) is responsible and accountable for achieving the monk seal's recovery. However, PIRO lacks both the staff and budget to fully meet this responsibility. PIRO receives less than 30 per cent of the current monk seal recovery budget. In contrast, the Pacific Islands Fisheries Science Center (PIFSC), which is not supervised by the regional administrator, receives over 70 per cent of the monk seal budget. A shortage of funds prevents PIRO from executing some of its basic responsibilities, the principal one being that of leading the recovery program and coordinating the efforts of other NMFS offices, its grantees, and other federal agencies in an all-out campaign to save the monk seal from extinction. At the same time, the need for PIFSC to have adequate funds for its summer research and seal rescue program in the NWHI should not be short changed.

Recommendation: As the recovery budget is increased to a recommended \$7 million, NMFS should conduct a thorough review of the roles and responsibilities of PIFSC and PIRO and align them with strategies and activities that will provide the greatest benefit to the monk seal's long term survival; less important activities now being undertaken should be dropped. The NMFS Assistant Administrator for Fisheries should ensure that PIRO has the budget, staff, and organizational authority needed to lead a robust monk seal conservation program, and also ensure that NMFS's state and federal partners are significantly engaged in the recovery effort.

3. Managing Interactions between People and Seals in the Main Hawaiian Islands

Issue: Preventing adverse interactions between people and seals is one of PIRO's most important responsibilities. In recent years, the increasing number monk seals in the MHI has raised concern and antipathy among some fishermen and local communities who view seals as a competitor in local fisheries and a threat to their traditional right to take marine resources. Due partly to their bad reputation as competitors, monk seals have been deliberately killed at Moloka'i and Kaua'i. NMFS has taken a variety of steps to educate stakeholders about the seal's protected status, behavior, and ways to avoid interactions, but these efforts, while laudatory, have not gained sufficient traction among fishermen and local residents who oppose the seal's presence and refuse to cooperate with NMFS staff.

Recommendation: It will be impossible for PIRO to effectively manage human-seal interactions and build political support for the recovery program without gaining the trust and cooperation of local communities and fishermen. Marine Conservation Institute recommends that PIRO make community engagement the backbone of its seal-interaction management strategy in the MHI, and create a community liaison staff to carry it out. The staff's goal should be building long-term trust with stakeholders and community leaders by developing mutually acceptable solutions to mitigate interaction problems with seals in so far as practicable. This will take time, but it must begin in earnest and be sustained. PIRO and the state Department of Land and Natural Resources should work even more closely on this goal than they do at present, to include goal setting and metrics, coordination, and reporting.

4. Improving Our Understanding of Human-Seal Interactions with Research and Management

Issue: NMFS has limited information on the location, frequency, and trends of many human-seal interactions, such as seal depredations of bait and fish catch, or the intentional feeding of seals by fishermen. If these interactions are not addressed, they can lead to more serious exchanges that endanger human safety and result in the relocation of seals away from their preferred habitat.

Most ocean users, including fishermen, choose not to report their interactions with seals to NMFS because they either don't consider them worth reporting, don't understand the implications of reinforcing undesirable seal behavior, distrust NMFS, dislike seals, or fear prosecution for wounding an animal, even if the interaction was accidental. The relatively good information NMFS does have on hooked and entangled seals comes mainly from non-fisherman sources after the interaction has taken place. This delay limits PIRO's ability to respond quickly to save injured seals and identify seals that continually cause problems. NMFS does not use systematic surveys, opinion polls, or other methods on a regular basis to estimate the number, severity, and trend of interactions taking place in the MHI. Nor has the agency prepared case studies of interactions known to be occurring.

Recommendation: Working through the recommended community liaison program, NMFS should be more proactive in researching and addressing interactions that are known to be occurring. For starters, PIFSC could use anonymous surveys and polls of fishermen and other ocean users to fill knowledge gaps. Case studies of typical interactions also are needed to devise prevention and mitigation measures in cooperation with affected fishermen. PIFSC needs to make interactions research a higher priority than it is now, even if it has to postpone or cancel other research work.

5. Ensuring Robust Interagency Involvement in the Recovery Program in both the Main and Northwestern Hawaiian Islands

Issue: Under the Endangered Species Act (ESA), federal agencies in Hawai'i have a legal duty to use their authority to promote the recovery of endangered species in cooperation with NMFS. US Fish and Wildlife Service (USFWS), National Ocean Service (NOS), Hawai'i Department of Land and Natural Resources (DLNR), US Coast Guard and the Navy are all responsible for supporting or executing activities specified in the NMFS monk seal recovery plan. State agencies, particularly DLNR, also have responsibilities under state law to protect monk seals.

These agencies currently undertake a variety of seal conservation actions, but some agencies could do more to meet their responsibilities. PIRO's coordination of recovery plan activities is informal; there is no established interagency seal working group that meets regularly to identify and plan activities, facilitate operations, discuss needs, and marshal resources to deliver desired results. Furthermore, because NMFS does not track, summarize, or report the collective accomplishments of all agencies, it is hard to understand the program's overall scope, progress, and impact.

Recommendation: Marine Conservation Institute recommends that the Regional Administrator of PIRO lead the establishment of an interagency working group with appropriate authority to meet at least semiannually to discuss recovery needs, set objectives, coordinate implementation schedules, and account for results. If necessary, a Memorandum of Agreement (MOA) should be negotiated that binds the parties to participate. The goal is to get all agencies better coordinated and foster accountability to one another. In addition, we recommend NOAA's private partners who manage monk seal volunteers, provide rehabilitative care for seals, or conduct educational activities, be engaged with the working group because of the important roles they play.

6. Improving Program Transparency and Accountability

Issue: Finding up-to-date information on the recovery program is difficult. This is because program activities are Balkanized among several NMFS offices and the state DLNR. NMFS offices keep records of their various activities, but a good deal of this information is not available to the public. In particular, metrics on the recovery program itself are largely absent from NMFS websites. Thus, it is hard for anyone to get a concise understanding of what the recovery program is accomplishing. Lack of transparency and accountability generates distrust among the agency's critics, fuels suspicion and antipathy among fishermen, keeps the agency's current and potential supporters in the dark, and tends to undermine support from local, state, and federal elected officials.

Recommendation: Given the controversy over the monk seal's presence in the Main Hawaiian Islands, NMFS PIRO needs to be more proactive in making the recovery program transparent and accountable. It can do so by collecting appropriate data from all NMFS offices and its federal and nonprofit partners, and summarizing this information in a succinct annual report. Five categories of information are important to understand the recovery program: (1) seal population data and trends, including births, mortalities, and seal rescues; (2) seal-interaction incidents and responses (e.g., number of hooked seals treated); (3) program implementation metrics, such as budget expenditures and project results (e.g., number of volunteers recruited and trained); (4) law enforcement incidents, disposition, and outcomes; and (5) innovations and accomplishments of participating agencies. This information should be also posted on a "seal recovery program" web page.

In addition, because the monk seal's impact on fishermen is a political issue in Hawai'i, senior officials of PIRO (or their delegates as appropriate) should offer informational briefings to state, county, and federal legislators on the status of the recovery program at least once per year. Briefings would be extremely useful in dispelling myths and misinformation that legislators may hear about the monk seal or the recovery program, and would enable NMFS to answer questions and discuss upcoming events. We believe this kind of outreach would generate greater support for the NMFS recovery program and help reduce political controversy.

7. Making Law Enforcement More Transparent and Fostering Voluntary Reporting of Interactions

Issue: Law enforcement is critical to the seal’s recovery in the MHI where people’s encounters with seals can lead to accidental or unintended violations of seal protection laws. NMFS’s Office of Law Enforcement-Pacific Division (OLE-PD) investigates every reported illegal act against seals and pursues legitimate cases, but it is not standard practice for the office to issue summaries of its law enforcement activities and accomplishments. This is unfortunate because people who care about the seal want to know that NMFS is policing crimes against seals and gaining convictions against violators. Without information on enforcement actions, including final prosecution outcomes, people are left wondering if any of the reports they file with OLE-PD lead to violators being caught and punished.

An important issue that came to light during this study is that most fishermen do not report their *unintentional* interactions with seals, especially those in which a seal was harmed, because they fear being prosecuted by NMFS for a “taking” (harming or killing) under the ESA and the Marine Mammal Protection Act (MMPA). This poses a Catch 22 for seal managers because the failure of fishermen to report serious interactions immediately after they occur increases the risk of mortality for a wounded or entangled seal that needs rapid attention from NMFS responders. The fear factor may also help fuel animosity toward monk seals. Although the need for a more flexible prosecution policy on accidental interactions has been discussed on and off for several years in the Pacific Region, no policy has been approved by NOAA’s Office of General Counsel.

Another issue is that, due to lack of funding, NMFS and its partner, the state Division of Conservation and Resource Enforcement (DOCARE), conduct minimal patrols on beaches where seals are often found. Yet, the majority of interaction incidents take place on Hawai’i’s heavily used beaches. Periodic patrols would enable enforcement officers to educate beachgoers about seal protection laws in a non-punitive manner.

Recommendation: Marine Conservation Institute recommends that NMFS OLE-PD issues summary information about the division’s enforcement activities and outcomes on an annual basis, preferably as part of the recommended PIRO annual report on the seal program. This information also should be available on the division’s or PIRO’s website. Both actions would help citizens understand what the laws protecting monk seals are, how they can comply with them, and what happens when the laws are violated. Such information helps deter further crimes by educating the public and incentivizing more citizens to recognize and report crimes they may see, such as people deliberately harassing seals on beaches.

In addition, we recommend NOAA General Counsel and NMFS OLE work with NMFS PIRO to develop a new policy for dealing with incidents of accidental harm to seals that occur during legal fishing activities. NOAA has discretion on whether and how to prosecute various kinds of violations against monk seals based on circumstances. We believe a policy can be put in place that is not punitive toward accidental offenders who meet appropriate legal criteria, but also does not open the door to intentional or negligent violations being disguised as accidents. Since NMFS does not have the resources to patrol beaches in Hawai’i, and furthermore has no staff stationed on the islands (except Oahu) where patrols are needed, we recommend NMFS increase the funds it gives to DOCARE to help enforce federal laws, so that DOCARE can hire more officers to undertake the job. This action would enhance the enforcement of both federal and state laws protecting the monk seal and help promote coexistence with the monk seal.

List of Acronyms and Abbreviations

DAR	Division of Aquatic Resources (Department of Land and Natural Resources)
DLNR	Department of Land and Natural Resources
DOCARE	Division of Conservation and Resource Enforcement (Department of Land and Natural Resources)
ESA	Endangered Species Act
JEA	Joint Enforcement Agreement
MCI	Marine Conservation Institute
MHI	Main Hawaiian Islands
MMPA	Marine Mammal Protection Act
MNM	Marine National Monument
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NWHI	Northwestern Hawaiian Islands
OLE	Office of Law Enforcement (National Office of NMFS)
OLE-PD	Office of Law Enforcement (Pacific Division)
ONMS	Office of National Marine Sanctuaries (National Ocean Service)
OPR	Office of Protected Resources (National Marine Fisheries Service)
PIFSC	Pacific Islands Fisheries Science Center (National Marine Fisheries Service)
PIRO	Pacific Islands Regional Office (National Marine Fisheries Service)
PMNM	Papahānaumokuākea Marine National Monument
PRD	Protected Resources Division (Pacific Islands Regional Office)



An educational sign encourages beach users to provide seals with adequate space and to avoid disturbances. Photo: Fern Rosenstiel

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Chapter I. Conservation Status and Controversy

Significance

The Hawaiian monk seal (*Neomonachus schauinslandi*) is one of the most endangered seals in the world, with an estimated 900 to 1,100 individuals remaining (Figure 1). It is also one of only three tropical seals worldwide and the most endangered pinniped in the United States. A recent scientific study used DNA analysis to re-classify the Hawaiian monk seal and the Caribbean monk seal (*Neomonachus tropicalis*) as members of a genus distinct from that of the Mediterranean monk seal (*Monachus monachus*).¹ Given that the Caribbean monk seal is extinct, the Hawaiian monk seal is the sole surviving representative of its genus.

Figure 1: Populations of the World's Rarest Pinnipeds

Species	Population Size	IUCN Status
Saimaa ringed seal	280	Critically endangered
Mediterranean monk seal	350-450	Critically endangered
Hawaiian monk seal	1200 (IUCN Red List); 900-1100 (Current NOAA estimate, 2014)	Critically endangered
Ladoga ringed seal	3,000-5,000	Endangered
Galapagos fur seal	10,000-15,000	Endangered
Australian sea lion	13,790	Endangered
Galapagos sea lion	20,000-40,000	Endangered

Sources: "The IUCN Red List of Threatened Species." *The IUCN Red List. International Union for Conservation of Nature, n.d. Web. 08 Nov. 2014.* <<http://www.iucnredlist.org/>>; Walters, Jeff. *Opening Statement by NOAA Fisheries for the Informational Briefing, House Committee on Ocean, Marine Resources, and Hawaiian Affairs and Senate Committee on Hawaiian Affairs. Honolulu, 24 January 2014.*

As its name suggests, the Hawaiian monk seal is endemic to the Hawaiian archipelago², and is the "only pinniped that occurs exclusively within the jurisdiction of the United States."³ Scientists believe that the Hawaiian monk seal evolved from the Caribbean monk seal after the Central American land bridge closed between three and eleven million years ago, and that the Hawaiian monk seal was present throughout the Hawaiian archipelago when the islands were settled by Polynesians. The Hawaiian monk seal is mentioned in multiple Native Hawaiian origin stories, including the Kumulipo (as `iōle holo i ka uaua) and Kumu Honua genealogies (as ka` ilio holo i ka uaua a Lono). Numerous oral stories about monk seals have been collected from kūpuna throughout Hawai`i, although there are fewer stories about monk seal than those for other species, such as the manō (shark), pueo (owl) or honu (sea turtle). Archaeological remains of monk seals have been found on Hawai`i and Maui islands. The totality of evidence suggests the seal was present in the main Hawaiian Islands (MHI) before Polynesian settlers, though its number relative to those in the NWHI is unclear.⁴ In 2008, the Hawai`i legislature declared the Hawaiian monk seal to be the state's official marine mammal, based on its rare and endemic status in the Hawaiian archipelago, and in acknowledgment of its importance to Hawai`i's natural history and culture.⁵

¹ The Mediterranean monk seal (*Monachus monachus*), once thought to be a member of the same genus as the Hawaiian and Caribbean monk seals, has been determined to be a more distant relative based on a DNA analysis published in 2014. Dell'Amore, Christine. "Monk Seal Evolution Rewritten: Dwindling Animals "Even Rarer"." *National Geographic*. National Geographic Society, 14 May 2014. Web. 18 Nov. 2014. <<http://news.nationalgeographic.com/news/2014/05/140514-monk-seals-animals-science-evolution-dna/>>.

² A few monk seals have been documented at Johnston Atoll in the past but none are found there today.

³ Lowry, Lloyd F., David M. Laist, William G. Gilmartin, and George A. Antonelis. "Recovery of the Hawaiian Monk Seal (*Monachus schauinslandi*): a Review of Conservation Efforts, 1972 to 2010, and Thoughts for the Future." *Aquatic Mammals* 37.3 (2011): 397. Web. 18 Nov. 2014.

⁴ Lowry 397-398.

⁵ Haw. Rev. Stat. § 5-12.5

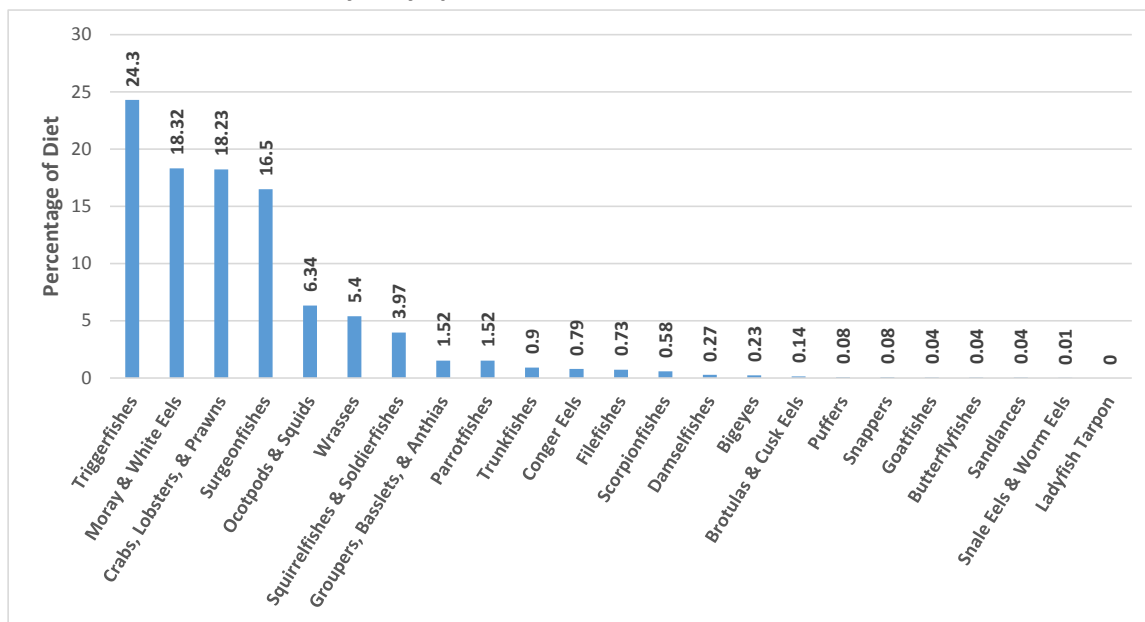
Biology

Hawaiian monk seals live to a maximum age of 25-30 years. Female seals reach reproductive age around 5 years of age, and may give birth to one pup per year (although they may not pup every year.) Hawaiian monk seal pups are approximately 3 feet long at birth and weigh about 35 pounds. Pups wean at approximately 6-7 weeks of age. Full-grown seals weigh between 375-450 pounds and may be up to 7 feet long.

Hawaiian monk seals are largely solitary animals; they do not form rookeries or colonies like many other seal species. The seals haul out on beaches, corals, and volcanic rocks, and are often seen resting on beaches during the day. They also give birth and nurse their pups on beaches. Monk seals usually avoid human interaction and may become aggressive when threatened, particularly females with pups. However, some seals haul out on popular beaches from time to time or approach swimmers or divers in the water, especially curious young seals and seals that have been behaviorally conditioned to seek out people.

Monk seals are generalist foragers, targeting fish, cephalopods, and crustaceans that live on or near the ocean floor. They feed on prey in habitats ranging from shallow coral reefs down to depths of over 1,500 feet. According to NOAA scientists, monk seals typically eat 4-8 per cent of their body weight per day (depending on the seal's age and the mix of prey species consumed).⁶

Figure 2: Diet of Hawaiian Monk Seals by Prey Species



Sources: Figure by Marine Conservation Institute; Data from Rachel Sprague, Charles Littnan, and Jeffrey Walters. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Pacific Islands Fisheries Science Center. "Estimation of Hawaiian Monk Seal Consumption in Relation to Ecosystem Biomass and Overlap with Fisheries in the Main Hawaiian Islands." NOAA-TM-NMFS-PIFSC-37, August 2013. Web. 18 Nov. 2014.

Population Size and Growth

Hawaiian monk seals exist today in two more or less distinct populations: one in the Northwestern Hawaiian Islands (NWHI) which now numbers about 900 individuals and is declining, and one in the MHI which is increasing, with an estimated 200 individuals.⁷ The overall population of seals has been in a steady decline since at least the 1950s, due to high

⁶ Sprague, Rachel, Charles Littnan, and Jeffrey Walters. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Pacific Islands Fisheries Science Center. "Estimation of Hawaiian Monk Seal Consumption in Relation to Ecosystem Biomass and Overlap with Fisheries in the Main Hawaiian Islands." NOAA-TM-NMFS-PIFSC-37, August 2013. Web. 18 Nov. 2014.

⁷ Walters, Jeff. Opening Statement by NOAA Fisheries for the Informational Briefing, House Committee on Ocean, Marine Resources, and Hawaiian Affairs and Senate Committee on Hawaiian Affairs. Honolulu, 24 January 2014.

juvenile mortality in the NWHI. Recent estimates show an overall population decline of about 4 per cent annually.⁸

NMFS annually counts monk seals in the NWHI and periodically surveys seals in the MHI to develop population size and trend estimates. The accuracy of these estimates is influenced by the amount of time staff spend at the NWHI islands in the summer and the resources available to conduct comprehensive surveys in the MHI. Based on population surveys in 2013, NMFS estimates the “minimum abundance” estimate of the MHI population of seals to be 175, and the population’s growth rate as 5.2 per cent per year.⁹ In the NWHI, seal abundance is estimated to be 780 individuals based on surveys of six of the eight NWHI subpopulations. (Necker and Nihoa islands seals were not counted, so the estimate would be higher had they been surveyed.) The growth rate of the six NWHI subpopulations is estimated to be a negative 3.4 per cent.¹⁰

Approximately one in five seals reaches adulthood in the NWHI. High pup and juvenile mortality is attributable to multiple factors that have come into play over time. These include: entanglement in marine debris, including derelict fishing gear; loss of habitat for pupping or resting; disturbance by humans and dogs on occupied islands; environmental changes in the ocean, especially reduced prey availability and competition for prey with other predators; overfishing and associated ecosystem disruption; aggressive male seals that mob and kill females or pups; disease; and shark predation of seal pups, especially at French Frigate Shoals.



Visual: NOAA PIRO, 2014

In contrast, juvenile mortality in the MHI is much lower. About four out of five seals reach maturity and the population is growing at an annual rate of over 5 per cent. Sources of mortality in the MHI include entrapment in nets, being hooked by casting gear, disease, and deliberate killings. Most MHI seals are concentrated around the westernmost islands of Ni’ihau, Kaua’i, Moloka’i and O’ahu, with fewer numbers at Maui, Lāna’i and Hawai’i (see map). Although monk seals were rarely seen in the MHI 20 to 30 years ago, scientists believe an unknown number of seals were present at Ni’ihau but were not well documented.¹¹ According to NMFS, monk seals began repopulating the MHI in the 1970s beginning at Ni’ihau. As the Ni’ihau population increased by natural growth, seals spread to Kaua’i and other islands.

Legal Protection and Conservation

In 1976, the Hawaiian monk seal was listed by NMFS as “endangered” under the Endangered Species Act (ESA) and as a “depleted” species under the federal Marine Mammal Protection Act (MMPA). Both federal laws prohibit *taking* (harassing, harming, or killing) of monk seals, and authorize fines and jail time for convicted violators.¹² The seal was listed as endangered under Hawai’i State law in 1976 as well. State law mirrors federal law, prohibiting the taking of a monk seal and requiring state agencies to carry out programs to protect state-listed threatened and endangered species.¹³

⁸ United States. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service. “Final PEIS for Hawaiian Monk Seal Recovery Actions.” March 2014. Web 8 Dec. 2014: ES-2.

⁹ United States. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Pacific Islands Fisheries Science Center, Hawaiian Monk Seal Research Program. “2013 MHI Hawaiian Monk Seal Population Summary.” PIFSC Internal Report IR-14-013, 15 April 2014: 2-3.

¹⁰ United States. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Pacific Islands Fisheries Science Center, Hawaiian Monk Seal Research Program. “Population Summary for NWHI Monk Seals in 2013.” PIFSC Internal Report IR-14-011, 1 April 2014: 6.

¹¹ Lowry 413.

¹² Endangered Species Act (7 U.S.C. § 136, 16 U.S.C. § 1531 et seq.); Marine Mammal Protection Act of 1972 (16 U.S.C. § 1361 et seq.)

¹³ Haw. Rev. Stat. § 195D-4

The goal of both the US government and the state of Hawai'i is to prevent the extinction of this rare tropical seal. Under the terms of the NMFS Hawaiian monk seal recovery plan, the population must be restored to more than 2,900 individuals in the NWHI and more than 500 in the MHI before the species can be considered for reclassification as “threatened”.¹⁴ Reaching these goals may take several decades, which is not unusual for recovering such a rare species. It has taken decades to recover other critically endangered species such as the bald eagle, peregrine falcon, and gray whale (eastern north Pacific population).

Controversy over Interactions with Seals

As the number of seals in the MHI has increased, so too has the number of interactions between people and seals. The negative consequences, both real and perceived, of these interactions are a source of ongoing controversy, especially with some fishermen and local communities. The five kinds of human activity in the MHI that generate the most significant interactions with monk seals are:

1. hook and line fishing, especially shore casting for large ulua, which attracts seals that may then become wounded or hooked while stealing bait or catch;
2. gillnet fishing, which can entangle and drown seals;
3. recreational spear fishing, which attracts seals that may steal catch and become increasingly aggressive in approaching divers to get food;
4. recreational diving, which brings divers into contact with curious or aggressive seals and potentially threatens diver safety; and
5. recreational beach use, which may lead to unintentional or deliberate harassment of seals by people and their dogs.

Profiles of these interactions—their frequency, locations, and impacts—have not been developed by NMFS, so Marine Conservation Institute prepared brief fact sheets on each interaction based on currently available information. These fact sheets can be found in the Appendix and are also available at www.marine-conservation.org/what-we-do/program-areas/mpas/pacific-islands-conservation/hawaiian-monk-seals/.

Human-seal interactions may have negative impacts on both people and seals. For example, seal interactions with subsistence or small-scale commercial fishermen may cause fishermen to lose their bait or catch, incur damage to fishing gear, or lose fishing time. Spear fishermen can have their catch stolen or hunting disrupted. A few divers, snorkelers, and swimmers have been nipped or bitten by seals seeking food, playing aggressively, or defending a pup. Stories of negative experiences with seals are spread by word of mouth among local residents; some stories may be repeated for years, creating a distorted understanding of seal behavior and of the animal's actual impacts on people.

¹⁴ United States. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service. “Recovery Plan for the Hawaiian Monk Seal (*Monachus schauinslandi*)”. Second Revision. Silver Spring, MD, 2007. Print.



Seal entangled in fishing nets. Photo: NOAA

Seals can suffer from interactions as well. Animals that are hooked or caught in nets may be seriously injured or die. Seals resting on beaches may be disturbed or chased into the water by people or dogs, and are sometimes bitten by dogs. Seals that regularly visit popular beaches, dive spots, or fishing grounds may become “socialized” or “conditioned” to human contact, especially if they are fed scraps or bait to “go away.” Once a wild seal becomes socialized, it may become a “nuisance,” and is subject to hazing by NMFS biologists to prevent its return to a particular location. If hazing is unsuccessful, the seal may be trapped and relocated by NMFS.¹⁵

The Monk Seal Recovery Program is especially controversial among fishermen who complain about seal depredations of their catch, damaged fishing gear, and “competition” over desirable fish. In addition, some local residents resent the government’s management of seals on Hawai’i’s beaches, claiming that beach and ocean access is restricted by NOAA seal volunteers who set up “seal protection” zones around resting seals at NMFS’s direction. Residents also claim that government officials do not sufficiently involve them in managing local seals.¹⁶ These negative attitudes have been enhanced by false or inaccurate information, such as: (1) the monk seal is not native to the MHI and should stay in the NWHI; (2) NOAA is releasing seals in the MHI to grow the population; (3) monk seals eat enormous quantities of fish that fishermen could otherwise catch; (4) and monk seals attract sharks.

Antipathy toward seals became so great in some quarters that six seals died in a spate of killings that occurred between 2009 and early 2012 at Moloka’i and Kaua’i. Only one of these killings was solved by the NMFS Office of Law Enforcement-Pacific Division.¹⁷ After a welcomed hiatus of killings lasting more than two years, a seventh seal was found bludgeoned to death on a Kaua’i beach in late in November 2014.

Because of the close proximity of seals and humans in the MHI, interactions will remain a constant problem in seal management. Therefore, there is an urgent and continuing need for NMFS to prevent, mitigate, and manage these situations. To do that, however, NMFS PIRO must find a way to constructively engage fishermen and local communities in managing seals. This can only come about through a sustained effort of building trust with local communities and providing them with the information and assistance they need.

¹⁵ NMFS maintains a list of “seals of concern” that are known to have interactions with people. Seals that cause continuing problems are subject to intervention measures by NMFS staff. If appropriate, biologists’ first attempt to solve the problem by displacing a nuisance seal from the area where it hangs out, in hope that it will not come back. If that fails, the seal may be captured and relocated—sometimes to another location on the same island, sometimes to another island in the MHI, and occasionally to the NWHI.

¹⁶ PIRO staff are aware of this issue and are attempting to minimize the size of seal protection zones and provide better training and supervision for volunteers.

¹⁷ The killings occurred in 2009-2010 and 2012; some died by gunshot, others by blunt force trauma to the head. More recently, a young female seal was found dead at Anahola, Kaua’i in late November 2014. She died from a blow to the head.



Juvenile seal (RF58) found dead at Anahola, Kaua'i in late November 2014. Photo: NOAA/Jamie Thomson

Chapter II. Who Manages Monk Seals and How?

The management structure for monk seals is complex and multi-layered, and can be difficult to understand. A number of different offices within NOAA and NMFS have seal conservation roles and responsibilities. The Hawai'i Department of Land and Natural Resources (DLNR) also is involved in seal management under a NMFS grant. In addition, several federal agencies and nonprofit organizations conduct monk seal conservation activities. This chapter briefly describes the seal management structure and process. Section 1 summarizes the key laws on which seal management is based. Section 2 describes the roles and responsibilities of the key agencies. Section 3 reviews how the seal response network functions day to day in the MHI. Section 4 addresses NMFS record keeping and reporting. Section 5 summarizes federal and state spending on monk seal management.

Section 1. Legal Authorities and Mandates

Federal Law

The Hawaiian monk seal is listed as endangered under the US Endangered Species Act (ESA)¹⁸. It is illegal for anyone to *take* a listed endangered animal species (with certain exceptions). *Take* means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Violators may be fined, imprisoned, or both depending on the circumstances of the taking.

The Secretary of the Interior and the Secretary of Commerce have authority to list and conserve species that are delegated to them by the ESA. The Secretary of Commerce is responsible for most marine mammals, including monk seals. The secretary's duties are carried out by NMFS, a bureau of NOAA. The law requires the secretary to protect, conserve, and "recover" listed threatened and endangered marine species to a point where they no longer need to be protected by the ESA. The ESA also requires the secretary to designate critical habitat for listed species. Importantly, Section 7 of the ESA requires the secretary to review programs she administers and utilize these programs to further the conservation of listed species. In addition, all other federal agencies are required to conserve endangered species, avoid taking listed species, and prospectively evaluate the potential impacts of any action they intend to take, authorize, or fund on listed species (and the species' designated critical habitat) in consultation with NMFS.

The Secretary of Commerce also is responsible for implementing the Marine Mammal Protection Act (MMPA) for nearly all marine mammal species. The act prohibits the taking of any marine mammal in the US (with certain exceptions), mandates the restoration of "depleted" species, and requires all marine mammals to be maintained at their optimum sustainable population levels.¹⁹ Implementation of the Act is carried out by NMFS. Any marine mammal species listed as threatened or endangered under the ESA is considered depleted under the MMPA. Violators who harass, harm, kill, or feed a marine mammal may be punished with fines, jail, or both.

State Law

The Hawaiian monk seal is also listed as a state endangered species. The intentional "taking" of a monk seal is prohibited, and constitutes a Class C felony punishable by a fine of up to \$50,000 and/or up to five years in prison. Hawai'i law also defines take as meaning to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" a listed species. Hawai'i's Endangered Species Act requires all state agencies to carry out programs "for the protection of [state-listed] threatened and endangered species"; and to take "such action, as may be necessary to ensure that actions authorized, funded, or carried out by them do not jeopardize the continued existence" of these species. Under state law, "jeopardize the continued existence" means: "any action that would be expected, directly or indirectly, to reduce the likelihood of the survival or recovery of a species in the wild..."²⁰

¹⁸ Endangered Species Act 7 U.S.C. § 136, 16 U.S.C. § 1531 et seq.

¹⁹ Marine Mammal Protection Act 16 U.S.C. § 1361 et seq.

²⁰ Haw. Rev. Stat. § 195D 1-32



Photo: Joakim Hjelm Photography

Section 2. Management, Research, and Law Enforcement

Monk seal conservation may be divided into three activity areas for discussion purposes: management, research, and law enforcement.

- Management is concerned with overall leadership and administration of the Hawaiian Monk Seal Recovery Program. It involves the development of policy and regulations, as well as the execution of specific actions required to protect and increase the seal population, including responding to “strandings” (wounded, sick, or dead animals), rehabilitation of sick or wounded seals, prevention of seal interactions with people, and provision of information to the public.
- Science provides the research needed to support seal management. NMFS scientists study seal biology and behavior, conservation needs, threats to seals, and seal interactions with fisheries.
- Law enforcement investigates acts that violate protected species laws and prosecutes offenders.

Federal Management

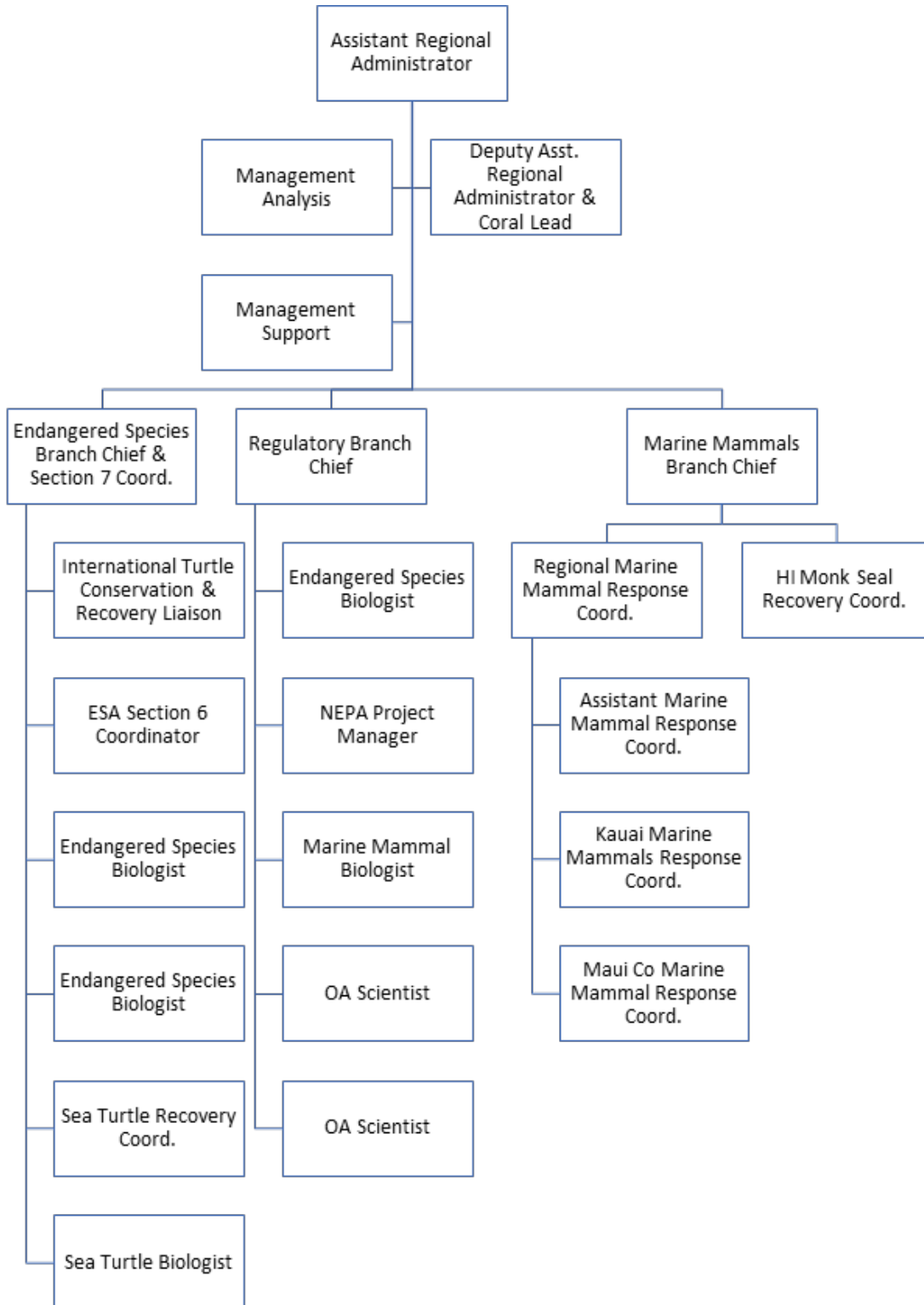
The NMFS Pacific Islands Regional Office (PIRO) in Honolulu is directly accountable for the monk seal’s recovery. Implementation of the seal recovery program is delegated by the Regional Administrator to the Assistant Regional Administrator, Protected Resources Division, who oversees the region’s programs to protect and recover endangered and threatened species of sea turtles, monk seals, and cetaceans as mandated by the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA). The division’s principal functions are policy and program development, interagency coordination and consultations, management of the Marine Mammal Response Network, implementation of species recovery activities, and outreach and education. The Protected Resources Division has three branches, each of which has seal-related duties.²¹

The locus of seal recovery management is the Marine Mammal Branch, which manages protected species of cetaceans throughout the Pacific Region, as well as the Hawaiian monk seal. With regard to monk seals, branch duties include (1) leading the recovery program, which includes policy development, planning, and coordinating implementation of the monk seal recovery plan; (2) protecting seals hauled out at beaches and coordinating the agency’s response to stranded animals; (3) executing recovery activities, such as preventing and mitigating human-seal interactions; and (4) conducting outreach and education activities that promote better understanding of monk seals and the recovery program.

²¹ At the time this report was completed, PIRO was undergoing a reorganization; therefore the structure of PIROs divisions and branches and their respective duties may change in 2015.

Pacific Islands Regional Office, Division of Protected Resources

This chart is accurate as of April 2014. The Division underwent a reorganization in late 2014. Please see PIRO's website for updated information.



The chief of the branch oversees a staff of five full time employees. These include a regional marine mammal response coordinator; an assistant marine mammal response coordinator; a Hawaiian monk seal recovery coordinator; and two field-level response coordinators—one on Maui and one on Kauaʻi. The Marine Mammal Response Network in Hawaiʻi, which PIRO established in 2005, plays a critical role in seal management. With only two field staff to cover eight islands, PIRO and its partners have recruited volunteers and other partners to monitor seal movements and locations. The Marine Mammal Branch operates both a toll free hotline and island-specific numbers that the public can call to report seal sightings, strandings, and other events. The branch also monitors seals hauled out on beaches; oversees seal volunteers; coordinates rescue of wounded and sick marine mammals; deals with seal interaction issues; and conducts outreach and education activities.

The Endangered Species Branch of the Protected Resources Division of PIRO conducts consultations with federal agencies whose proposed projects or actions might affect listed endangered species, as required by section 7 of the ESA. The branch works closely with the federal agency proposing an action to make sure the agency avoids significant impacts on listed species. If a significant impact is foreseen, NMFS will work with the agency to make changes to the project or action so that it can still proceed without harming monk seals. According to NMFS staff, as of 2014, no federal project in Hawaiʻi has ever been canceled because of a consultation involving monk seals.

The Regulatory Branch of the Protected Resources Division prepares federal regulations that implement protected species laws. Currently, the Regulatory Branch is working on a petition from three conservation organizations to designate monk seal critical habitat in the MHI, as well as expand critical habitat in the NWHI.²² The overdue rule was still under review as of the date of this report.

State Management

The Division of Aquatic Resources in the Department of Land and Natural Resources (DLNR) manages the state's marine and freshwater resources. The division's Marine Wildlife Program (MWP) was launched in 2007, and is funded by an Endangered Species Act Section 6 "species recovery grant" from NMFS.²³ The purpose of the state wildlife program is to protect and recover endangered sea turtles and monk seals. Grant performance is monitored by Protected Resources Division staff in the regional office²⁴, and by the Protected Resources Office at NOAA headquarters. The grant is given on a matching cost share basis of 75 per cent federal to 25 per cent state. Currently, 3 staff implement the state's Marine Wildlife Program, but several more are projected to be hired as outreach specialists. Without the grant, Hawaiʻi would have to close its Marine Wildlife Program according to DLNR.²⁵

The division's principal activities are:

- Preventing and documenting incidents of monk seal and turtle disturbance on beaches and in fisheries. An outreach and response coordinator based at Kauaʻi works closely with the NMFS response coordinator on seal monitoring, management of interactions, and other matters. Kauaʻi is the only island that has a state field person co-located with a NMFS seal response coordinator.
- Expanding public awareness of how to fish and conduct ocean recreation activities so as to avoid impacts on seals. This includes (1) educational outreach to recreational fishermen on a one-on-one basis; and (2) promoting the use of barbless circle hooks, which are less likely to seriously wound a hooked seal.
- Engaging state and local agencies to participate in monk seal and turtle conservation activities in collaboration with NMFS staff.²⁶

²² Center for Biological Diversity, Kahea, and Ocean Conservancy. "Petition to Revise Critical Habitat for the Hawaiian Monk Seal (*Monachus schauinslandi*) Under the Endangered Species Act". July 2, 2008. Web. 18 Nov. 2014.

²³ Hawaii. Department of Land and Natural Resources. "Cooperative Conservation and Long-term Management of Hawaiian Monk Seals and Sea Turtles and their Habitat." Honolulu: Hawaii, n.d.

²⁴ The Section 6 coordinator is a member of the Endangered Species Branch.

²⁵ Hawaii "Cooperative Conservation".

²⁶ Hawaii "Cooperative Conservation".



Scientists work on seal recovery under NOAA permit. Photo: NOAA

Scientific Research

The Pacific Island Fisheries Science Center (PIFSC) is the research arm of NMFS in the Pacific Region; the center director reports to the Director, Scientific Programs and Chief Science Advisor at NMFS headquarters. “The Center administers scientific research and monitoring programs that support the domestic and international conservation and management of living marine resources.”²⁷

Monk seal research is led by PIFSC’s Protected Species Division, Hawaiian Monk Seal Research Program. As of April 2014, a total of 14 scientists work full time on the monk seal, five NMFS staff and 9 contract staff; another six center staff work part time on monk seal issues. In addition, the Division normally hires 9 paid staff and five volunteers for its summer research camp in the NWHI. Division scientists conduct seal population surveys; study seal ecology and behavior; assess threats to seals, including disease and fisheries interactions; and conduct and run the annual summer research camp in the NWHI. The leader of the monk seal program also conducts outreach activities to fishermen in the MHI in connection with research projects on how monk seals impact fisheries.

The science center holds the ESA/MMPA marine mammal permit to physically handle monk seals for research and other purposes. PIFSC’s monk seal research staff play a significant role in seal recovery in the MHI, including: rescuing entangled seals by providing veterinary care to sick and wounded seals, hazing or relocating nuisance animals, and conducting seal necropsies. These interventions are conducted in coordination with the PIRO Marine Mammal Branch, which is responsible for operating the seal response network. An incident response team is formed to respond to each significant seal stranding event. The composition of a response team varies depending on the situation, and usually includes a mix of PIFSC and PIRO staff. In some cases, PISFC may authorize Marine Mammal Branch staff or state DLNR staff to undertake less complex interventions with seals.

The annual summer field research camp in the NWHI, which runs for two to three months, is operated exclusively by the PISFC Protected Resources Division. The camp is a major undertaking which costs an estimated \$700,000 to \$900,000 annually, according to an informal estimate provided by NMFS sources. In addition to making population counts and assessing animal health in the NWHI, PIFSC scientists also conduct “interventions” to treat sick and wounded seals; rescue trapped or entangled seals; stop aggressive male seals from harming or killing females and younger seals; cull sharks and deter

²⁷ “About the Pacific Islands Fisheries Science Center.” National Oceanographic and Atmospheric Administration, National Marine Fisheries Service, Pacific Islands Fisheries Science Center, n.d. Web. 15 October 2014. <http://www.pifsc.noaa.gov/about_us.php>.

shark attacks; and relocate young seals from French Frigate Shoals, where shark predation is high, to other islands in the monument in order to increase their survival. In 2014, scientists brought four emaciated animals back from the NWHI for rehabilitation at a privately funded monk seal hospital at Kona; once healthy, these seals will be taken back to the NWHI.²⁸

Law Enforcement

The NMFS Office of Law Enforcement (OLE), based at NMFS headquarters in Silver Spring, MD, is responsible for enforcing US marine fisheries and protected species laws throughout the US and its Pacific territories. OLE has a division in each regional office which reports directly to the headquarters office. The Pacific Islands Division (OLE-PD) based in Honolulu is responsible for law enforcement in Hawai'i and US Pacific territories (Guam, American Samoa, and Commonwealth of the Northern Mariana Islands); the division also enforces Pacific international fisheries agreements, to which the US is a party. OLE-PD has eight special agents and officers, four of whom are stationed in Hawai'i. According to OLE's national strategy²⁹, violations of the ESA and MMPA in the Pacific Region are categorized as high, medium, or low priority, depending on the severity of the violation's impact on listed species:

High Priority

- Ongoing take of an animal (An observed or reported ongoing/in-progress take, as well as any vessel strike)
- Lethal takes; and Level A harassment actions with the potential to injure marine mammal stock

Medium Priority

- Imported ESA regulated animal parts or products (also Lacey Act violations)
- Non-lethal takes, Level B harassment with the potential to disturb a marine mammal stock in the wild by causing a disruption of behavioral patterns including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering
- Imported marine mammal parts or products (also Lacey Act)

Low Priority

- Permit violations
- Harassment, incidental
- Harassment caused by careless but unintentional acts

OLE-PD agents and officers do not regularly patrol Hawai'i's beaches and near shore waters to deter violations against seals because OLE-PD is understaffed. Most OLE-PD investigations of seal incidents are triggered by a report of an illegal act called in by one of several sources: NMFS staff and volunteers, other agency staff, or callers to an OLE-manned enforcement hotline. Any of the division's four agents and officers in Honolulu may be assigned to investigate a seal incident. OLE-PD recorded 81 seal incidents reported to the office between January 2008 and June 2013, a little over one incident per month.³⁰ Many incident investigations were closed due to insufficient information or lack of evidence. A more detailed discussion of the 81 incidents may be found in Chapter III.

Once OLE-PD determines a violation of federal law has occurred, the office may issue an oral warning, written warning, summary settlement (for less serious violations), or refer the matter to the NOAA Office of General Counsel, Enforcement Section for the possible issuance of a Notice of Violation and Assessment of Civil Penalty (NOVA). Parties issued a NOVA may pay the fine assessed, seek to negotiate a compromise settlement, or may challenge the assessed penalty before an Administrative Law Judge. Criminal violations are referred to the Department of Justice (DOJ). DOJ then decides whether a criminal prosecution is appropriate (criminal prosecutions are rare). In the last seven years, only one case involving a seal killing was referred to the US attorney. The case was settled by plea bargain instead of going to trial; the perpetrator served 90 days in jail.

²⁸ This is a new experiment to see if seals that otherwise would die in the NWHI can be kept in captivity for rehabilitation, then returned and released after several months in the NWHI with good survivability.

²⁹ United States. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Law Enforcement. "NOAA's Office of Law Enforcement National and Division Enforcement Priorities for 2013." May 2013. Web. 18 Nov 2014.

³⁰ Brant, Matthew. Letters to the author. 10 April 2014 and 16 April 2014.

State Enforcement Partner

The Division of Conservation and Resources Enforcement (DOCARE), an office of DLNR, enforces Hawai'i's natural resources and wildlife laws. Under a Joint Enforcement Agreement (JEA), NMFS contracts with DOCARE to help enforce federal fisheries and protected species laws in Hawai'i. DOCARE receives an annual grant from NMFS to provide patrol, inspection and other law enforcement services under the agreement. Up to half the grant can be spent on equipment and supplies. The 2014 agreement calls for 3,550 man-hours of state enforcement activity (equivalent to about one and one half full-time employees). This activity includes 750 hours of dockside/land and at-sea enforcement of illegal take of dolphins, sea turtles, and monk seals. Monk seal and sea turtle enforcement is focused on local gillnet fisheries.³¹ DOCARE officers also help investigate seal deaths as requested by OLE-PD, and are often first on the scene when serious incidents of seal injury or death are reported. DOCARE and NMFS OLE-PD work closely together to investigate and prosecute cases.

Partner Organizations

With so few staff to monitor seals throughout the MHI, PIRO relies on unpaid volunteers to help accomplish its duties. Volunteers have no enforcement authority, but nevertheless are essential to the functioning of the response network. Volunteer networks exist on Kaua'i, O'ahu, Maui, and Hawai'i Island. Development of the volunteer corps was spurred by two local nonprofit organizations: Kaua'i Monk Seal Watch Program which was founded in the late 1990s before NMFS even had a response coordinator on the island, and the Hawaiian Monk Seal Response Team O'ahu was incorporated in 2006. In 2013, the O'ahu group merged with the Monk Seal Foundation based on Maui, which now supervises O'ahu volunteers. The Monk Seal Foundation also oversees a part time staff person on Moloka'i to monitor seals. PIRO gives the foundation a grant to support volunteer activities and works closely with the foundation. PIRO also provides grant funding to The Kohala Center, which coordinates a small group of volunteers on Hawai'i Island.³²

Seal volunteers play several roles. One is to monitor seals hauled out on beaches and ask beachgoers to keep away from them for safety reasons and avoid disturbing the animals. Volunteers also collect data for NMFS scientists, search for wounded animals, and report illegal acts against seals. Volunteers are especially needed to monitor seal mothers and their pups during the six week nursing period when they remain at one location and vulnerable to human disturbance and dogs. Volunteers educate the public about seals while monitoring beaches and by making presentations at schools and hotels.

³¹ 2014 Joint Enforcement Agreement Between The State of Hawaii Department of Land and Natural Resources Division of Conservation and Resources Enforcement, and The U.S. Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service Office for Law Enforcement, 30 June 2014.

³² Grants to nonprofit organizations that manage volunteers come out of PIRO's annual budget allocation for monk seal recovery.



The grand opening of the Ke Kai Ola: The Hawaiian Monk Seal Hospital. Photo: Heather White Images

In mid-2014, The Marine Mammal Center, a nonprofit organization based in Sausalito, California, opened a privately funded monk seal rehabilitation facility in Kona on Hawai'i Island. The Ke Kai Ola facility can care for up to 9 seals at a time for short or long periods as necessary. The center has had extensive experience in California rescuing and treating emaciated, wounded, and sick seals and sea lions. Furthermore, its staff has been engaged by NMFS for several years to provide professional veterinarian assistance in treating sick and wounded monk seals. The opening of the hospital fills a significant gap in the recovery program. Ke Kai Ola is expected to play a major role in rehabilitating and releasing seals that are rescued in both the NWHI and MHI, provided NMFS can get them to Kona. The hospital has already taken in six emaciated seals that were brought back from the NWHI by the NMFS 2014 summer field camp team. The hospital also will offer educational programs to visitors which will help build local support for the recovery program.³³

Section 3. Day to Day Management: Seal Monitoring and Response in the MHI

Hawai'i has about 1.4 million residents and over 8 million annual visitors. Keeping track of monk seals across the eight main islands, keeping them healthy, and managing interactions with so many residents and tourists is a difficult job given Hawai'i's many beaches, rugged geography, and stretches of isolated coastline. The challenge for wildlife managers is to keep harmful interactions to a minimum and mitigate those that do occur. This means NMFS must manage human behavior as much as they manage seals. It is therefore important to understand how NMFS attempts to meet this challenge. A brief description of how seal interaction problems and strandings are handled is presented here.

Response Network

The linchpin of seal management in the MHI is the Marine Mammal Response Network established by NMFS to track seals and respond to seal haul outs and strandings. The network's structure has developed over many years and is still evolving. The network is composed of NMFS regional office and science center staff, DLNR staff, volunteers, partner organizations, and other cooperators. The effectiveness of the network on each island varies, depending on the number of seals that need to be covered, the number and types and frequency of interactions occurring, and the availability of local partners and cooperators to assist NMFS response coordinators.

The point person is the NMFS response coordinator who knows the island's seals and monitors their location and condition. Full-time NMFS response coordinators are stationed on Kaua'i (includes Ni'ihau) and Maui (includes Maui, Lāna'i and Kaho'olawe). In addition, DLNR has a full-time outreach/ response coordinator stationed on Kaua'i who works in partnership with the NMFS coordinator. On O'ahu, NMFS relies on a full-time volunteer coordinator who works for the Monk Seal Foundation. There is a part-time seal monitor on Moloka'i, also overseen by the Monk Seal Foundation. On Hawai'i Island, the Kohala Center oversees a small group of volunteers.

Island response coordinators have five principle duties. One is to track seal movements and collect information with the help of volunteers on the condition of seals. The second is to help implement the agency's response to stranded marine mammals. The third is to monitor seals on beaches with the help of volunteers and prevent human-seal interactions. The fourth is to liaise with volunteers, other agencies, landowners, schools and local communities to explain the monk seal program, deal with issues that arise, and promote coexistence with seals. The fifth is to conduct outreach activities for stakeholders and the public after other duties are fulfilled.

The lifeblood of the seal response network is the thousands of reports submitted annually by volunteers and the general public about seal sightings, locations, and incidents. Most of these reports are made to a NMFS toll-free hotline or to a local island number manned by PIRO staff or island coordinators. Calls also come in from lifeguards, DOCARE agents, police and fire departments, and state and federal agency personnel. An island response coordinator may receive hundreds or even thousands of seal reports annually.

³³ "Ke Kai Ola: The Hawaiian Monk Seal Hospital." The Marine Mammal Center. The Marine Mammal Center, n.d. Web. 09 Dec. 2014. <<http://www.marinemammalcenter.org/what-we-do/ke-kai-ola/#.VHyY6th0y44>>.

Each report is evaluated by the response coordinator and appropriate action taken. Sometimes no action is needed if the seal is behaving naturally and not in close proximity to people. Other events, such as monitoring a seal on a crowded beach where interactions are likely, are handled by seal volunteers if available. More complex events, such as dealing with an injured seal or pup birth, are coordinated by an incident response team led by a NMFS staff person from PIRO or PIFSC. The island response coordinator usually participates in most stranding events in his or her territory.

The process for handling a seal sighting or stranding report is briefly summarized here:

- If a seal is reported hauled out on the beach or shoreline, the response coordinator attempts to contact a volunteer to go to the site, or goes personally to determine the animal's condition and assess the potential for human interactions. If appropriate, the volunteer sets up a seal protection zone (SPZ) around the animal, asks beach users to keep a safe distance from the seal, and answers questions beachgoers have about monk seals. It is NMFS policy to make the SPZ only as large as absolutely necessary to protect the seal and deter humans from disturbing the seal. The SPZ boundary is marked with signs or orange cones; a rope line on stakes may be used in a few cases (e.g., a nursing mother and her pup). While volunteers may advise beachgoers about how and why to avoid seals, they have no authority to enforce seal protection laws. Any infraction they witness must be reported directly to a law enforcement official or to the NMFS response coordinator.
- If an injured seal is reported, a volunteer or agency staff person goes to the reported location as soon as possible. NMFS attempts to locate any seal reported as sick or injured using all available resources (e.g., alerting tour boat captains, coastal property managers, etc.)
- Once a distressed seal is confirmed, a report is made to PIFSC and PIRO marine mammal branch staff in Honolulu and the appropriate response is initiated. DOCARE and OLE-PD are notified if legal violations are suspected. A DOCARE enforcement officer typically arrives on scene with NMFS response personnel to determine if a case should be opened and evidence collected.
- Once the animal is assessed, a response plan is developed and response team participants meet on site. A team from O'ahu may be mobilized in certain cases, e.g., if surgery or major medical intervention is required. Injured seals are captured and treated in the field if possible and released; otherwise the animal is transported to the seal hospital in Kona, or to O'ahu for treatment, and later released at its home island. If feasible, a dead animal is transported to a facility where a necropsy can be performed. OLE-PD or DOCARE staff will assess the stranding report and necropsy to determine if an enforcement case should be opened.
- A seal that is reported socializing with beachgoers and swimmers, posing a safety threat, or otherwise being a nuisance may be displaced by hazing techniques as soon as practicable. If a seal has become a regular nuisance, and its behavior is deemed uncorrectable, NMFS will make plans to catch and relocate the seal to a more isolated area on the seal's home island, to another main island, or if necessary to the NWHI.
- Post-intervention, NMFS staff and volunteers attempt to monitor released and displaced animals as required. A seal often departs the local area after it is released. Re-sighting efforts are increased in the following days to see if the seal is faring well.
- The island coordinator submits monthly seal sighting and stranding reports for his or her area to the Marine Mammal Branch. Any scientific data and samples that were collected are sent to PIFSC. The coordinator also follows up with their cultural liaison on the island, involved land-owners, the ocean safety bureau, etc., as appropriate. Follow-up may also be conducted with DOCARE and OLE as needed for seal incidents being investigated.



A monk seal and her pup on the beach. Photo: NOAA

Section 4. Record Keeping and Data Management

NMFS collects and records various kinds of information on seal sightings, haul outs, injuries, births, interactions with fishermen and beachgoers, and potential crimes against seals. It also collects demographic information on seal populations and makes population estimates of the number of seals in the MHI and NWHI. Some of this information is held by PIRO, some by PIFSC, and some by the Office of Law Enforcement. NMFS does not consolidate all of this information in one place, and little of it is routinely posted on the agency's Pacific Region websites.

Some statistical data and other information does appear from time to time in NOAA technical reports, peer-reviewed literature, or regulatory documents, such as environmental impact statements. However, it is very difficult to get a composite picture of the seal's status or of the results being achieved by the recovery program from these scattered sources. In 2010, PIRO published a first-ever progress report on the Monk Seal Recovery Program that covered FY 2009-FY 2010; however PIRO did not keep the series going due to lack of funds and higher priorities.

Section 5. The Monk Seal Budget

Federal expenditures on the monk seal come from several resources. These include the budget of the NMFS Office of Protected Species; monies provided by other NOAA offices; and funds spent by other federal agencies. The following points are relevant to understanding the NOAA budget process:

- The NMFS "Hawaiian monk seal recovery budget," is made up of monies drawn from two sub accounts under the Protected Species account: (1) the Protected Species Research and Management Programs Base sub account and (2) the Marine Mammals sub account. The recovery budget amount is typically crafted two or more years prior to NOAA's submittal of its budget to Congress. The NOAA budget request for the fiscal year is submitted to Congress in February and takes effect on October 1, barring any delay.
- Congress may accept the recovery budget NOAA proposes, increase or decrease the amount, or suggest that NMFS spend additional monies on monk seal recovery by shifting funds around within its various protected species accounts.
- After Congress enacts the Commerce Department/NOAA appropriations bill for the fiscal year, NOAA allocates its appropriation to its various offices and programs in a "spend plan" document. NOAA submits the draft spend plan to Congress within 45 days of enactment of the agency's appropriation, and consults with congressional appropriations committees to make sure it adheres to the committees' directives. Ultimately, the spend plan is approved and NOAA offices learn exactly what they can spend for the year.
- Most of the monk seal recovery appropriation is divided between PIRO and PIFSC; a small amount may be retained by the national Office of Protected Resources for monk seal related activities, such as managing permits.
- There are two grant programs managed by the Office of Protected Resources that provide funds for monk seal-related activities, but these amounts are not treated as part of the recovery budget. These programs are (1) Prescott grants for marine mammal response and rehabilitation activities, and (2) Section 6 endangered species recovery grants to states. Each program has a separate account under the Protected Resources Program budget.
- NOAA's law enforcement budget is another source of funds for monk seal conservation. The NOAA Office of General Counsel and the NMFS Office of Law Enforcement are responsible for enforcing the ESA and MMPA with respect to all protected species managed by NMFS. The amount spent on monk seal cases is not easily traceable because these offices do not break down their expenditures by species.
- Other federal agencies also spend money on monk seals from time to time. These amounts are reported annually to the US Fish and Wildlife Service (FWS) for inclusion in a national report that summarizes all federal agency and state expenditures on listed threatened and endangered species (see further discussion below).

FY 2014 Monk Seal Recovery Budget

For FY 2014, NOAA requested \$2.588 million for Hawaiian monk seal recovery. This was a decrease of \$1.412 million (or -35 per cent) from the FY 2013 recovery appropriation of approximately \$4 million enacted by Congress. Neither the House nor Senate appropriations committees altered the NOAA recovery program request, but an additional \$1.8 million was added to the NMFS marine mammals account. The FY 2014 Commerce/NOAA budget was enacted as part of an omnibus appropriations bill late in 2013. After protests from Marine Conservation Institute and others to the Hawai'i congressional delegation and appropriations committees about the large cut being made to the seal recovery budget, members of Congress intervened to oppose the cut as the spend plan was developed. NOAA responded by moving around monies within the Protected Species budget so as to add approximately \$1 million to the monk seal recovery budget. In addition, PIRO shifted \$400,000 of its protected resources budget to the monk seal budget, bringing total recovery spending to approximately \$4.1 million.³⁴ These internal reallocations were described by NOAA sources as “rob Peter to pay Paul” actions, meaning the money was taken away from other planned uses to go to monk seal recovery.

According to NMFS sources, approximately \$2.9 million of the \$4.1 million recovery budget (or 71 per cent) went to PIFSC, and \$1.12 million (or 27 per cent) to PIRO.³⁵ A more detailed breakdown of what recovery monies were spent on is not readily available from NMFS. In general, PIRO's funds are spent on “recovery management,” which includes activities such as developing program policies and plans, coordinating implementation of the recovery plan, managing the seal response network, preventing interactions between people and seals, overseeing the rehabilitation of wounded and sick seals, translocating nuisance animals, and liaising with communities and stakeholder groups to explain the recovery program and promote coexistence with the seal. PIFSC spends its funds on “research,” which includes population surveys, biological research, and investigations of threats to seals and how to prevent them. Because the center holds the marine mammal and endangered species permits to physically handle seals, the center is heavily involved in recovery management activities, in the MHI. PIFSC also operates the NWHI field research camp.

³⁴ This means the region had to reduce monies allocated to other species in the region, such as spinner dolphins and whales.

³⁵ These numbers are approximate, not an official accounting by NOAA.

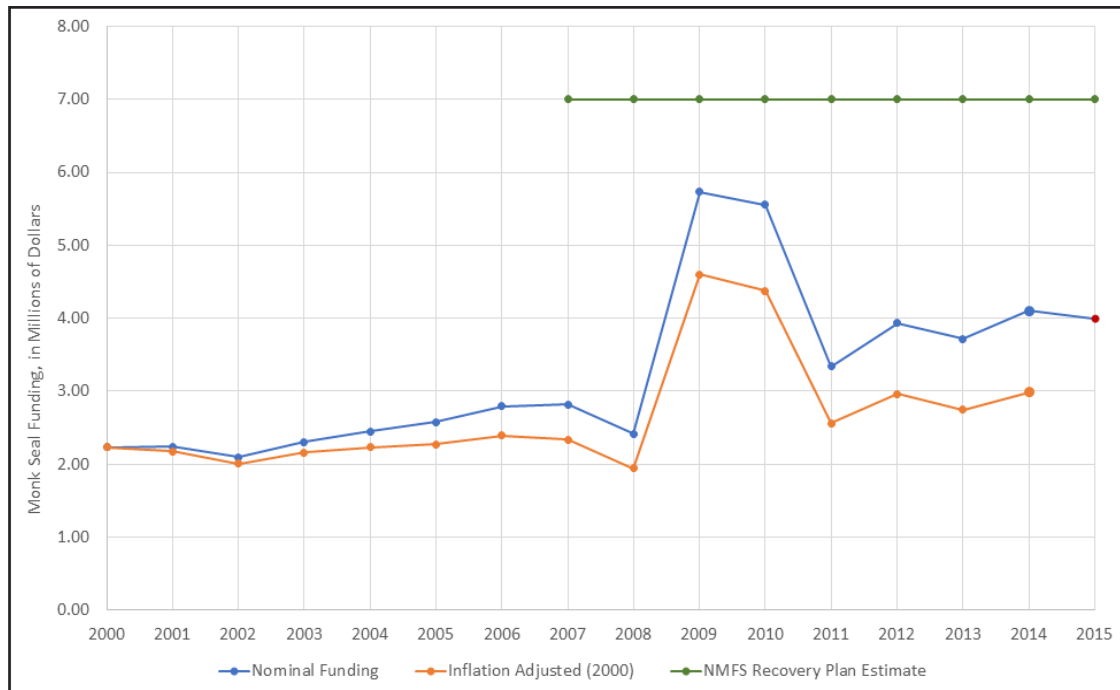


Photo: Daniel Fox

Recovery Program Spending Trends (2000-2014)

Working from several sources of information, Marine Conservation Institute designed a graph showing the estimated trend in monk seal recovery spending by NMFS for the period FY 2000 - FY 2014 (see Figure 3).³⁶ Spending has trended upward over the period, but has been punctuated by increases and decreases. NMFS spending grew from a low of \$2.2 million in FY 2000, to a peak of \$5.7 million in 2009 when Congress added several million dollars to the NMFS recovery budget request. Subsequently, the budget declined to \$4.1 million in FY 2014, or 41.4 per cent less than the NMFS recovery plan recommends. Overall, nominal spending increased 83.8 per cent over the fifteen year period, with a compound annual growth rate of 4.26 per cent. However, after adjusting for inflation, real growth over the period was only 34 per cent, with a compound annual growth rate of 2.12 per cent.

Figure 3: Historic Funding for Hawaiian Monk Seal Recovery Activities (amounts are approximate)



Source: Graph assembled by Marine Conservation Institute using data supplied by L. Lowry, B. Antonelis, C. Littnan, and D. Laist (years 2000-2006) and NMFS (years 2007-2015). 2015 data point is the NOAA budget request.

Grant Programs

The NMFS Office of Protected Species awards species recovery grants to eligible states that help NMFS recover federally listed threatened or endangered marine species. Grants are authorized by Section 6 of the ESA. A recovery grant “may support management, research, monitoring, and outreach activities that provide direct conservation benefits to listed species...that reside within a given State.”³⁷ Grant awards by office staff are made in consultation with regional protected resources staff.

The Hawai’i DLNR received a three year species recovery grant of \$964,443 in 2013 in support of its Marine Wildlife Program, which implements recovery activities for sea turtles and the monk seal.³⁸ The state is required to match its grant on a 25 per cent state to 75 per cent federal cost share basis. The state share consists mainly of an “in-kind” match based on the imputed value of the labor donated by monk seal volunteers on Kaua’i. The state received \$466,182 of the grant

³⁶ The trend is estimated because there is no definitive table of NOAA’s historical spending on monk seal recovery that is readily available from the agency.

³⁷ “Species Recovery Grants to States.” NOAA Fisheries. National Oceanic and Atmospheric Administration, 10 Nov. 2014. Web. 09 Dec. 2014. <<http://www.nmfs.noaa.gov/pr/conservation/states/grant.htm>>.

³⁸ The amount received by DLNR is paid each year contingent on the NMFS budget approved by Congress. Cuts in the NMFS budget may lead to a reduction of the state’s expected allocation as occurred in 2013.



On the second day of a young pup's life. Photo: John Johnson, One Breath Photography

in FY 2014. These funds help pay for three staff positions in the Marine Wildlife Program, and also will support three new outreach specialists that the state intends to hire in FY 2015.³⁹ The positions were advertised in late 2014.

The John H. Prescott Marine Mammal Rescue Assistance Grant Program, also run by the national Office of Protected Species, provides grants to eligible persons and organizations that assist NMFS in the veterinary treatment and rehabilitation of stranded marine mammals. Several Prescott grants have been awarded in previous years to private organizations that provide rehabilitative care to monk seals. The Marine Mammal Center, which operates a monk seal hospital at Kona, received a grant of \$99,400 in FY 2014.⁴⁰

Law Enforcement Spending

The NMFS Office of Law Enforcement (OLE) and the NOAA Office of General Counsel expend a portion of their annual budgets investigating and prosecuting violations against monk seals. However, these offices do not break down their budgets by species so it is unknown how much they spend specifically on monk seal cases. On average, the Pacific Division of the OLE (OLE-PD) investigates about 15 reported seal incidents per year. Statistics provided by the Pacific division to Marine Conservation Institute show that in FY 2013, roughly 5 per cent of the office's total staff time was charged to monk seal enforcement work.⁴¹

To expand its presence in the field, the Office of Law Enforcement provides an annual grant to the Hawai'i DOCARE to help NMFS enforce federal fishery and marine protected species laws. A Joint Enforcement Agreement (JEA) requires DOCARE to expend a specified number of hours annually on enforcement of federal marine resources laws. Up to half of the grant may be spent on equipment and supplies and usually is, according to DOCARE staff. In FY 2014, the state will receive \$574,245 to reimburse its eligible costs. A small portion of these funds is spent preventing monk seal takes in gillnet fisheries and investigating other violations against seals. DOCARE is supposed to provide up to 750 man-hours of dockside/land and at sea patrols and inspections to enforce illegal take of dolphins, monk seals, and sea turtles; monk seal and sea turtle enforcement is focused on "takes" in the gillnet fishery. But the exact amount expended on all seal work by DOCARE is unknown as the division does not track grant expenditures by individual species.⁴²

Year	Funds
2009	\$250,000
2010	\$475,000
2011	\$901,225
2012	\$667,305
2013	\$629,743
2014	\$574,245
<i>Source: DOCARE</i>	

³⁹ "Species Recovery Grant".

⁴⁰ 2014 Funded Prescott Grant Proposals." NOAA Fisheries. National Oceanic and Atmospheric Administration, 26 Sept. 2014. Web. 16 Dec. 2014. <<http://www.nmfs.noaa.gov/pr/health/prescott/2014funded.html#hi>>

⁴¹ Brant letters.

⁴² Joint Enforcement Agreement (2014).

Other Agency Spending

Other federal agencies, such as the Navy, US Coast Guard, National Park Service, Navy, and US Fish and Wildlife Service spend funds directly on the monk seal from time to time. In general, these expenditures are relatively small compared with NOAA expenditures. A record of individual agency expenditures on the monk seal may be found in the report that US Fish and Wildlife Service issues each fiscal year titled, "Federal and State Threatened and Endangered Species Expenditures."⁴³

Total Federal and State Spending

The FWS expenditures report also gives the total amount spent by all federal and state agencies on all threatened and endangered species. The FY 2012 report states that \$4.594 million was spent on the Hawaiian monk seal by all agencies combined, including NOAA.⁴⁴ Using USFWS reports, Marine Conservation Institute contrasted historical NOAA expenditures on the monk seal with those of other federal agencies (see Figure 4 for detailed breakdown). As expected, NOAA has provided the lion's share of the spending, with FWS and other federal agencies (e.g., Navy, Coast Guard, Corps of Engineers) contributing small amounts in some years. The state of Hawai'i has spent very little on the seal according to the reports.

⁴³ "Endangered Species Act Document Library." Endangered Species. U.S. Fish and Wildlife Service, n.d. Web. 09 Dec. 2014. <<http://www.fws.gov/endangered/esa-library/>>.

⁴⁴ United States. Department of the Interior, Fish and Wildlife Service. "Federal and State Endangered and Threatened Species Expenditures, Fiscal Year 2012." 2012: 11. Print.

Figure 4. Expenditures on Hawaiian Monk Seals by Federal and State Agencies

Year	State of Hawaii	Federal Funding							Total Federal
		NOAA	Coast Guard	Dept. of Defense*	NPS	USDA	USGS	USFWS	
2001	13,500	2,100,000	2,400	5,100	0	0	0	0	2,107,500
2002	13,500	2,100,000	46,280	32,500	5,000	0	0	0	2,183,780
2003	15,400	2,100,000	0	7,500	20,100	2,364	0	0	2,129,964
2004	0	2,164,000	105,066	15,800	25,100	10,572	608	0	2,321,146
2005	0	2,145,887	2,115	16,145	10,100	91,667	0	140	2,266,054
2006	0	2,637,000	128,499	17,501	10,100	19,000	0	27,617	2,839,717
2007	0	2,637,000	171,705	33,556	7,100	0	0	222,800	3,072,161
2008	0	2,753,571	0	41,803	37,000	0	0	33,000	2,865,374
2009	0	5,734,000	7,260	40,691	45,700	0	0	0	5,827,651
2010	0	5,344,644	83,990	210,718	11,000	0	300	0	5,650,652
2011	0	3,473,361	150,193	160,745	4,500	2,600	600	0	3,791,999
2012	0	3,877,333	256,024	48,536	5,000	2,000	0	405,500	4,594,393
2013	0	3,724,611	50,527	833,143	5,482	24,090	0	3,342	4,641,195

*Department of Defense includes expenditures by the Navy, Marine Corps, Air force, and Army Corps of Engineers.

Source: Denise Henne, U.S. Fish and Wildlife Service, Personal Communication.

Chapter III. Issues and Recommendations

Introduction

The monk seal population has been declining since at least the 1950s due to a combination of factors and forces. Nevertheless, NMFS researchers and managers in the field have worked tirelessly to conserve this rare animal with the resources they have been given. Progress has been made on several fronts. For example, according to a NMFS analysis, between 17 and 32 per cent of all monk seals alive in 2012 were either subjects of a NMFS intervention to reduce an “immediate mortality risk,” or descendants of a seal that had been the subject of an intervention.⁴⁵ In the MHI, NMFS has increased its ability to track seals and respond to seal interactions and stranding events by standing up a response network that includes agency professionals and a cadre of passionate volunteers who photograph and report seal locations and monitor animals hauled out on beaches. The network enables NMFS to respond rapidly to take care of sick or wounded animals. Also, NMFS has distributed a lot of information through various communications channels on the seal’s history and behavior, as well as information on how fishermen and beachgoers can reduce interactions with seals. Thanks to those efforts, and to favorable ecological conditions for natural growth, the relatively small seal population in the MHI is increasing by 5 per cent annually.

Monk seals receive regular sympathetic coverage in the media, but not everyone supports having more seals in the MHI. Animosity toward the seal was noticeably expressed at public meetings on several federal regulatory proposals concerning monk seals over the last several years. These proposals included a NMFS initiative (known as the Programmatic EIS) to revise and improve the suite of research, enhancement strategies, and activities NMFS uses to manage seals; a petition and related NMFS proposal to designate critical habitat areas for the monk seal in the MHI (still pending); and an Office of National Marine Sanctuaries proposal to revise the boundaries of the Humpback Whale National Marine Sanctuary and expand the sanctuary’s mission from protecting one species (humpback whale) to managing the sanctuary’s ecosystem holistically. Criticism from fishermen and local residents centered on the negative impacts seals allegedly have on local fisheries, and how NOAA’s proposals would foster more seals in the MHI. The ugliest expression of anti-seal sentiment during this time was the deliberate killing of six seals at Moloka’i and Kaua’i in 2008-09 and 2012, a spate of criminal acts unprecedented in the history of the recovery program.⁴⁶ Although no killings were documented for two years after this period, the clubbing death of a seal on Kaua’i in November 2014 indicates that anti-seal sentiment still persists.

That a few people would take it upon themselves to kill individuals of this rare species whose presence is enjoyed and supported by so many people is shocking. These killings are also a sign that a problem exists for the seal recovery effort, a problem that should not be swept under the rug. Why did the killings happen? Why such animosity towards the monk seal and NMFS? What is the root of the problem? What can and should be done to prevent more killings?

Marine Conservation Institute sought to answer these and other questions by learning more about how the monk seal program operates, what fishermen think about the monk seal, and how interactions with monk seals are being handled and mitigated currently. As we proceeded, we realized we needed to address other program issues as well. This chapter presents our findings and recommendations on seven key issues that should be addressed to make the Hawaiian Monk Seal Recovery Program more successful.

⁴⁵ Harting, Albert L., Thea C. Johanos, and Charles L. Littnan. “Benefits Derived from Opportunistic Survival-enhancing Interventions for the Hawaiian Monk Seal: the Silver BB Paradigm.” *Endangered Species Research* 25 (2014): 89-96. Web. 12 Dec. 2014.

⁴⁶ Although six killings by humans were documented, it is possible others occurred but the carcasses never found.

Issue 1: Making Monk Seal Recovery a Larger Budget Priority within NOAA

Issue: NOAA has authority for recovering one of the rarest seals on earth. However, the agency does not provide a monk seal recovery budget that is adequate to the task. In 2007, NMFS released an updated monk seal recovery plan that projected an annual program need of over \$7 million.⁴⁷ At that time, NMFS was spending about \$2.6 million on the seal.⁴⁸ However, NOAA ignored its own recovery plan and continued to ask for much less than \$7 million in its subsequent budget requests to Congress. In response, Marine Conservation Institute and other nonprofit organizations have had to intervene time and time again to ask NOAA and Congress to increase recovery spending.⁴⁹

Recommendation: NOAA needs to make a renewed commitment to recovering the monk seal. This means NMFS must run the recovery program as an important campaign with concrete objectives, metrics to measure progress, and a steady base budget. NOAA should demonstrate its commitment by increasing its monk seal recovery budget request to \$5 million annually. This is less than the recovery plan recommendation of \$7 million, but is a \$1 million increase over the \$4 million the agency spent in FY 2014. Additional increases should be made by FY 2017 to reach the \$7 million level. **Seals are dying each year that otherwise could be saved if NMFS spent more to protect them.** If NMFS is unwilling to request the funds, Congress should provide them. In addition, NOAA's leaders should ensure that other NOAA bureaus and offices, such as the National Ocean Service (NOS) Office of National Marine Sanctuaries (ONMS) and the Office of Law Enforcement (OLE), make appropriate contributions to the recovery effort in their budgets and programs (see discussion under Issue 5 below).

Discussion: NMFS's initial funding for monk seal conservation was extremely modest, averaging just \$0.31 million annually in the early years of the recovery effort (1981-1989). As the seal population continued to decline, average recovery expenditures grew to \$0.93 million annually between 1990 and 1999, and to \$2.44 million for 2000-2008.⁵⁰ In 2007, the agency identified a program budget need of over \$7 million with the release of a revised monk seal recovery plan. However, the agency did not come close to requesting that amount in its subsequent budget requests to Congress.

In FY 2009 and FY 2010, congressional appropriations committees approved \$5.7 and \$5.6 million respectively, for the monk seal. Since then, Congress has intervened intermittently to increase NOAA's budget request. In FY 2014 Congress pressured NMFS to increase its monk seal budget which resulted in a NOAA allocating an additional \$1.4 million for the seal in the agency spending plan. In FY 2015, the Senate Appropriations Committee approved \$49 million for marine mammals instead of the \$47.2 million NMFS requested (the Senate action was ratified in the final 2015 appropriations bill). The committee pointedly emphasized the need for NMFS to use its marine mammal funds to recover listed species such as the monk seal:

Protected Species, Marine Mammals.—The Committee supports NMFS's mission under this activity to monitor, protect, and recover at-risk marine mammal species who were listed under the Endangered Species Act in 2005, but whose populations continue to decline. The Committee directs NMFS to utilize funding for the protection and recovery of marine mammal species at risk due to factors such as limited prey species, water-borne toxin accumulation, and vessel and sound impacts. The Committee rejects the administration's proposal to reduce funding for the John H. Prescott Marine Mammal Rescue Assistance Grant Program and provides sufficient funding for Prescott grants within the Marine Mammal Protection account.⁵¹

⁴⁷ United States "Recovery Plan".

⁴⁸ United States. Department of the Interior, Fish and Wildlife Service. "Federal and State Endangered and Threatened Species Expenditures, Fiscal Year 2007." 2007: 114. Print.

⁴⁹ Organizations that have advocated more seal funding include Marine Conservation Institute, National Fish and Wildlife Foundation, Conservation Council for Hawaii, Monk Seal Foundation, KAHEA: The Hawaiian-Environmental Alliance, Moloka'i Community Service Council, Kai Palaoa, Hawai'i Wildlife Fund, Kure Atoll Conservancy, Maui Tomorrow Foundation, Hawai'i's Thousand Friends, The North Shore Community Land Trust, Keep the North Shore Country, Hui Aloha Aina Momona, Ka Iwi Coalition, Livable Hawai'i Kai Hui, Turtle Island Restoration Network, The Wildlife Society Hawai'i Chapter, Hawaii National Marine Sanctuary Foundation, Hawai'i Interfaith Power and Light, National Aquarium, Marine Mammal Center, The Marine Mammal Physiology Project, Center for Biological Diversity, Virgin Islands Conservation Society, and Sociedad Ornitológica Puertorriqueña. Letter to Mazie Hirono, Brian Schatz, Colleen Hanabusa, and Tulsi Gabbard. 2 May 2013.

⁵⁰ Lowry 405.

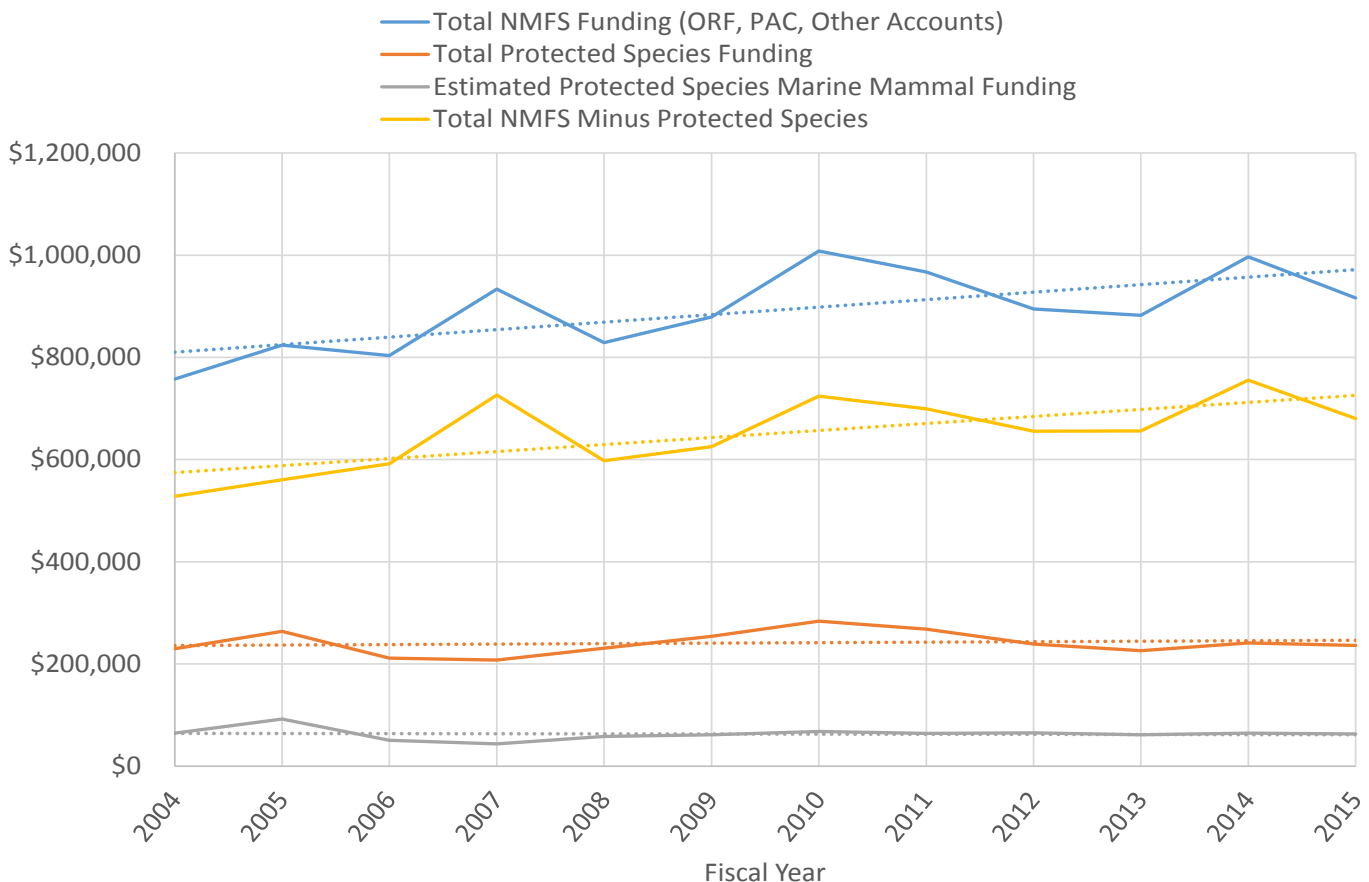
⁵¹ United States. Cong. Senate. Appropriations. "Departments of Commerce and Justice, and Science, and Related Agencies Appropriations Bill, 2015." By Barbara Mikulski. 113th Cong., 2d sess. S. Rept. 411. Washington: GPO, 2014. Print.

Various reasons have been advanced by different sources as to why monk seal conservation has been chronically underfunded by NMFS. Primary among them is that the budget target is set for the agency each year by the president’s Office of Management and Budget, which is never enough to fully cover all needs. However, other factors under NOAA’s direct control are pertinent because the agency does have discretion to allocate its overall budget amount among its various programs. These factors include competition within NMFS between its various program offices (e.g., fisheries v. protected species); the need to cover a large number of marine mammal and endangered species mandates with limited funds; and the criteria used by the Protected Resources Office to rank species priorities, one of which favors species that have interactions with commercial fishermen over those that do not. Also, some sources opine that pessimism among NMFS headquarters personnel about the seal’s long-term survival prospects has been a factor in keeping monk seal funding low.

Senior NMFS officials say they would like to spend more on protected species, but point out that protected species funding was hit especially hard by recession-induced budget cutting. The agency is still trying to “claw its way back” from funding cuts the program suffered in FY 2011, and until it does, it has to “rob Peter to pay Paul” to keep its numerous programs going. As shown in Figure 5, the enacted budget for protected species (not including Pacific salmon recovery funds) dropped from \$203 million in FY 2010, to \$165 million in FY 2013, then went up to \$176 million in FY 2014. NMFS requested \$186.2 million in its FY 2015 protected species budget; final action on the budget was still pending at the time this report was prepared. As noted by the Marine Mammal Commission, “the overall ten-year trend in funding for marine mammal science and conservation is flat, while the trend for total NMFS spending is upward. The resulting budget gap is all the more alarming given the new and increasing scale of threats to marine mammals, especially anthropogenic threats.”⁵²

⁵² United States. Marine Mammal Commission. “Marine Mammal Science and Conservation Priorities for the National Marine Fisheries Service.” July 2014. Web. 1 December 2014.

Figure 5. Protected Species funding from Fiscal Year 2004-2014 (millions of dollars). Dotted lines represent averages.



Source: “Budget of the Protected Resources Program.” NOAA Fisheries. National Oceanic and Atmospheric Administration, n.d. Web. 09 Dec. 2014. <<http://www.nmfs.noaa.gov/pr/about/budget.htm>>.

Inadequate funding for the monk seal is unquestionably undercutting the recovery effort and contributing to the monk seal's further decline in the NWHI. For example, PIFSC has to budget for its summer field camp a year in advance in order to have time to line up vessel transportation, staff commitments, supplies, training, etc. Budget cuts in FY 2012 and 2013 led to a reduction of the summer field camp's duration compared with previous years. According to PIFSC, "No doubt, more seals could have been saved from death if the 2012 and 2013 field seasons had been longer in duration" and staff had been present to save them.⁵³

In the MHI, an understaffed PIRO finds it difficult to lead the recovery program because its time is consumed responding to cetacean and monk seal strandings, monitoring seals hauled out on beaches, and keeping up with program regulations, policies, and plans. A major unmet need is standing up a robust community engagement program to enlist local communities in the monitoring and caring for their local seals and in preventing and reporting interactions.

Is NMFS serious about recovering the monk seal population or not? If it is, it should commit to a base funding amount that covers the basic suite of activities necessary to help the monk seal recover in both the NWHI and the MHI. The top needs are well known. They include:

- Conducting robust field research camps and animal rescue operations in the NWHI to increase survivorship of female seals to reproductive age
- Preventing and mitigating monk seal interactions with humans and their pets in the MHI through beach monitoring, research on fisheries interactions, and especially stakeholder engagement to create an attitude of coexistence with the monk seal
- Rescuing sick, wounded, and distressed seals in the NWHI and MHI, treating and releasing them
- Conducting necessary surveys and research projects to guide management actions and keep seal populations healthy (including interactions research and disease prevention)

With the certainty of a \$7 million base budget, key needs could be addressed by NMFS in a more robust and consistent fashion more fitting to the scale of the problem. If NOAA is unwilling to request the money NMFS needs, Congress should direct the agency to provide it.

⁵³ United States "Population Summary for NWHI Monk Seals" 22.



Photo: Joakim Hjelm Photography

Issue 2: Improving Recovery Program Management and Implementation

Issue: Under the NMFS organizational structure, the regional administrator of the Pacific Islands Regional Office (PIRO) is responsible and accountable for achieving the monk seal's recovery. However, PIRO lacks the staff and budget commensurate with this responsibility. In FY 2014, PIRO received about \$1.1 million of the seal recovery budget, and had only three staff who devote all or most of their time to the recovery program. In contrast, PIFSC, which is not supervised by the regional administrator, received over \$2.9 million of the budget. The PIFSC seal research program has five full time NMFS staff, 9 full time contract or other staff, and six other NMFS staff who devote part of their time to the monk sea. In addition, the center employs another 9 staff and five camp volunteers to operate its annual summer research camp in the NWHI.⁵⁴

Lack of staff and budget prevents the PIRO staff from fully accomplishing its two overarching duties which are to: (1) effectively lead the recovery program, which includes coordinating the actions of NMFS offices and other agency and non-governmental partners, planning and tracking program activities, and reporting and communicating results; and (2) executing its critical recovery duties such as preventing and mitigating seal interactions in the MHI through engagement with local communities and fishermen. Both duties are critical to program success.

Recommendation: The leaders of NOAA and NMFS should reposition the Hawaiian monk seal as a top priority of the Protected Resources Program. A base recovery budget of \$5 million that increases to \$7 million by 2017 would allow NMFS to allocate enough funds to PIRO to properly lead the recovery program while maintaining PIFSC's essential research work. In addition, Marine Conservation Institute recommends that PIRO use a campaign model to manage the recovery program; this model puts a premium on clear objectives, deadlines, and deliverables with metrics.

Discussion: Managing the monk seal's recovery is a complex and expensive undertaking. Not only are multiple offices of NOAA and NMFS engaged, but so are other federal and state agencies and private partners. We found that while many hands touch the seal, it is hard to understand what is being achieved by the recovery program as a whole, including whether funds are being spent on the most strategic objectives and milestones and whether the various actors are effectively led and coordinated. This is because the recovery program is managed by various offices, not as a singular campaign.

For a program that is spending millions to conserve a very rare animal, this is not acceptable. The 2007 monk seal recovery plan is now 7 years old and the overall seal population continues to decline. Marine Conservation Institute believes it is time for NMFS to (1) review the plan to ensure that the most strategic tasks that reduce threats to seals are prioritized and funded; (2) initiate a community engagement program to deal with fisherman and community opposition; and (3) foster deeper and more productive working relationships with its partners. This may mean that some lower priority science and management activities need to be terminated. So be it. In sum, all NMFS spending should be concentrated on the truly important and urgent task of increasing the number of seals, especially female ones.

For example, NMFS should be doing all it can to save young female seals in the NWHI so they can reach breeding age. Running a summer field camp throughout the breeding season is needed to protect young female seals adequately, and this requires adequate money and available vessels to move crews and translocate seals. This needs to be a top priority, yet NOAA has compromised the summer camp in the last several years with an insufficient budget and limited ship availability. This must be corrected. NMFS also needs to ask for more help from the US Fish and Wildlife Service (USFWS) and DLNR, which have staff present in the NWHI year round. If necessary, NMFS should consider partly funding their activities.

Marine Conservation Institute identified significant gaps in PIRO's recovery management and leadership. Improvements are needed in overall program coordination, reporting, communications, community engagement, and interactions prevention—all PIRO functions that cannot be accomplished with its current budget. Marine Conservation Institute is especially concerned that NMFS has not dealt effectively with the controversy over the impacts of monk seals on fishermen and local communities in the MHI. Although some think the controversy will die down as fishermen eventually get used to having seals around, there is no guarantee this will happen, and the latest seal killing in November 2014 shows there

⁵⁴ Pacific Islands Fisheries Science Center official, personal communication, 8 April 2014.

is much work to be done. PIRO's outreach and education activities to date have not quelled opposition to the monk seal. Continuing on the current path will likely not produce change. Instead, *PIRO needs to stand up a strategic community engagement effort in concert with DLNR and its private partners, a program that will make a difference!* Among other things, this might include NMFS requiring more concrete deliverables in its Section 6 grant to the DLNR and providing larger grants or contracts to volunteer organizations.

NMFS cannot save the seal on its own, but it can multiply its effectiveness through better leadership of its own staff and others. We believe seal recovery cries out for campaign-style leadership where the entire team has clear expectations, short- and long-term objectives with metrics, and accountability to the team. Moving to a campaign model will require some flexibility and innovative thinking on NMFS's part, but we believe it can produce better outcomes. In sum, we believe the senior leadership of both NOAA and NMFS needs to reinvigorate a more robust recovery program by providing more funds and demanding quantifiable results.



A man takes a picture of a resting monk seal. Photo: NOAA

Issue 3: The Key Missing Element: Sustained Community Engagement

Issue: In recent years, opposition to the recovery program has grown among some local fishermen and communities that are unhappy about the seal's impacts, real and perceived, on local fisheries. NMFS has taken a variety of actions over years to educate the public and stakeholders about the seal's protected status and how to prevent interactions, however these actions seem to have had insufficient effect on those who oppose the seal's presence in the MHI and refuse to cooperate with NMFS.

Recommendation: If NMFS intends to achieve an optimum population of seals in the MHI and deflate the political opposition it has now, it must make community engagement the backbone of its conservation strategy and budget for this activity. Marine Conservation Institute recommends that NMFS PIRO establish a community liaison staff drawn from local talent that focuses exclusively on liaison with fishermen and communities. The mission of the liaison staff would be to build long-term trust with fishers and community leaders by showing them that NMFS will work with them on a continuing basis to understand their views and concerns, as well as seek mutually acceptable solutions to reducing and mitigating seal interactions. In short, the community liaison staff would serve as NMFS's local ambassadors.

Discussion: It is generally assumed that the increasing number of seals in the MHI has led to more human interactions with seals. NMFS has taken a variety of actions to educate the public about the seal's protected status and to prevent and mitigate interactions. These actions include stationing volunteers at beaches to ask beachgoers to keep a safe distance from resting seals, talking with individual fishermen, posting videos and fact sheets on its websites, and providing information to the media. NMFS and DLNR staff also make presentations to fishermen, students, and local leaders. Undoubtedly, these efforts have had some positive impact on some Hawaiians though this is hard to measure.

Unfortunately, NMFS has had relatively little success so far in engaging fishermen and their communities to cooperate with the recovery effort. Animosity exists in some communities toward monk seals, as well as toward NMFS. Some fishermen and community leaders told us they do not want to meet with NMFS staff because they have found such meetings unrewarding. In general, they say they do not believe NMFS staff listen to their concerns or follow up with promised actions. These complaints are not shared by all local communities or fishermen, but they are common enough in some quarters. NMFS staff freely acknowledge that a problem exists and keep striving without success to fix it. In short, the present approach is not working.⁵⁵

The need for engagement of fishermen and their communities has been recognized by NMFS PIRO and DLNR. Both have been trying various outreach tactics for years, such as focus groups, talk-story meetings, science presentations, appearances at fishing tournaments to promote use of circle hooks by recreational fishermen, and the like. Unfortunately, the overall effort appears to have fallen short for several reasons. First, there is no central strategy with measurable objectives and outcomes for community engagement. Second, stakeholder and community engagement duties are scattered among several NMFS and state offices that act somewhat independently of each other and report to different supervisors. For the most part, this gives the impression of a program being run by changing staff and officials whose motives are unclear. Third, there is no overall leader of community engagement with the authority to direct activities and account for results. Fourth, NMFS funding for community engagement has been minimal in the face of mounting need and long delays in undertaking many “priority” actions.⁵⁶

Marine Conservation Institute believes the key to dealing with local concerns is mounting a sustained community engagement program that builds trust, shares opinions and information, identifies creative ways of preventing and mitigating seal interactions, and encourages the reporting of fisheries interactions. Such a program would also seek ways to involve local communities in monitoring and protecting “their” seals. Without such a program, NMFS will continue to face obstacles and unnecessary political turmoil over the seal.

The NMFS recovery plan issued in 2007 called for the creation of a sub-plan (referred to as the “MHI management plan”) which among other things is supposed to deal with outreach and community engagement in the MHI. The plan has been slow in coming. A first draft was released for comment in 2012, five years after the recovery plan came out. A second draft was released in the fall of 2014. What is unclear at this time is whether the plan will offer an effective strategy with measurable objectives that focus on critical management needs in the MHI, and whether the plan can be implemented with PRIO’s limited resources.⁵⁷ We are skeptical it will.

Marine Conservation Institute believes community liaisons should be an integral part of the PIRO-led monk seal response team. Their duties would be to build relationships with fishers and other users, listen to their concerns, provide information on seal issues and behavior, and work with other NMFS experts to come up with solutions that prevent and mitigate interactions. For example, if fishermen claim that seals regularly steal fish from their nets, the liaison might seek to establish a joint project by NMFS and the affected fishermen to study the problem, develop best practices preventative measures, and experiment with a technical fix of some kind. Or if a specific seal continually steals fish or bait from ulua fishermen at a particular location, the liaison would work with the fishermen to adequately document the problem and have NMFS undertake corrective measures, such as adverse conditioning or relocation of the animal. In short, tangible progress on the ground is needed to reduce opposition to the monk seal. This can happen if NMFS and fishermen make common purpose.

In our interviews with NMFS and DLNR officials, we discussed several ideas about who could most effectively engage local communities and build trust. Above all else, we have been told how important it is to hire liaisons who know the local culture and have experience working with local communities and fishermen. Island communities have to feel comfortable

⁵⁵ Attitudes toward the seal and NMFS may differ from community to community but they have never been documented by reliable survey.

⁵⁶ One informant suggested it was not NMFS’s role under the ESA to run a community outreach program, as the ESA and MMPA focus on protecting animals and their habitat and do not mandate community engagement; some other group should do community outreach like a nonprofit organization. Marine Conservation Institute does not agree with this assessment. We do not know how prevalent this view is within the agency; however, we do note that NMFS has yet to make true community engagement a priority and fund its implementation.

⁵⁷ It is our impression that NMFS in general spends an inordinate amount of time drawing up grandiose plans that cover too many activities and fail because they can never be implemented with limited budgets.

with an outsider, even someone who comes from another island. This can take years depending on the liaison’s personality and background. We agree. All things being equal, culturally knowledgeable individuals will be able to build trust faster than a transplant from the mainland could. However, there are concerns that qualified individuals may be hard to recruit because NOAA hiring policies and job qualifications may pose hurdles to hiring such individuals. If this is the case, then these hurdles need to be removed so that PIRO can hire the most competent local residents to do the job.

In our view, the logical office to manage community engagement is the Protected Resources Division of PIRO, which has responsibility for seal recovery, and already coordinates the NMFS seal response network throughout the MHI. NMFS would have to allocate more money to the division to perform the liaison function. A state official suggested that DLNR could be more effective than NMFS in relating to fishermen and local communities, because DLNR hires local talent. However, the state would need financial support from NMFS to pay for liaison staff either under a Section 6 species recovery grant or a contract, unless the state is willing to appropriate more funds to DLNR. In fact, DLNR intends to hire three “outreach specialists” under its current Section 6 grant and station them on Kaua’i, Maui, and Hawai’i, but they would have to be sustained by renewed grants. The specialists could provide a boost for improved community engagement if the liaisons have superb “people” skills, receive appropriate direction, and are adept in bringing NOAA experts into their work. However, there appears to be no plan presently for how closely these specialists will be integrated with the NMFS response network.

One NMFS source suggested that a nonprofit organization be the liaison between NMFS and stakeholders; however no group with this expertise exists at the moment, and raising private money to provide a governmental function could be hard. Furthermore, such individuals would not have the authority to speak for NMFS. Whichever approach is decided upon, the liaison staff must be comprised of individuals knowledgeable about and experienced with Hawaiian culture and fishing practices, and who have the personal skills and gravitas to build trust with local residents.



Children fish from a dock while a monk seal swims nearby. Photo: NOAA

Issue 4: Improving Interactions Research and Management

Issue: Seal interactions with fishermen and other ocean users in the MHI constitute one of the more serious threats to monk seals, and are a major source of negativity towards seals and the recovery program. NMFS has relatively good information on the number of seals annually hooked by shoreline fishermen and entangled in set gillnets. However, the agency has relatively little information on the location, frequency, and trends of other kinds of interactions, such as seal depredations of bait and fish catch, intentional feeding of seals by fishermen, etc. Seals that become habituated to these kinds of interactions may become nuisances, which makes them candidates for capture and relocation. Thus, it behooves NMFS to document and better understand these interactions in order to minimize them.



A conditioned seal near people. Photo: NOAA

Recommendation: NMFS needs to become more proactive in documenting interactions and devising solutions to prevent them. Establishing NMFS liaisons to local communities would help NMFS better understand fishermen's concerns and foster greater cooperation from fishermen in reporting their interactions, but this will take time. Meanwhile, Marine Conservation Institute recommends NMFS use other methods to collect information and characterize interactions trends such as anonymous surveys and polls of fishermen and other ocean users. Case studies of interactions also would also be desirable in devising preventative and mitigation measures. This is precisely the kind of information PIRO needs to have to prevent or mitigate interactions. Finally, NMFS should provide more accessible information to the public about interactions events and how the agency manages them in order to show the public that the agency recognizes the seriousness of the public's concerns and that progress is being made to deal with the issue.

Discussion: Information on the number, frequency, and location of human-seal interactions occurring in the MHI is patchy and incomplete. NMFS relies on its field response coordinators, seal volunteers, other agencies, and the public at large to report interactions. However, these reports are thought to capture only a fraction of the interactions taking place. NMFS understands it needs better information, but has been slow to move on the problem.

Most interactions between fishermen and monk seals are not reported to NMFS because fishermen don't consider them worth reporting, don't understand the implications of reinforcing undesirable seal behavior, don't care to work with NMFS, dislike seals, or fear prosecution for accidentally wounding or killing an animal. Even the relatively good information NMFS has on hooked and entangled seals is obtained after the incident has taken place, sometimes days or weeks afterwards when the wounded seal is seen and reported by someone. The failure to report interactions as soon as they occur undermines seal recovery in three ways: (1) it prevents NMFS from quickly rescuing seals that may have been wounded by an interaction; (2) it undermines NMFS's ability to track interactions trends and target its prevention activities; and (3) it prevents NMFS from rendering assistance to fishermen who may be dealing with a nuisance animal.

Better documentation and analysis of interactions would help NMFS focus its efforts on the most serious interaction problems as the seal population grows in the MHI. Where information is scarce, a logical strategy would be to use a random survey or poll to determine trends and problem locations; surveys may need to be anonymous to obtain accurate answers. For example, spear fishermen claim to have periodic interactions with monks seals that steal their catch, but no hard data exists on this phenomenon. A random survey of spear fishermen could provide useful information and also help NMFS build relationships with spear fishermen.

NMFS makes very little summary information available to the public about interactions taking place or about what it is doing to prevent and mitigate them. Given the importance of interactions management to seal conservation and the controversy interactions cause, Marine Conservation Institute believes NMFS could enhance its standing with stakeholders and the public by being more transparent about its activities and how it is trying to help fishermen. Transparency also might encourage more reporting by fishermen.

Issue 5: Program Transparency and Accountability

Issue: To run an effective recovery program, NMFS needs to have the understanding and support of its partners, the user groups affected by the agency, the policy makers who fund the program, and the interested public at large. Although we believe the majority of the Hawaiian public supports the seal's protection and recovery, we find that the recovery program is not as well understood as it needs to be across all sectors, especially among fishermen and certain local communities. Lack of transparency exposes NMFS to criticism and political attacks, and dampens cooperation by ocean user groups. Lack of transparency also handicaps the agency's supporters who could use the information to support NMFS.

To be accountable, NMFS must collect and make available the right kinds of data to show progress and outcomes, and this information must be communicated to the public in an understandable format. Marine Conservation Institute found that some basic information that should be available on the recovery program is not on NMFS websites; that seal information is Balkanized in several offices; that information held by NMFS, such as the number of relocated seals is not released on a regular basis; and that there is no regularized contact between NMFS officials and Hawai'i state and county legislators whose constituents are the ones who complain about the recovery program.

Recommendation: NMFS needs to be proactive in making the recovery program more transparent and accountable. It can do so by improving availability of the data it collects; issuing a succinct annual report on the Monk Seal Recovery Program; providing regular briefings to state, county, and federal legislators on the program; and getting out information quickly when dealing with emerging issues and emergencies.

Discussion: Like most government programs, monk seal conservation is the province of specialists who are focused on their daily activities, not on explaining what they do, why it is important, or what they are achieving with the public's money. Although NMFS publishes scientific reports and papers on the monk seal from time to time, and releases select information in press releases, fact sheets, and so forth, these do not provide a coherent picture of the program. Other information is not available because it rests in agency files. For example, monthly and annual activity reports are sent by response coordinators to the marine mammal branch and science center. These reports give the number of seal sightings, mortalities, hooked seals, etc. In short, the reports reveal how many seal sightings and incidents occur by island and island area. This information does not appear on either the PIRO or PIFSC website. We think it is important to share it. Another example: The population report issued by PIFSC on the results of its annual summer field camp in the NWHI and other relevant information are not released to the public in whole or summary form.



A seal suffers from a rusty hook. Photo: NOAA

A program that cannot make a case for itself is susceptible to budget limits and cuts within its own agency, and is also vulnerable to attack from critics who complain about the program to their federal, state or local elected officials. This in turn can undermine political interest in, and support for, the program. For example, an anti-sanctuary/anti-seal resolution was introduced by a Kaua'i County council member in 2012 and caused a brief stir, but was never approved.⁵⁸ Local and state officials also relay their constituent's concerns about monk seals to the Hawai'i congressional delegation.

Even prior to the current seal controversy, congressional staff in Washington expressed skepticism to Marine Conservation Institute representatives about what the monk seal program was achieving with "all the money" it had received, and wondered whether NMFS really deserved more funds and, if so, for what.⁵⁹ These were good questions. Marine Conservation Institute found itself scrambling to obtain answers from NMFS on short notice. With Marine Conservation Institute's urging, NMFS issued its first progress report on the recovery program, which covered FY 2009 and FY 2010, to improve program transparency. Although a step in the right direction, no further reports followed. According to NMFS staff, budget cutbacks and more pressing activities made the report a low priority.

Marine Conservation Institute believes NMFS has been shortsighted in telling the recovery story. An annual report on the recovery program is very important to making the recovery program more visible and understandable, as well as more accountable. **Transparency is especially important for a program that is being criticized or misunderstood.** The report need not be overly time consuming. What is needed is cogent information presented in a clear, understandable format with tables and graphs that sum up the program year, show progress toward key objectives, and elucidate trends. Records of program activities already are kept by NMFS as part of doing business; these records should be kept in order and regularly updated to fold easily into an annual report.

Ideally, NMFS should release the report by December 31 of each year to serve as background for the annual federal and state appropriations processes that begin in January of the following year. Among other things, the report should provide key statistics on the seal (e.g., status and trends data on the seal population, number of human-seal interactions that were reported by type and location, etc.); results achieved by objective (e.g., research, seal response activities and law enforcement actions); and a clear breakdown and explanation of what the program's budget was spent on. It should also incorporate key information from other federal and state agencies and private partners who assist NMFS in implementing the recovery plan.

An annual report would provide the springboard for NOAA officials to brief federal state and local officials on the seal program. Briefings are important because a great deal of misinformation has been circulated about the seal, and continues to be circulated. NMFS has striven to counteract misinformation through various outreach activities, but has had limited success. NMFS especially needs to keep policy makers well informed, so they have a balanced view of what is going on at the local level.

Marine Conservation Institute recommends that the appropriate committee chairs of the Hawai'i legislature request NMFS to give an informational briefing on the NMFS annual report each year. The briefing would ensure that state officials understand what the program is achieving, and provide them with a preview of upcoming federal actions. A briefing also gives NMFS the opportunity to address any controversies. Marine Conservation Institute asked State Senator Faye Hanohano, Chair of the Hawai'i Senate Natural Resources Committee, to request a briefing from NMFS in early 2014. The briefing was held in January and was well received. We believe a seal briefing should be an annual event.

In addition, it is extremely important for county mayors and legislators to be informed about the recovery program on a periodic basis. After all, these officials have the closest relationship with local fishermen and communities, and are the first to get complaints about the monk seal program. We recommend that PIRO NMFS be pro-active and offer each county a briefing once a year. It would be good for both NMFS and ONMS officials to attend this meeting to discuss their upcoming plans and actions with county officials as the two agencies are viewed as one by NOAA and their conservation goals overlap.

⁵⁸ Hawai'i. Kaua'i County Council. "Resolution Supporting Kaua'i's Fishermen, Ocean Gatherers, and Recreational Ocean Users." County Council, County of Kaua'i, 2013. Print.

⁵⁹ The continued decline of the overall population is a major factor causing skepticism.



A monk seal rests upon a beach. Photo: NOAA/Charles Littnan

Issue 6: Enhancing Interagency Cooperation and Coordination

Issue: Monk seal recovery is a national conservation objective. Although NMFS has lead responsibility for recovering the monk seal, other federal agencies have a legal duty to use their authorities to conserve the species in cooperation with NMFS. A robust recovery program should stimulate and harness the efforts of all relevant federal agencies and synchronize their roles and actions in both the MHI and Papahānaumokuākea Marine National Monument. However, some of the federal agencies that have seals within their jurisdiction do not appear to be spending much capital directly on monk seal conservation.

The monk seal recovery plan serves as a general guide for NMFS and its partner agencies; however, its provisions are not binding on NMFS or other parties. It also lacks a process for tracking multiple agency actions and performance. NMFS's partners, including DLNR, USFWS, and NOS, among others, all execute some of the activities assigned to them in the plan. However, it is hard to understand the big picture of what is being achieved or what might be done differently or better, because there is no formal or informal process being led by NMFS PIRO to coordinate all agency activities and report accomplishments.

Recommendation: To comply with federal law, all relevant federal agencies operating in Hawai'i should be significantly engaged in monk seal recovery and seek funds in their budgets for actions that directly benefit the seal. One way to optimize interagency cooperation is for the PIRO regional administrator to lead the negotiation of a memorandum of understanding (MOA) to establish a more structured implementation process with its partner agencies. Among other things, the process would set short and long-term objectives, establish potential budget contributions needed from the each agency, and provide for periodic meetings to coordinate and account for activities and outcomes. Only when a clear implementation process and planned time table of actions exists can it be said that federal agencies are fully engaged, synchronized, and accountable, thus improving the seal's chances for recovery. This is common sense but is not happening at present.

Discussion: Recovering the HMS is a long term prospect fraught with complications and high costs. The seal’s population is spread over the entire length and breadth of the Hawaiian archipelago, and occupies lands and waters under the separate jurisdictions of several agencies, including NMFS, State DLNR, USFWS, and NOS.⁶⁰ The NMFS recovery plan calls for agencies with relevant authorities, responsibilities or expressed interests to implement a suite of activities listed in the plan’s implementation schedule.⁶¹ The plan itself does not legally obligate federal or state agencies to carry out their suggested roles and actions. However, the plan is the science-based guide for seal recovery, and should be honored as such by participating agencies that implement the plan to the best of their ability.

Although NMFS has authority for recovering the monk seal it cannot do the job alone. The Endangered Species Act requires all federal agencies to conserve listed species, not just the agency with primary authority. Section 7 of the act states:

SEC. 7. (a) FEDERAL AGENCY ACTIONS AND CONSULTATIONS.—(1) The Secretary [of Commerce or the Interior] shall review other programs administered by him and utilize such programs in furtherance of the purposes of this Act. All other Federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 4 of this Act.⁶²

These mandates have teeth. For example, in a case involving endangered species threatened by ground water withdrawals in Texas, the 5th Circuit Court of Appeals found that the US Department of Agriculture had failed to “utilize its authority, pursuant Sect. 7(a)(1) of the ESA, to carry out programs for the conservation of [certain] endangered ... species and had failed to consult with or obtain the assistance of FWS concerning its duties under Sect. 7(a)(1).”⁶³

The court concluded that section 7(a)(1) means what it says:

Given the plain language of the statute and its legislative history, we conclude that Congress intended to impose an affirmative duty on each federal agency to conserve each of the species listed pursuant to § 1533. In order to achieve this objective, the agencies must consult with FWS [the lead authority in this case] as to each of the listed species, not just undertake a generalized consultation.⁶⁴

In addition to the ESA mandate, the Antiquities Act proclamation designating Papahānaumokuākea Marine National Monument established a specific duty to preserve the NWHI ecosystem and the species therein, as “objects of scientific and historical interest.” The endangered monk seal is specifically cited as one of the species of importance. The proclamation charges the Secretary of Commerce, acting through NOAA and in consultation with the Secretary of the Interior, to manage the marine areas of the monument. NOS, a unit of NOAA, was placed in charge of the monument’s outer marine waters, which include seal foraging areas and migratory pathways. The Secretary of the Interior (acting through FWS), has sole authority to manage the wildlife refuges within the monument in consultation with the Secretary of Commerce.⁶⁵

The Department of the Interior, Department of Commerce (NOAA), and the state of Hawai’i manage the monument as co-trustees. Each of the trustees is a member of the monument’s Senior Executive Board (SEB). Day to day management of the monument is supervised by the Monument Management Board (MMB), composed of two representatives of NOAA (NMFS and NOS, ONMS), two of Interior (USFWS Ecological Services and USFWS Refuges), and three representing the state (DLNR Division of Forestry, DLNR Division of Aquatic Resources, and the Office of Hawaiian Affairs). Disagreements at the MMB level are to be resolved by the SEB. A logistics coordination committee was established to coordinate transportation, housing, and supply needs of the managing agencies.

⁶⁰ DOD installations in HI also have seals showing up on their beaches and in adjacent waters.

⁶¹ United States “Recovery Plan”.

⁶² Endangered Species Act 16 U.S.C. § 1536(a)(1)

⁶³ *Sierra Club v. Glickman*, 56 F.3d 606 (5th Cir. 1998)

⁶⁴ *Sierra Club v. Glickman*, 56 F.3d 606 (5th Cir. 1998)

⁶⁵ Proclamation No. 8031, 71 F.R. 122 (June 26, 2006)

A 2006 Memorandum of Agreement between the co-trustees pledges them to “Identify and facilitate, as appropriate, coordination, consultation, and partnership opportunities” in management, and to negotiate “instruments that allow for ease in sharing resources, including funds as appropriate, and a sharing of in kind assistance.”⁶⁶ The monument management plan approved and issued by the co-trustees in 2008 calls for the conservation of wildlife and habitats, including the recovery of endangered species in the monument. More specifically, the monument plan calls for co-trustees and the management board to: support activities that advance recovery of the Hawaiian monk seal during the life of monument management plan [15 years].⁶⁷ Monument plan activities reflect those in the NMFS monk seal recovery plan; they include:

(1) investigate food limitations and take actions to increase female juvenile survival, (2) prevent entanglement of seals in marine debris, (3) reduce shark predation on seals, (4) reduce exposure to and spread of infectious disease, (5) continue population monitoring and research, (6) reduce impacts from grounded vessels, (7) reduce the impact of human interactions, and (8) conserve monk seal habitat.⁶⁸

In sum, there is abundant legal authority directing federal and state agencies to cooperate to conserve the monk seal in both the MHI and the NWHI. How is the monk seal recovery faring under this regime? Is the collective recovery effort of the agencies robust enough and sufficiently coordinated to meet the seal’s recovery needs in a timely manner? Are all federal and state agencies taking priority actions that would directly benefit the seal? Should they be doing more? What are the gaps in effort? What are the opportunities? What are the funding needs?

These questions are difficult to answer because PIRO’s coordination of recovery plan implementation is ad hoc. The one progress report issued by NMFS for FY 2009-2010 focused exclusively on NMFS’s own actions; it did not cover what other agencies had done or were doing. This is why we suggest that a Memorandum of Understanding (MOA) be negotiated by NMFS that engages relevant agencies to plan, coordinate, and account for their collective contributions to seal recovery. The desired result would be a smart, creative approach to seal management that all agencies follow to the best of their ability. We provide here a few ideas about things that should be considered to improve recovery implementation, grouped by geographic area.

Improvements in the NWHI

As previously noted, all of the federal agencies that serve on the management board of Papahānaumokuākea Marine National Monument conduct activities that directly or indirectly support seal recovery, and each agency believes it is adequately supporting monk seal conservation given its budget constraints and other monument duties. Some examples: NMFS operates a summer field research camp during the seal pupping season to inventory, monitor, conduct research, and rescue seals that otherwise would die from various threats. The field camp undertakes both research and recovery management actions, but its duration varies depending on the budget and ship time available. USFWS protects and works to restore the biological integrity of the refuges in the NWHI, and some USFWS staff undertake seal management activities in cooperation with NMFS scientists in addition to their refuge jobs.⁶⁹ ONMS manages the permit process for the monument, conducts a coral reef research program, and budgets \$200,000 per year towards the cost of the NOS-sponsored cruise to the NWHI to remove marine debris.⁷⁰ DLNR’s permanent staff at Kure cooperates with NMFS scientists to monitor seals, rescue entangled ones, and collect scientific data. An interagency logistics committee coordinates the logistical needs of the managing agencies pretty effectively according to several sources, but disagreements occasionally arise over who should pay for what or how everyone’s transportation and supply needs can be met.

⁶⁶ Memorandum of Agreement Among the State of Hawai’i Department of Land and Natural Resources and the U.S. Department of the Interior U.S. Fish and Wildlife Service and the U.S. Department of Commerce National Oceanic and Atmospheric Administration for Promoting Coordinated Management of the Northwestern Hawaiian Islands Marine National Monument, Dec. 8 2006.

⁶⁷ Papahānaumokuākea Marine National Monument. “Papahānaumokuākea Marine National Monument Management Plan.” December 2008. Web. 8 Dec. 2014: 162.

⁶⁸ Papahānaumokuākea Marine National Monument. “Papahānaumokuākea Marine National Monument Management Plan.” December 2008. Web. 8 Dec. 2014: 162.

⁶⁹ These activities include rescuing entangled or trapped seals, collecting and reporting data on seals, removing marine debris from beaches and near shore waters, monitoring seals, and preventing seals from being disturbed by people at Midway.

⁷⁰ Seals entangled in marine debris may die if not freed.

In considering ways to improve seal conservation in the NWHI, it became clear to Marine Conservation Institute that monk seal conservation cannot be considered in isolation from the broader conservation needs of the monument. Marine Conservation Institute identified ideas for facilities sharing, transportation, staff training, and marine debris removal that would enhance the monument's ecological integrity *and* the conservation of seals.

Field Camps: Operations in the NWHI are difficult and expensive due to the islands' remoteness from Honolulu. Island infrastructure, exposed as it is to the elements, is expensive to build, repair, and maintain. Transportation of staff, equipment, and food is provided either by NOAA research ship, or chartered vessels or aircraft; heavy construction materials go by barge.

Only Midway and Kure have permanent facilities for year round occupation by people, and only Midway has an airport. USFWS has permanent staff at Midway, and in the past has maintained year-round field camps at Tern Island and Laysan Island; camp staff are rotated every six months. Unfortunately, the two camps were closed in 2012, Tern due to severe storm damage and Laysan due to staff cuts. According to USFWS, the Laysan camp is expected to reopen in 2016 thanks to a grant USFWS received for a special project. Tern remains closed. The state maintains a staff of five on Kure Atoll. PIFSC operates summer field research camps of varying lengths at six islands each year to monitor seals during the pupping season; it normally places staff at French Frigate Shoals, Kure, Laysan, Pearl and Hermes, Lisianski, and Midway for varying lengths of time. ONMS has no staff presence on the islands; however its science staff conducts research cruises to the monument twice yearly to study coral reef ecosystems.

Clearly, the managing agencies need people stationed temporarily, seasonally, or year round in the NWHI to effectively protect, manage, and restore the monument. Yet, there is no long-term agreement for shared facilities or field camps.⁷¹ In addition to avoiding duplication of effort and unnecessary costs by each agency pursuing its own course in stationing people in the monument, the acceptance of a joint camp approach might enable the agencies to plan and complete their projects more effectively and efficiently; it should certainly be considered. For example, if joint camps were in place, PIFSC could keep some of its research staff present for longer periods of time at Tern, Midway, and Kure to continue work after the summer research camp ends. Also, the coral research staff of ONMS's Papahānaumokuākea unit could expand its research projects to include coral ecology studies that require the presence of land-based researchers, not just ones deployed for a brief time from a NOAA ship.

⁷¹ There is unoccupied lodging space on Midway Island.



The field camp on Laysan Island. Photo: USFWS

Marine Conservation Institute recommends that the monument co-trustees consider the benefits and feasibility of establishing shared field camps and facilities to implement the monument management plan and enhance seal conservation. Because USFWS has sole authority over the use of refuge lands, it makes sense for this agency to coordinate the camps; but regular funding contributions toward the camp operating budgets should be made by all co-trustee and partner agencies that need the camps to execute their missions.⁷² Granted, shared camps would require the agencies to get out of their silos and cooperate more closely, but isn't this what the monument proclamation and implementing Memorandum of Agreement call for?

Training to handle seals: Seals face threats to their survival year round in the NWHI, especially from starvation, entanglement in marine debris, and shark predation. Threats to young females and pups are a particular concern during the pupping and mating season which extends from March to September. The NMFS summer field camp is timed to cover the peak pupping and mating period of about two months.⁷³ Currently, it is not financially possible for NMFS to keep its staff in the field longer. As an alternative, PIFSC could train USFWS and DLNR staff to monitor, survey, and rescue seals following NMFS protocols. USFWS and DLNR staff currently provide some assistance now to NMFS. NMFS staff usually briefs USFWS and DLNR field crews on seal matters before they leave for the camps and asks for a minimum level of help. PIFSC also issues "cooperating investigator" permits to a few USFWS and DLNR staff who are capable of undertaking specific actions such as disentangling seals from marine debris; these arrangements have been valuable. However, a cooperator may not be able to devote as much time to seal work as NMFS desires because of his or her parent agency duties. Furthermore, the recruiting and training of cooperators is on a case-by-case basis and is somewhat dependent on the interest or inclination of the USFWS and DLNR staff members stationed on the islands. In short, the assistance NMFS receives now from other agencies is not as comprehensive or reliable as it needs to be.

In Marine Conservation Institute's view, taking care of an exceedingly rare seal must be a priority responsibility of all co-trustee agencies that have staff stationed in the NWHI. The seal population continues to decline; therefore, saving individual seals that otherwise would die is critical to stabilizing and increasing the population's size. The ESA is clear that USFWS has a duty to proactively protect the Hawaiian monk seal at its refuges, and that NMFS should be coordinating its seal recovery with USFWS and other agencies. DLNR also has a clear mandate to protect monk seals under state laws which apply to state lands and waters in the NWHI. Although both agencies conduct some seal conservation work, the question is can their involvement be productively broadened? Marine Conservation Institute believes it can be and must be. Working together, NMFS, USFWS, and DLNR should be able to ensure that adequate attention is being paid to monk seals throughout all or most of the year at islands where their staff is present.

Marine Conservation Institute recommends that NMFS establish a more formal and regular seal research and care training program that enables USFWS and DLNR staff to perform desired seal management activities in a timely manner when no NMFS staff are present, and that USFWS and DLNR embrace such an arrangement. This may require some changes in staff job descriptions as well as budget increases by USFWS and DLNR for additional staff. USFWS is already seriously understaffed at its national wildlife refuges in the monument. If FWS cannot get a budget increase for the staff it needs to function as a steady NMFS cooperator on seals, alternatives should be considered. For example, NMFS could station its own staff at Laysan, Kure, and Midway outside its normal field camp season. NMFS could also help fund USFWS or DLNR staff who are capable of performing seal conservation work by transferring NMFS funds.

Marine Debris: Removing marine debris from beaches and near shore waters is very important in preventing wildlife entanglements and damage to coral reefs. Tons of fishing nets, line, and other forms of debris wash up annually in the NWHI, so debris removal is a continuing necessity to protect monk seals and other wildlife. The NMFS Coral Reef Ecosystem Division of PIFSC coordinates an annual debris removal cruise of about 30-days duration to Papahānaumokuākea. The debris is removed from atoll waters by teams of highly trained snorkelers and divers. The cruise also picks up debris stockpiles collected by PIFSC field camp personnel and USFWS and DLNR staff. A NOAA research vessel is normally used to collect the debris, but the work also can be done with a contract vessel (which may cost less per day to operate).

⁷² There is good reason for NOS-ONMS to contribute something toward the camp budget too. It can place research staff at the camps and also use them during the marine debris operations it conducts.

⁷³ The exact time and duration of the camps is set according to when vessels may be obtained to take and retrieve camp personnel.



A crew removes marine debris from the NWHI. Photo: NOAA

According to NOAA sources a typical debris cruise may cost from \$750,000 to \$1 million depending on the vessel used and the duration of the trip. The cruise is funded by the combined contributions of several NOAA offices. Contributors in 2014 included the NOS Marine Debris Division, Office of Response and Restoration (\$200,000); damage fines resulting from the Casitas wreck on Pearl and Hermes Atoll in the NWHI (\$360,000) supplied by the Office of Response and Restoration; the ONMS Papahānaumokuākea MNM office (\$200,000); and the Office of Marine and Aircraft Operations (\$72,900). In addition, USFWS provides in-kind contributions such as use of loading equipment at Tern and Midway and logistical support to the cruise ship removal team at staffed islands.

One debris cruise normally recovers about 36 metric tons of debris, but the 2014 cruise collected 56 MT.⁷⁴ More debris accumulates annually than can be collected. One study estimated the debris accumulation rate to be at 52 million MT annually. Marine Conservation Institute is concerned that one cruise per year is insufficient to keep pace with annual accumulation. It is hard to precisely predict how many wildlife deaths would be prevented by each additional cruise, but we can assume that the more marine debris there is at an island, the more seal and other wildlife deaths there will be. According to NOAA sources, it has been a struggle just to keep the annual debris collection cruise funded during a time of shrinking budgets.

The collective mission of the monument co-trustees to protect NWHI ecology and wildlife is served by the debris removal. We recommend that the Marine Management Board come up with a desired schedule of marine debris removal cruises that will reasonably protect monument wildlife, and that all of the board's various agencies contribute something to the cruise budget. At a minimum, the annual cruise should be maintained. Debris is a significant killer of monument wildlife including seabirds and seals. Putting off its regular removal should not be optional.

⁷⁴ "NOAA Removes 57 Tons of Marine Debris from Northwestern Hawaiian Islands." NOAA News. National Oceanic and Atmospheric Administration, 28 Oct. 2014. Web. 9 Dec. 2014. <http://www.noaanews.noaa.gov/stories2014/20141028_marinedebris_hawaii.html>.



The Oscar Sette, Hi'ialakai, and Tiglax ships. Photo: NOAA

Vessel Needed for Pacific Monuments: USFWS, NOS, NMFS, and DLNR all rely on vessels to transport their staff, equipment, and supplies to the NWHI from Honolulu. FWS also must supply Midway with fuel for its power generators and the aviation needs of multiple cooperating agencies, including the US Coast Guard. NMFS and ONMS rely on two ships in the NOAA fleet, the *Oscar Sette* and *Hi'ialakai*, to conduct their work, but also may occasionally charter vessels. USFWS uses chartered vessels and aircraft for trips up the island chain to Midway. DLNR buys space on FWS vessels and aircraft on a pro-rata basis. Working through the interagency logistics working group, the co-trustees plan trip schedules and share space if berths are available.

A common complaint among agencies managing Papahānaumokuākea MNM is that their budgets for vessel use are insufficient to meet basic research and management needs. Reduced vessel use is a consequence of constrained agency budgets. For example, USFWS now sends a ship up the NWHI chain to Midway and back twice per year instead of four times as it once did. Each trip takes about 10-14 days. The ONMS monument office sponsors two research cruises lasting 25 days each to the NWHI. The NMFS monk seal team needs a minimum of two trips a year to drop off and pick up its summer field camp staff, but ideally a third trip to keep its staff in the field for a longer period would be possible. And the PIFSC Coral Reef Ecology Division leads a 30-day marine debris removal cruise annually. Collectively, the vessel time used by all agencies to manage Papahānaumokuākea MNM in 2014 totaled less than 150 days. This is not enough time to support basic management operations.

Several sources emphasized that in order for the co-trustees' duties to manage Papahānaumokuākea MNM properly, they need to get to the monument more often. Realistically, the only way to do that is to have a dedicated vessel that all agencies can use with certainty.⁷⁵ Marine Conservation Institute agrees. The vessel should be capable of fulfilling the collective needs of the co-trustees, including staff deployment and rotation, supply, fuel supply, inter-island translocation of wildlife, and marine debris removal. When not scheduled for Papahānaumokuākea MNM duties, the vessel should be used to transport USFWS and NOAA staff to the Pacific Remote Islands Marine National Monument. Marine research cruises to Papahānaumokuākea, would still be carried out by NOAA research vessels as needed. However, without the need to deploy NMFS field camp staff, NOAA would be able to schedule additional research cruises in the Pacific.

Because agency budgets are tight, and ships are expensive to operate, getting congressional approval for the acquisition of a dedicated vessel may be a challenge. Still, the United States has made a national commitment to protect four Pacific monuments and Congress should fulfill that commitment. Providing adequate transportation to reach the monuments is a must. The basic questions to be answered are: (1) Can the Papahānaumokuākea co-trustees come together on a shared vessel configuration that meets their collective requirements?; and (2) What is the most cost efficient way of obtaining,

⁷⁵ In a similar situation of having to manage a lengthy archipelago, USFWS acquired a vessel to manage the Alaska Maritime National Wildlife Refuge located in the Aleutian Islands of Alaska. The *Tiglax* commenced service in 1987 and is still in operation. The vessel is used by a variety of government and university researchers working in the Aleutians, including NMFS.

staffing and maintaining the vessel? We recommend the Senior Executive Board of the monument commission a study by a qualified entity to answer these questions. The most favorable acquisition option should be advanced as a joint budget initiative by NOAA and the USFWS. If agreement cannot be reached on a shared vessel, then the next best option would be for the agencies to cover their specific needs in their respective budgets.

Sea wall repair at Tern Island: The sea wall surrounding Tern Island has been eroding for some time, leaving gaps and holes that entrap, injure, or kill sea turtles and monk seals. Old military dumps at the sea wall boundary are also leaching contaminants into the water and are under study by the Environmental Protection Agency. Sea wall repair and capping or removing the dumps would cost millions; for this reason, USFWS has not budgeted such restoration. The last repairs USFWS made on the sea wall were in 2004. Due to limited funding, FWS could not repair all of the island’s armored shore line at once. Subsequent erosion of unrepaired sections of the wall has been significant. Fixing the sea wall is necessary to maintaining the ecological integrity of the island, preventing the release of contaminants buried on the island in WW II, and saving monk seals and sea turtles from entrapment in eroding pockets of the seawall. As long as the sea wall continues to erode, the stationing of USFWS staff on Tern is important for patrolling and rescuing trapped animals. Marine Conservation Institute recommends that the USFWS Tern field camp be reopened. We recommend the co-trustees support the reopening of Tern and that USFWS submit a budget initiative to Congress to do so.



A monk seal stranded by the sea wall surrounding Tern Island. Photo: USFWS/Meg Duhr-Schultz

Improvements in MHI

Coordination between DLNR and NMFS: NMFS PIRO has partnered with DLNR to recover monk seal and sea turtle populations in the MHI. This relationship has existed since 2007, when the state began receiving a species recovery grant from NOAA's national Office of Protected Resources. The state has made significant contributions to seal conservation at O'ahu and Kaua'i.⁷⁶ For example, since 2007 DLNR has had a seal response coordinator stationed on Kaua'i who has recruited and supervised seal volunteers, collected data for NMFS, dealt with wounded animals, monitored seal births, and conducted outreach activities for schools, fairs, etc. The Kaua'i response coordinator works in partnership with the NMFS response coordinator stationed on the island.

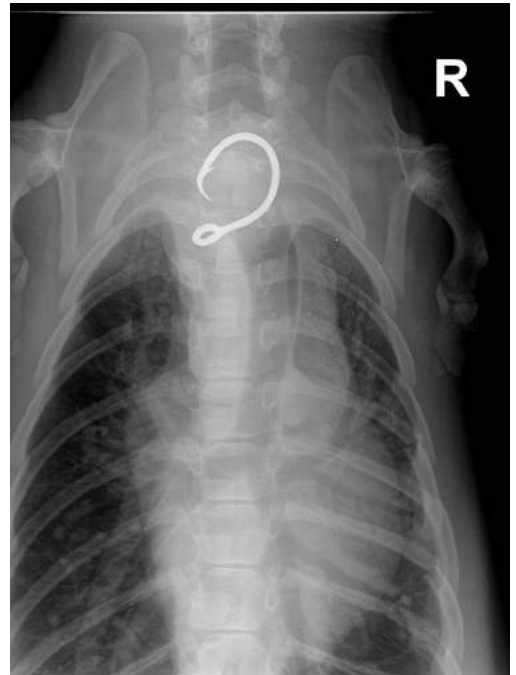
On O'ahu, the DLNR wildlife program coordinator conducts outreach to shoreline fishermen to explain monk seal protection laws and how to avoid interactions, intervene to stop in-progress fishing activities likely to hook or entangle a seal, and report illegal gillnets to have them removed. The coordinator also attends fishing tournaments around Hawai'i with a staff member of the PIFSC fisheries division to encourage the use of barbless circle hooks by recreational fishermen; circle hooks are easier to remove in catch and release fishing, and from seals and sea turtles that may get hooked by them. At these tournaments, information is shared about how to avoid interactions with monk seals when the opportunity presents itself.

DLNR intends to hire three additional outreach specialists in 2015 to liaise with fishermen and other ocean users on the islands of Kaua'i, O'ahu, and Maui. In general, they will work to identify local concerns, explain the monk seal's needs, and promote seal and turtle friendly fishing practices that reduce interactions. The specialists could be a significant asset in building relationships with fisherman and local communities, and helping NMFS to engage these communities in interactions research and reporting, provided their work is closely coordinated with that of NMFS. Marine Conservation Institute recommends that PIRO and DLNR come up with a common strategy for community outreach and involvement in seal management with clear role delineation and metrics to show progress.

As we noted about NMFS, we believe the state seal program could be more transparent and accountable. DLNR sends semiannual and annual reports of its activities and accomplishments to NMFS's Office of Protected Resources, but these reports are kept internal unless requested. Since NMFS provides the grant money for DLNR, we recommend NMFS negotiate desirable reporting metrics with DLNR and make these part of the grant's terms. NMFS should integrate DLNR information into its own annual report on the recovery program.

NOS, ONMS Cooperation: ONMS is a co-manager of Papahānaumokuākea Marine National Monument, and co-manages the Hawaiian Humpback Whale National Marine Sanctuary with DLNR in the MHI. The ONMS co-superintendent of Papahānaumokuākea is a member of the Monument Management Board (along with NMFS), and thus has shared responsibility with other board members for conserving monument wildlife. The ONMS superintendent oversees the monument permitting process for the entire monument, including permits needed by the NMFS seal staff to conduct research and control shark predation. In addition, the monument office of ONMS contributes \$200,000 of its budget to the NOAA marine debris removal cruise each year which is extremely important in preventing seal and other wildlife entanglements and deaths.

The humpback whale sanctuary was established in 1997 to protect humpback whales and their habitat in the MHI. The sanctuary encompasses 1,370 square miles of designated ocean areas bordering six of the MHI. Monk seals occur throughout the sanctuary. In its 17 years of operation, the whale sanctuary has become well known to Hawai'i citizens and visitors, state political officials, and government agencies. The sanctuary has a staff of 7 based in 3 offices (Kaua'i, O'ahu, and Maui),



X-Ray of a monk seal that has swallowed a circle hook. Photo: NOAA

⁷⁶ Hawaii "Cooperative Conservation".

a Sanctuary Advisory Council of 52 members who represent various government agencies, interest groups and the public, and a cadre of 100-200 volunteers who help implement sanctuary programs.

The sanctuary's outreach and education programs:

...foster awareness of sanctuary resources and to promote ocean stewardship among Hawai'i's residents and visitors. Information about humpback whales and their habitat in Hawai'i is made available to the public through educator and student workshops, community lectures, shore-based whale watches, volunteer and naturalist training sessions, and sanctuary publications. On Maui, the Sanctuary Education Center in Kihei is a beach-front facility with year-round exhibits and programs.⁷⁷

In short, ONMS has both the ability and experience to reach important segments of Hawai'i's society with ocean conservation information, programs, and training.

In 2010, the humpback whale sanctuary office began a review of its management plan. The review is evaluating gaps in existing marine conservation efforts in Hawai'i and identifying nationally significant marine resources for potential inclusion in the sanctuary. One proposal is to change the sanctuary's purpose from its singular focus on the humpback whale to that of protecting the marine ecosystem and the species within, including monk seals, which are frequently seen in sanctuary areas.⁷⁸ The PIRO office has been involved in reviewing the plan.

Because of its extensive outreach, education activities, and political contacts, ONMS is particularly well-positioned to assist NMFS in implementing parts of the monk seal recovery plan in the MHI. The sanctuary has been helpful in monk seal management in the MHI over the past decade. For example, the sanctuary office on Maui provides office facilities and material support for PIRO's response coordinator on Maui, and until mid-2013, ONMS supported a full-time staff person on Hawai'i Island who served as the lead monk seal response coordinator and outreach person on the island.⁷⁹ Furthermore, the state sanctuary co-manager, who has been fully or partially funded by ONMS since 1999, spends significant time coordinating state efforts and strategies supporting monk seal conservation in the MHI, including overseeing the Section 6 species recovery grant from NMFS.

The ONMS Pacific regional office has offered several times to partner with NMFS PIRO on public outreach and education projects, but these offers were not accepted. More recently, PIRO has suggested the need for an ONMS staff liaison on seal matters to improve interagency communications, coordination, and mutual support. Marine Conservation Institute believes ONMS has much to offer for implementing certain monk seal recovery activities, and that NMFS and ONMS should develop a firm mutual agenda for their seal work in both the MHI and NWHI. Questions about monk seals are often directed to sanctuary officials because of their high visibility and accessibility. NOAA is viewed by most politicians and residents in Hawai'i as one entity, so NOAA looks unresponsive and its credibility is eroded when sanctuary staff are unable to, or not permitted to, answer questions about monk seals. The public deserves better service from NOAA.

We agree that the naming of an ONMS staff person to be a liaison to NMFS on the monk seal (and perhaps other marine wildlife) could facilitate interagency cooperation, and we recommend this be done by assigning the task to an existing ONMS staff person. It may be necessary for NMFS to train ONMS staff and volunteers on monk seal policies and programs and provide them with NMFS brochures and materials. In some cases ONMS would make monk seal presentations in its workshops and programs. In other cases, joint action by the two offices would be appropriate, such as hosting a booth at an ocean festival, or meeting with county and state leaders to discuss NOAA programs in Hawai'i. These details should be decided by the two offices.⁸⁰

77 "Hawaiian Islands Humpback Whale - About Us." Hawaiian Islands Humpback Whale National Marine Sanctuary. National Oceanic and Atmospheric Administration, National Marine Sanctuaries, n.d. Web. 09 Dec. 2014. <<http://hawaiihumpbackwhale.noaa.gov/about/overview.html>>.

78 The humpback whale sanctuary is an outlier the sanctuary system in that it is the only sanctuary created to protect a single-species.

79 This position is now vacant. ONMS has no plans to refill it.

80 Time is of the essence. The agreement need not cover all potential activities but should start with ones that the parties deem most appropriate. The agenda can evolve as cooperation shows results. We believe NOAA currently has authority to detail an ONMS staff person as a liaison to NMFS to work on monk seal conservation.

Issue 7: Making Law Enforcement More Transparent and Effective

Issue: NMFS Office of Law Enforcement, Pacific Division (OLE-PD) investigates every reported potential violation against seals and pursues legitimate cases, but it is not standard practice for the office to make summaries of its law enforcement activities and accomplishments available to the general public. This is unfortunate because people in general want to know that NMFS is being effective in policing crimes against seals and gaining convictions against violators. Without information on enforcement actions people are left wondering if the reports they file with OLE-PD led to violators being caught and convictions made, or if particularly grievous cases like the killings of seven monk seals since 2009 have been solved. More frequent communications about the OLE program would help citizens understand what the laws protecting monk seals are, how they can comply with them, and what happens when they are violated. We believe information like this helps deter further crimes by educating and incentivizing more citizens to recognize and report crimes.

One important issue that came to light during our research is that fishermen may not report their accidental or unintentional interactions with seals because they fear being prosecuted by NMFS for an infraction of the ESA or MMPA.⁸¹ This poses a Catch 22 for seal managers because the failure to report serious interactions immediately threatens the lives of seals that may be wounded or ensnared by fishing gear and need rapid attention by NMFS responders. Seals hooked by recreational or subsistence fishermen on ulua casting gear, for example, can eventually die if the hook is not removed. Furthermore, lack of reporting hurts the fishermen themselves. If they do not report seals that are causing problems in fisheries, NMFS cannot take appropriate remedial action, such as moving the seal to another area. Although NMFS's seal managers have sought the issuance of a clear prosecutorial policy on accidental interactions that would alleviate fears of self-reporting by fishers, no policy has been approved by NOAA Office of General Counsel.



A dog stands near a resting monk seal. Photo: NOAA

Recommendation: Marine Conservation Institute recommends that NMFS OLE-PD issue summaries of non-sensitive information about the division's enforcement activities and outcomes on an annual basis, either separately, or better yet as part of the annual status report on the recovery program recommended above. This information should also be available on the NMFS OLE-PD website. Both actions would enhance transparency and accountability to the public and garner more support for the law enforcement program.

In addition, we recommend NOAA General Counsel provide more precise guidance about how cases of accidental harm to seals caused by legal fishing activities will be treated by NMFS. NOAA has discretion on whether or not to prosecute a seal violation based on the circumstances and complex legal considerations. Unintentional or accidental violations usually are considered to be the least serious type of crime from a culpability standpoint. The low amount of voluntary reporting by fisherman who are legally fishing but hook or ensnare seals in their nets or traps, actually harms seals and undercuts the goal of seal recovery. Prosecution policy would hopefully encourage fishermen to self-report interactions immediately so that injured seals can be saved. We urge the NOAA General Counsel develop a reasonable solution to this problem and for OLE-PD to make the policy known to fishermen.

Discussion: Law enforcement is barely mentioned in the monk seal recovery plan, yet it is vital to the success of seal recovery.

⁸¹ A few reports do come in from fishermen. For example, in 2014 two fishermen reported accidentally hooking a seal as they were shore casting for ulua. Both seals were found rather quickly, treated, and released. Neither fisherman was charged with a violation of ESA or MMPA.

ery in the MHI. It is very difficult for the public to know what is happening in seal law enforcement because, for whatever reasons, OLE-PD does not regularly provide information to the public, or even to other NMFS staff who manage seals. NMFS OLE does not release an annual report on its activities, nor does the OLE-PD. The NOAA Office of General Counsel does post some information on its website, including enforcement charging information and the results of cases settled in court, however these are not able to be easily searched.⁸² DOCARE, which helps NMFS enforce federal laws, does not issue annual summary reports of its activities either.

We believe the release of basic enforcement information would benefit monk seal recovery by helping the enforcement agencies better educate the public and stakeholders about the laws protecting seals. Education in turn could help deter unintentional violations and prompt more citizens to identify and report violations they see. Education of the citizenry also would build more support in general for wildlife law enforcement, which is traditionally understaffed and underfunded in most natural resources agencies, including OLE-PD and DOCARE.

Release of enforcement information would make law enforcement agencies more accountable to the public. How effective are OLE-PD and DLNR in catching violators and deterring future violations through a combination of patrols, intelligence gathering, education of stakeholders and the public, and prosecutions? Is enough money and time spent on seal investigations relative to other priorities? Are patrols sufficient to deter violations? Are the punishments meted out adequate to deter future crimes? What is the agencies' success rate in solving cases? Are crimes against seals increasing or decreasing? Are there hot spots of seal crimes where enforcement patrols are needed and being conducted? What additional resources does OLE-PD or DOCARE need to improve seal enforcement? The answers to these questions, which no doubt are discussed internally by NOAA and DLNR, cannot be known by the public without basic information being released.

To begin filling the information gap on law enforcement, Marine Conservation Institute submitted a Freedom of Information Act (FOIA) request to NMFS OLE-PD for five years of basic information of a non-sensitive nature on seal incidents and cases that occurred between 2008 and 2013.⁸³ We asked about how many incidents of what type were reported, where they occurred, who reported them, the disposition the reports, and the outcome of cases completed (see tables below). The information we received provides a snapshot of recent enforcement activity, but also raises questions that cannot be answered without further research.

Number and trend in seal violations: NMFS reported receiving information on 81 seal incidents over a five year period (February 2008 - June 2013). On average, this is about 1.3 incidents per month that OLE-PD investigated to see if they were bona fide cases. It appears that the number of reported incidents is holding steady over that time frame. Incidents reported, of course, does not accurately reflect the total number of incidents occurring (both reported and unreported). For instance, one interviewee told us that minor harassment of monk seals occurs regularly on O'ahu beaches, but they are not reported to law enforcement officers.

More than half of the incidents were reported on the OLE hotline (36 cases). An additional 18 cases were reported by staff of the NMFS Protected Resources Division. Overall, the number of reports from the public seems low, given the increasing number of seals in the MHI and heavy use of the state's beaches. Surprisingly, only three cases were reported by the State of Hawai'i Division of Conservation and Resource Enforcement (DOCARE) which provides patrol services to NMFS OLE under its Joint Enforcement Agreement. Several interviewees said that DOCARE agents do not patrol the state's beaches to look for monk seal violations because the agency is understaffed.

Source of 81 Incident Reports	
NOAA OLE Hotline	36
NOAA Protected Resources Staff	18
Citizen (non-hotline)	8
DOCARE Staff	3
Monk Seal Volunteer	3
US Fish & Wildlife Service	1
Honolulu Police Department	2
State of HI DAR Employee	2
Customs and Border Protection	1
Marine Corps Base HI	1
Maui Police Department	1
NOAA Employee	1
NOAA Marine Mammal Response Coordinator	1
Unknown	1

⁸² "Enforcement Decisions." NOAA Office of the General Counsel. National Oceanic and Atmospheric Administration, n.d. Web. 09 Dec. 2014. <<http://www.gc.noaa.gov/enforce-office6.html>>.

⁸³ Brant letters.

The vast majority (70 per cent) of reported incidents occurred on the islands of O‘ahu and Kaua‘i. Twelve percent of incidents occurred on Maui. Hawai‘i and Moloka‘i each represented approximately 6 per cent of incidents; and one incident each was reported on Ni‘ihau and Lāna‘i. These data suggest the need for a potentially stronger enforcement presence on O‘ahu and Kaua‘i relative to other islands.

Island Where Incidents Occurred	
O‘ahu	35
Kaua‘i	22
Maui	10
Hawai‘i	5
Moloka‘i	5
Lāna‘i	1
Ni‘ihau	1
Unknown	1

The type of incidents reported ranged from minor harassment of seals, to dog attacks, to seals killed by humans. The majority of reported incidents are categorized as non-specific harassment by humans, which include activities such as throwing rocks or other objects, touching or poking with sticks, crowding, herding back into the ocean, swimming in close association with an animal, or YouTube videos depicting one or more of these actions. Twelve seal mortalities were reported, of which six were deemed deliberate killings. So far only one of these killings was solved and prosecuted.

Overall, 45 per cent of all incidents lacked evidence or were unfounded. According to OLE-PD, many of the reports it receives do not contain sufficient information to bring charges. For example, by the time a law enforcement officer arrives on the scene of an alleged incident, the perpetrator may be gone and no witnesses may be found. The reported information also may be unclear as to what the violation was or where exactly it occurred. A substantial number of cases (12) were recorded for informational purposes, but not pursued further.

Of the 29 incidents that did result in some kind of enforcement action, 13 were transferred to another agency for an appropriate response (e.g., to DOCARE or the Hawai‘i Humane Society), and two were resolved through a Community Oriented Policing and Problem Solving (COPPS) action.⁸⁴ More significantly, 17 per cent of the 29 incidents resulted in a verbal or written warning, and four in civil or criminal charges (including fines and charges brought in state courts). One person was charged and convicted of killing a seal on Kaua‘i.

Disposition and Outcomes of Incidents	
Closed - Lack of Evidence	32
Transferred to Another Agency or Organization	13
Incident Recorded for Informational Purposes Only	12
Verbal Warning	7
Closed – Unfounded	5
Criminal or Civil Penalties	4
Written Warning	3
Community Oriented Policing & Problem Solving (COPPS)	2
Closed - No Further Action	2

Reports by Incident Type	
Non-specific harassment	46
Mortality*	12
Harassed or bitten by dog(s)	8
Concern/Sightings	5
Feeding	4
Hooked by fishing gear	3
Importation of seal products	1
<i>*Two seal mortalities involved fishing equipment (gill net, hook)</i>	

⁸⁴ Marine Conservation Institute did not attempt to find more specific information on these cases.

Fear of Reporting Issue: It appears that fear of prosecution for having accidental interactions with monk seals is a significant hurdle to the voluntary reporting of such incidents by fishermen. This problem has been noted by NMFS staff and confirmed by several fishermen we interviewed, though no attempt has been made by NMFS to research it in depth. The fact that NMFS staff cannot assuage fishermen’s fears and get them to report interactions is a Catch 22 for the recovery program that needs to be overcome. PIRO staff has raised this issue with NOAA attorneys and OLE-PD, but no satisfactory solution has been forthcoming. One needs to be proposed if humans and seals are going to coexist peacefully.

What message can be communicated to fishermen about how NOAA will treat accidental interactions so that more reporting will occur? NOAA legal sources say the agency cannot say up front that accidental harm or unknowing violations will not be prosecuted because the ESA and MMPA have “strict liability” provisions governing the “taking” of listed animals; taking includes harassment, physical harm and deliberate killings. Strict liability means that such acts may incur a penalty regardless of the actor’s intent. However, NOAA counsel also has discretion over which incidents they investigate and prosecute. For instance, NOAA could establish a policy of not prosecuting *accidental interactions* under certain conditions. Marine Conservation Institute urges NOAA to develop a prosecutorial policy that facilitates reporting of accidental interactions in fisheries.

Patrols: In addition, Marine Conservation Institute believes the lack of patrols on Hawaii beaches to deter seal violations needs to be addressed. Patrols are a major element of law enforcement, giving officers a chance to educate the public in a non-punitive manner about prohibited acts involving seals. Education of citizens by officers on patrol can help foster coexistence with seals. It is timely to take a look at this issue. Marine Conservation Institute recommends NMFS OLE assess the need for, and value of, beach patrols and consider providing more financial assistance to DOCARE to have state offices conduct beach patrols on a regular basis. The state has officers stationed throughout the MHI, but DOCARE is underfunded and may need more staff to perform the work.



A monk seal takes a fish off a koi. Photo: NOAA



A family enjoys the beach near two resting Hawaiian monk seals. Photo: Ryan Ozawa

Conclusion

Recovering the Hawaiian monk seal to a sustainable population is a huge challenge for federal and state agencies, and one that must be addressed comprehensively. If there is one conclusion to be drawn from this study it is that NOAA and its partners must redouble their efforts to recover the monk seal before it winds up as a remnant species in a zoo. Clearly, there is a need for a larger budget for seal recovery; without additional funds some of the recommendations in this report cannot be realized. As the agency most responsible for monk seal recovery, NOAA should lead the way by increasing its funding for the monk seal, but other agencies should increase their budgets too. In addition, Federal and state agencies must plan together, act in concert, and be accountable to one another for the results they get because they each have responsibilities and roles to play. As the agency most responsible for the seal, NOAA should build a team of partners that operates seamlessly to pursue the most critical objectives in the monk seal recovery plan. We believe a campaign-style model is the best way to achieve this, and all agencies should make contributions irrespective of their agency cultures and agendas. In sum, there needs to be a unified, well-coordinated, and adequately funded campaign to replace the current situation of diffuse actors and hard-to-measure results.

The objectives of the campaign should be focused on actions that significantly reduce seal mortality, minimize or eliminate human-caused or controllable threats to population growth, and build greater public support for the seal's presence in Hawai'i. The most strategic way to achieve these objectives are by:

- Conducting robust field research camps and animal rescue operations in the NWHI throughout the year to increase survivorship of female seals;
- Reducing and ameliorating monk seal interactions with humans and their pets in the MHI through beach monitoring, research on fisheries interactions, increased law enforcement patrols, and community engagement;
- Rescuing sick, wounded, and diseased seals in the MHI and rehabilitating them for release back to the wild;
- Conducting necessary population surveys and high priority research projects, such as interactions research and disease prevention, studies to guide management actions that keep seal populations healthy and growing; and
- Making the seal recovery program more transparent and accountable to the public, government officials, elected representatives, and stakeholders so that the program is understood, supported and adequately funded for the long term.

In the NWHI, the federal government must provide a dedicated vessel for transportation and adequate funds for facilities and field camps so that the managers of Papahānaumokuākea can do their jobs. Because the NWHI harbors the largest number of seals, all reasonable actions should be taken to stop the population's decline there. Seals that otherwise could be saved are dying in the NWHI because the federal government is not spending enough to move agency staff to and from the monument on a schedule that allows them to accomplish their missions.

In the MHI, establishing an effective community engagement program to deal with ongoing seal interactions that create hostility toward seals and toward NOAA is critically needed. This is an indispensable requirement for seal recovery; continued seal killings are unacceptable. The recovery of the Hawaiian monk seal is likely to remain difficult until the animal becomes more accepted by fishing communities, or at least tolerated in a spirit of coexistence. The most challenging problem faced by NMFS and DLNR is gaining the trust and cooperation of local communities and ocean users. NMFS and DLNR need to execute an effective outreach strategy that builds trust with major stakeholder groups and involves them in managing the seal.

As trust is obtained, the agencies can increasingly focus on preventing negative human-seal interactions and on mitigating the ones that do occur. This will require fishermen to accurately report their interactions, not just complain about them. Achieving coexistence between humans and seals is not a pipe dream if all sectors work in good faith to find practical solutions to interactions problems.

Appendix:

Human Interactions with the Endangered Hawaiian Monk Seal

January 2014



A seal rests on the beach. Photo: NOAA

Monk Seal Interactions in Hawaii

Lay Gillnet Fishing

Type of Fishery

Subsistence, Recreational, or Small-scale Commercial

Description of fishery

Stationary lay gillnets are used in near shore waters by subsistence, recreational and small-scale commercial fishermen. Lay nets may also be known as “set”, “cross”, “paipai”, or “moemoe” nets. A lay gillnet may be used to catch reef fish such as manini, mullet, nenu, papio, ‘o’io, weke or all goatfish species, ‘awa’awa, and moi.

Lay gillnets are used throughout the Main Hawaiian Islands, except on Maui where they are banned. Gillnets also are banned in areas of Western Hawai‘i and at the following areas on O‘ahu: Portlock Point to Keahi Point, Kailua Bay, and Kāne‘ohe Bay.

State Requirements and Gear Used

State regulations on gillnet gear may be found at http://state.hi.us/dlnr/dar/regulated_gear.html. The lay gillnet is constructed from clear, monofilament nylon line. Floats are attached to the top of the net and weights at the bottom to hold the net vertically in the water in a stationary position. Gillnets may be used to a depth of 25 feet without a license, or at a depth of 80 feet with a license. Lay gillnet mesh must have a minimum stretched size of 2-3/4 inches, a maximum dimension of 125 feet long by seven feet wide, and cannot be multi-paneled. The net must be registered with the DLNR; four identification tags must be present, as well as two buoys that display the net’s identification number.

By law, gillnets are supposed to be set during the period commencing 30 minutes before sunrise, and removed no later than 30 minutes after sunset. A fisherman may only use one net at a time. The net must be placed at least 250 feet from another set net. It is unlawful to leave a net soaking for more than 30 minutes unattended, and the net must be checked every two hours for by-catch.



Monk Seal Interactions in Hawaii



Lay Gillnet Fishing

A particular net cannot be used for more than four hours; once withdrawn, the same net may not be used again for 24 hours. A fisherman must also be aware of where he or she is placing the net. A lay gillnet should not break off or bring up stony coral. It is illegal to discard a gillnet on the beach or in the water, as this can lead to seal, turtle and bird entanglements, or to the unintentionally killing of more fish that may get caught in it.

Monk Seal Interactions

Although some fishermen complain that monk seals rob fish from their nets and damage their gear, the number of interactions between gillnet fishers and seals that have been documented by NOAA are few due to lack of reporting by fishermen. Some fishermen say that the illegal use of gillnets at night accounts for alleged seal depredations because the nets are left out too long without being checked. The truth about seal depredations is further complicated by the fact that other species, such as sharks, sea turtles, and large predatory fish (e.g., ulua), may eat fish caught in nets. In short, the frequency and magnitude of monk seal interactions with gillnet fishers is hard to pin down, and is impossible to estimate with any accuracy. The timely reporting of incidents would go a long way in correcting this situation.

Dead monk seal in a gillnet. NOAA



Monk Seal Interactions in Hawaii



Lay Gillnet Fishing

Impact on Seals

Lay gillnets can be lethal to seals that can get caught in them and either strangle or drown. For the period 1998-2011, a NOAA study documented twelve cases of seals entangled in gillnets; six seals died as a result.

Impact on Fishermen

Seals may take and eat fish caught in nets, or may tear a net when struggling to free themselves from entanglement. Fishermen usually are able to repair minor net damage. If a seal becomes entangled in a net, a fisherman could lose his entire catch. The replacement cost of a severely damaged or lost net can run from \$100 to \$300 per net, depending on its size. The magnitude of seal impacts on gillnet fishermen cannot be realistically estimated without better reporting by fishermen or research surveys.

Seal entangled in fishing nets. NOAA



Monk Seal Interactions in Hawaii



Lay Gillnet Fishing

Avoiding Interactions with Seals

Complying with state gillnet fishing regulations, including not using a net at night, will help reduce interactions with seals. It is especially important that gillnet fishermen avoid setting their net in areas where one or more seals are known to be present or hanging around, especially a mother and her un-weaned pup or a juvenile seal that has little familiarity with nets.

In order to help NOAA understand the nature and frequency of seal depredations and to identify nuisance seals, fishermen should report all incidents of seals stealing fish or tearing their nets immediately. The toll-free hotline number is **(888)256-9840**; the number is staffed 24/7. NOAA may be able to intervene to scare away a depredating seal or relocate it, depending on circumstances.

It is important to call NOAA immediately when a seal has been ensnared, so that a seal rescue effort may be mounted quickly. This provides NOAA with the best chance of identifying the seal and opens up the possibility that responders may be able to intervene in order to prevent future negative interactions, and to intervene before the seal dies.

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Monk Seal Interactions in Hawaii

Shore Casting for Reef Fish

Type of Fishery

Recreational and Subsistence

Description of fishery

Shore fishing for reef fish is a very popular activity throughout the Hawaiian Islands. Shore casting includes use of slide-bait pole rigs for ulua (giant trevally), whipping for papio, dunking for several species, and spin casting. Although monk seals may be incidentally hooked in several shore fisheries, ulua fishing by far has the most frequently documented impacts on monk seals. Ulua are predatory fish that feed on smaller reef fish, octopus, and eel. Ulua can weigh between 10 and 191 pounds (state record). They like to feed in the evening along rocky and sandy ledges close to shore when the tide is high. Good ulua fishing spots are closely guarded by fishermen who have a “magic” or “secret” spot where they regularly fish.

State Requirements and Gear Used

State regulations for reef fishing can be found on the Hawai'i Department of Land and Natural Resources website (<http://state.hi.us/dlnr/dar/regulations.html>). Regulations state that an ulua must be a minimum size of 10 inches to be kept, or 16 inches if it is sold; there is a daily bag limit of 20 ulua.

Because of their size, large ulua are best caught with a strong steel hook, steel leader and 200-300 pound test line. Most fishermen use a circle hook with barb to hold their live bait. Ulua gear can be very difficult to cast, so some fishermen swim the weight and hook to the desired location. The bait is usually a live reef fish, squid, octopus, or eel. The baited hook is placed just behind the wave line or below a rocky ledge, where it floats and attracts the predatory fish. The fishing pole is anchored in the sand or rocks. When a strike is felt, the line is pulled tight and reeled in.



Monk Seal Interactions in Hawaii



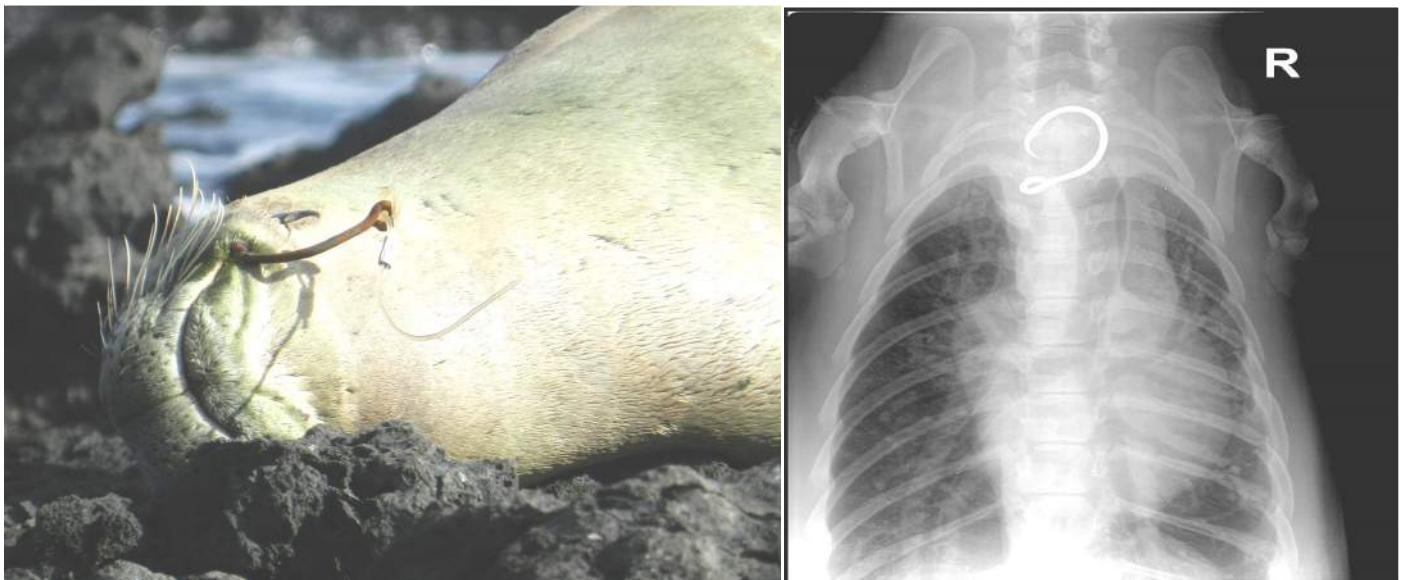
Shore Casting for Reef Fish

Monk Seal Interactions

A seal foraging along the reef may see the live bait set for ulua and attempt to steal it; octopus and squid are both part of the seal's diet. In attempting to take the bait, a seal may get the hook caught in its mouth area (most common), or worse, swallow it. A hooked seal will: (1) attempt to throw the hook and leave, (2) break the line and depart with the hook in its mouth, or (3) be cut loose by a fisherman with the hook still in its mouth. Some fishermen claim the seal may be 'played' in to shore where the fisherman will attempt to remove the hook, but it is not known how often this happens. Once a seal has departed with the hook, it may later lose it, or carry it around, often with a piece of line dangling from its mouth—a clear sign the seal has been hooked. If the hooked seal is reported by the fisherman who hooked it, or later seen and reported, a NOAA Fisheries response team will attempt to find the animal as quickly as possible and remove the hook.

Seals are opportunistic feeders, which means they will seek out a variety of prey at different locations, including popular fishing spots. Seals that have been conditioned to seek bait or discarded fish at popular fishing grounds have an increased risk of getting hooked, and may become nuisances. If a seal is hauled out at a fishing spot or in the water when a fisherman arrives, some fishermen may attempt to chase it away with a stick, by throwing rocks at it, or by making noise in hopes it will leave the area—actions that constitute harassment.

Monk seal with a circle hook stuck in its mouth and a monk seal that ingested a hook. NOAA



Monk Seal Interactions in Hawaii



Shore Casting for Reef Fish

Impact on Seals

Monk seals have more documented interactions with ulua fishing gear than with any other kind of shore casting gear. According to a NOAA study, of the 118 incidents of hooked or entangled seals documented between 1976 and 2011, 92 of the incidents involved seals with a large hook in their mouth, cheek, outer body or digestive track. Hooked seals were documented at all islands, but most frequently at Kaua'i and O'ahu. There is no estimate of how many unreported hooked seal incidents may have occurred during the same period.

Most hooked seals documented by the NOAA study either were found to have thrown the hook on their own, or had the hook successfully removed by a NOAA response team. One seal died from an ingested hook according to the study. Other seals are likely to have died, given the fact that some identified hooked seals were never seen again.

The frequency of hooked seals has increased with the growth of the seal population in the Main Hawaiian Islands. In 2012, NOAA documented 15 incidents of hooked seals, three of which died of their wounds, an increase from previous years. Nonetheless, NOAA says that although the increased rate of hooking incidents is worrisome, these incidents do not currently pose a threat to the growth of the monk seal population in the MHI.

It is critical to address shore casting interactions now to keep seal hookings to a minimum. The best way to avoid government regulation and intervention is to minimize monk seal hookings and interactions by following NOAA guidelines and reporting all interactions to NOAA immediately (see below).

Impact on Fishermen

Seal interactions with fishermen may have several effects. If a seal is seen while a fisherman is setting up, the fisherman may have to move someplace else or wait until the seal departs the area. Once the bait is in the water, a fisherman may stop fishing or move to another spot if a seal shows up. Seals are known to steal bait and catch. If a seal is hooked by a fisherman, the line may break or need to be cut. Lost fishing gear has an estimated replacement cost of approximately \$5-\$7 per incident. However, the cost of the lost gear would not be the major frustration for the fisherman; the loss of fishing time or loss of catch would be.

Monk Seal Interactions in Hawaii



Shore Casting for Reef Fish

Avoiding Interactions with Seals

Ulua fishermen can take a number of actions to avoid interacting with seals. Guidance may be found in several fact sheets on NOAA's web site. See especially "How to Prevent Seals From Getting Your Fish and Bait." (<http://www.fpir.noaa.gov/Library/PRD/Hawaiian%20monk%20seal/Fact%20Sheets/HMS-avoidance.2-15-11.pdf>). General guidance is provided here:

- If a seal is at the desired fishing area upon arrival, or one is encountered while fishing, stop fishing until the seal leaves or move your location.
- Use barbless circle hooks instead of barbed ones. Barbless hooks come out more easily than do barbed ones.
- Do not feed seals or discard old bait or scraps into the water if a seal is present. This may condition the seal to seek additional food at your site.

If a seal is accidentally hooked, immediately report the hooking to NOAA Fisheries at **(888) 256-9840**. This hotline is manned 24 hours per day. If possible, reel in the line carefully and cut the line close to the seal. Take care not to jerk the line, as this may set the hook more firmly in the seal. Report the location, time, and any distinguishable markings or tag number on the seal if visible. DLNR and NOAA recently applauded the action of one responsible fisherman on Maui who promptly reported a monk seal encounter during which he inadvertently hooked a monk seal at West Maui.

NOAA depends on the public, fishermen, volunteers in the NOAA seal response network, and others to report seal hooking incidents or the location of a seal seen with a hook or line in its mouth. A NOAA response team will attempt to capture the seal, and either remove the hook in the field or at a surgery facility as necessary. The sooner an injured seal is reported, the more likely the hook will be successfully removed. In almost all of the 88 documented hooking incidents documented by NOAA, the seal has either lost the hook or it was removed with minimal intervention.

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Monk Seal Interactions in Hawaii

Recreational Diving

Description of Activity

Snorkeling and scuba diving for pleasure (hereinafter referred to as diving) is a major recreational activity in Hawai'i for residents and tourists. Diving may be done by individuals on their own, or with excursion and eco-tourism companies. It is not unusual for a diver to encounter a monk seal on a dive, though many divers may never see one.

State Requirements and Gear Used

The state of Hawai'i requires that a vessel deploying divers must display a dive flag. No other vessel may come within one hundred feet of a displayed diver flag. Divers not launching from a vessel must display a buoy/float with a flag to mark their dive. Divers use regulation dive equipment, including BC, mask, snorkel, weights, tank, regulator, and fins.

Monk Seal Interactions

There are sufficient reports, anecdotal stories, and YouTube videos to conclude seal interactions are occurring with divers on a regular basis. However, it is difficult to know how often divers interact with monk seals and whether interactions are increasing because no statistically valid survey has been conducted. Although NOAA asks that diver-seal interactions be reported via a toll-free hotline, the agency receives relatively few reports from divers or ecotourism operators.

MCI has been working with community members to assess how often recreational divers interact with monk seals. Divers have claimed there are 'hot spots' where seals may be observed regularly. At Kaua'i, seals are reportedly seen frequently at Lehua Rock and about ten percent of the time on dives off the North Shore. Other locations known to have seals include Sharks Cove, Firehouse, Kahe Point, and Lāna'i Lookout. Seal hot spots also are said to exist at other islands.



Monk Seal Interactions in Hawaii



Recreational Diving

The kinds of seal interactions divers have vary depending on circumstances and the age of the interacting seal. More often than not, recreational divers state that a seal will become curious for one to two minutes and then swim away. Juvenile seals are the ones that usually investigate divers. Adult seals are not as curious, so they may swim to another area when a diver enters the water, or when they detect a dive vessel nearby. From photos and video footage, officials know some divers intentionally engage seals by swimming with, touching, or feeding them. These activities habituate (or condition) seals to engage with humans and make it more likely seals will seek interactions with other divers. Feeding seals, also known as provisioning, is a particular problem in that it is believed to make seals aggressive beggars. There have been allegations of divers and eco-tourism operators feeding seals as a way to keep them hanging out in a particular area for viewing, but this has not been documented or proven.

Snorkelers swimming too close to a Hawaiian monk seal. NOAA.

Impact on Seals

Divers that interact with seals by swimming with, touching, or feeding them harm seals by making them less wild. Seals conditioned to seek interactions are at risk in two ways. First, if a seal is aggressive, it could lead to an encounter that could be dangerous for the diver and/or the seal. Second, a conditioned seal that regularly engages with people risks being removed from its home to another site or taken into captivity.



NOAA keeps a list of “seals of concern” that interact with people too often, or in threatening or harmful ways. Problem seals are monitored by NOAA field biologists, who may first attempt to extinguish the behavior by hazing in hopes it will stop the behavior. If a seal persists in bothering divers, it may be captured and relocated to an area where there are fewer people. Sometimes several relocations are carried out to deter continued interactions. If this doesn’t work, NOAA may move the seal to another island. If NOAA determines that a seal is having “unmanageable human interactions” with people, the animal may be taken to the Northwestern Hawaiian Islands where they are isolated from humans, or placed in captivity. These relocations are extremely costly and divert resources away from other activities, in addition to threatening the overall species’ recovery by removing healthy animals from the main Hawaiian Islands population.

Monk Seal Interactions in Hawaii



Recreational Diving

Impact on Divers

Overly aggressive seals pose a safety risk for divers, whose human limitations are unknown to a seal. When looking for a playmate or food, a seal could pull a swimmer under water, block a diver from getting to the surface, or nip a diver. NOAA has documented 10 cases of interactions involving habituated seals for the period 1991-2011. In five of these cases a seal bit a diver or swimmer (2003-2009). Seals may also 'rough up' a diver. For example, MCI documented one case of a curious seal attempting to remove the hood of a diver. Fortunately, there was no injury to the diver. In 2013, a curious juvenile seal bit two swimmers preparing for the Hawaii Ironman event; the injuries were minor. Tellingly, the seal had already had previous interactions with people.

If a seal feels as though a diver is encroaching on it, the seal may bark at the diver. Divers or swimmers that approach a mother seal and her pup are especially at risk. The mother seal is like any other mother and will protect her young. The best form of protection seals have is their teeth. Three of the five bite cases documented by NOAA between 1995-2011 occurred during mother-pup interactions with divers or swimmers.

Avoiding Interactions with Seals

The NOAA Fisheries Pacific Region Office and the Pacific Islands Science Center post several documents on their respective web sites that urge people to avoid interactions with monk seals insofar as practicable, and to deal properly with interactions that do occur [http://www.fpir.noaa.gov/Library/PRD/Hawaiian%20monk%20seal/HMS-fishing_guidelines-FINAL-PUBLIC.pdf]. Guidelines relevant to recreational divers are summarized here:

- If a seal is encountered while diving, get out of the water and see if the seal will move on.
- A diver should never engage a seal by invading its space and should never try to touch the seal. These types of interactions could lead to the seal becoming familiar with humans and create relationships that are not beneficial to humans or seals.
- Do not feed seals anything to avoid conditioning the seal to associate food with divers.
- Cautiously move away from a mother seal that is shielding her pup.
- If an aggressive seal bothers a diver, NOAA recommends the dive be ended as soon as safely possible.

Monk Seal Interactions in Hawaii



Recreational Diving

Seal hugging diver. WildHawaii.org



It is important to note that divers have the right to protect themselves if they feel their safety is imminently threatened by an aggressive seal. Ultimately, the best practice is to avoid any interactions with seals at all, but if approached by an aggressive seal, the diver should take defense or evasive action, exit the water as soon as safely possible, and call authorities immediately to alert them to the encounter.

To report unusual interactions or problems with seals, divers should call this toll free number maintained by NOAA (888-256-9840). The line is staffed around the clock. The diver should be prepared to provide as much identifying information as possible about the seal (a bleached number on the animal or flipper tag number, size, etc.), and the specific location and details of the encounter. In summary, by engaging in proper behavior and reporting, recreational divers can reduce the negative impacts seals have on them, as well as their impacts on seals.

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Monk Seal Interactions in Hawaii


Seals and Beachgoers

Description of Activity




As the number of Hawaiian monk seals in the Main Hawaiian Islands increases, so will the number of encounters and interactions that beachgoers have with seals. Monk seals are frequently seen hauled out on beaches where they are sleeping or resting. Monk seals also come on land to give birth and nurse their pups, and to molt. Because of the difficulty seals have moving on land, hauled out animals are especially vulnerable to disturbance by people and dogs.


Legal Protections and Management



The Hawaiian monk seal is listed as an endangered species under the federal Endangered Species Act (ESA) and designated a "depleted" species under the Marine Mammal Protection Act (MMPA). Both the ESA and MMPA have provisions that direct NOAA to protect depleted and listed species from harm and encourage the recovery of these populations.



The MMPA prohibits the "take" of any marine mammal. "Take" includes actions such as hunting, harassing, killing, capturing, injuring and disturbing a marine mammal; the law also prohibits the feeding of any marine mammal in the wild. The penalty for feeding a seal may be as much as \$6,000 depending on the circumstances. The ESA prohibits the "take" of a threatened or endangered species listed under the act. Under the ESA, "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a listed species, or to attempt to engage in any such conduct. The take of a listed species may result in a federal fine of up to \$50,000 and up to one-year in jail.



The State of Hawai'i also lists the Hawaiian monk seal as endangered under the state's endangered species law. The intentional taking of a seal is a third-degree (Class C) felony. NOAA Fisheries and the State of Hawai'i Department of Land and Natural Resources (DLNR), cooperate in monitoring and protecting seals on beaches and in near shore waters. A phone call to a NOAA hotline (888-256-9840) alerts the NOAA response coordinator that a seal is present at a particular site. Then, depending on the location, behavior and condition of the seal, a seal

Monk Seal Interactions in Hawaii



Seals and Beachgoers

volunteer may be dispatched to monitor the situation. Alternatively, the response coordinator may go to the site. Volunteers are trained and supervised by NOAA, but have no law enforcement powers.

Usually, the volunteer will set up a ‘seal protection zone’ (SPZ) around the seal using a rope, cones or signs. The SPZ helps to prevent disturbance of the seal and enhances public safety. The volunteer’s job is to provide beachgoers with valuable conservation and life history facts about the monk seal, as well as encourage responsible viewing of the animal from a safe distance.

Seal laying on beach. NOAA



SPZs are especially important in cases of pupping events or when a seal hauls out on a densely populated beach, like Poipu Beach on Kaua’i or Waikīkī Beach on O’ahu. If the creation of a SPZ is not appropriate, volunteers may nonetheless stay on site to alert beachgoers about the presence of the seal and advise them about responsible viewing.

A recent public perception survey funded by NOAA found that 66% of respondents agree with the current practice of establishing SPZs, but some think the boundary around a seal is a legal boundary. An SPZ is not a legally closed area, but rather a management tool. It is legal for a person to cross into or through a SPZ. However, it is illegal to disturb or harass a seal--a violation that could result from a person getting too close to a seal within the SPZ. In order to avoid disturbing seals and keep themselves safe, beachgoers voluntarily should respect the SPZ as an off limits area.

Impact on Seals

Some beach users who do not respect the seal as part of Hawai’i’s natural heritage may engage in a variety of behaviors that may be considered violations of state or federal law. These behaviors include disturbing a seal with noise, touching or sitting on a seal, scaring a seal into the water, playing with a seal, or injuring a seal by poking it or throwing rocks at it. Also, feeding a seal is illegal. A beachgoer’s dog could harass or bite a seal, raising the possibility of transmitting canine distemper to the bitten seal (which could transmit it other seals or other dogs). Each of the four major counties requires dogs to be leashed and under control.

Monk Seal Interactions in Hawaii



Seals and Beachgoers

The major reason for avoiding direct human interactions with monk seals is to prevent seals from becoming accustomed to people. A monk seal that becomes comfortable with humans is likely to seek out more human contact. While this may seem harmless or even amusing to some, a seal that becomes a nuisance may have to be relocated to another site or island, to the Northwestern Hawaiian Islands, or even taken out of the wild into captivity to ensure the safety of beach users.

Impact on Beachgoers

One or two monk seals on a beach should have very little impact on beachgoers if people keep their distance. It is usually rather simple to pass by a seal at a reasonable distance to avoid disturbing it. Although a resting seal may appear harmless, it can become aggressive if startled or threatened and may bite. Therefore, it is important to keep a safe distance from monk seals encountered on beaches and in the water, and to follow the advice of seal volunteers. Conditioned seals are a problem in that they may try to ‘play’ with swimmers or snorkelers, which poses a safety threat. There are several documented cases of swimmers and divers being harassed or bitten by a seal.

Hawaiian monk seal on the beach. Rosenstiel



Monk seal volunteers should never attempt to stop beachgoers from enjoying the beach or entering the water when a seal is around, as they have no authority to do so. However, in an effort to better educate beachgoers about monk seal health and public safety, volunteers may inform beach users about the presence of a seal and offer advice on keeping a safe distance to maintain their safety and avoid disturbing the seal. Disturbing, harassing or harming a monk seal is a violation of federal law. Hawai'i Revised Statutes Chapter 115 protects public access to coastal areas, and only county or state officials may close a beach to the public. If a beachgoer feels that a volunteer has infringed upon their public access rights, they should contact the Marine Mammal Response Network Coordinator at (808) 944-2269 or (808) 944-2285.

Avoiding Interactions with Seals

Marine animals, such as monk seals, sea turtles and dolphins are part of Hawai'i's identity and hold a special place in the minds and hearts of the people of Hawai'i. Individual seals may react differently to people, so carefully observe any seal and move back or leave the area if the animal shows signs of being disturbed.

Monk Seal Interactions in Hawaii



Seals and Beachgoers

- It is natural for monk seals to come ashore or haul out on the beach for long periods of time. Please give them the space they need to rest.
- Seal protection zones around seals on the beach are for your safety and the seal's protection. Please do not enter these areas.
- Cautiously move away if you observe the following monk seal behaviors:
 - Female attempting to shield a pup with her body or by her movements
 - Vocalization (growling, barking) or rapid movement away from people or dogs
 - A sudden awakening from sleep
- Do not pour water on resting or sleeping seals or attempt to push them into the water; they are able to live outside the water and can get back into the ocean on their own.
- If approached by a seal, move away to avoid interaction.
- Obey county leash laws and keep your dog on a leash in the presence of monk seals to avoid injury or disease transmission to the seal and to protect your dog.
- In the ocean, monk seals may exhibit inquisitive behavior. Approaching or attempting to play or swim with a seal is harmful to the seal and could be dangerous to the swimmer. Cautiously move away from the seal and exit the water.

NOAA and DLNR depend on the public to report monk seal sightings on beaches or in the water close to beaches. Monk seal sightings may be reported to the following NOAA offices:

Oahu: (808) 220-7802

Kauai: (808) 651-7668

Molokai: (808) 553-5555

Maui/Lanai: (808) 292-2372

Island of Hawaii

East: (808) 756-5961

West: (808) 987-0765

or email pifsc.monksealsighting@noaa.gov

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Monk Seal Interactions in Hawaii

Spearfishing

Type of Fishery

Subsistence and Recreational

Description of fishery

Spearfishing is conducted mainly in nearshore waters by divers who enter the ocean from the shoreline or from vessels. The targeted species are ulua, tuna, mahimahi, uhu, manini, nenu, aholehole, mu, palani, kala, weke (all goatfish species), and octopus. Shore divers target reef fish and octopus. Boat-based divers usually target pelagic species.

State Requirements and Gear Used

A state license is not required for spear fishing, but fishermen should follow regulations set by the state Department of Land and Natural Resources (DLNR) (<http://dlnr.hawaii.gov/>). DLNR regulations specify the time, place, and manner of spear fishing. Importantly, state regulations prohibit the spearing of any salt water crustaceans, sea turtles, or marine mammals.

Two types of gear may be used: (1) a pneumatic spear gun that fires a single shaft with an attached line; or (2) a hand-held three prong spear which is launched by an elastic band attached to its base (known as a Hawaiian sling). Some fishers place their catch in a closed float bag or other floating device (open or closed) that is attached to the fluorescent orange dive buoy, which is required by law to mark active dive sites. Other fishermen let their catch dangle from the buoy on a stringer known as a kui. Some fishermen attach a kui to their dive belt, keeping their catch close to their bodies, but visible to seals.



Monk Seal Interactions in Hawaii



Spearfishing

Monk Seal Interactions with Fishermen

There are many anecdotal reports and YouTube videos of seals interacting with spear fishermen, but most interactions are not reported to NOAA Fisheries or to the state Department of Land and Natural Resources (DLNR). Thus, there is no reliable way to estimate how frequently seals interact with divers, or to characterize the outcomes of these interactions. However, seal-diver interactions are known to occur regularly at certain locations based on information provided by local divers.

Seals are curious, and it is not surprising they are attracted to divers, especially ones hunting fish. When a seal encounters a spear fisherman in the water, it may attempt to play with the diver, go after a speared fish, or seek to take fish from the catch stored at the dive buoy or on the diver's belt. Spear fishermen say some seals have learned to follow them around, waiting to swoop in after a fish is speared or at the sound of a spear shot. Seals are said to be clever, aggressive fish-stealers.

Seal shot with a spear on Rabbit Island, O'ahu. NOAA



Impact on Seals

Seals interacting with spear fishermen put themselves at risk in both the short and long term. For example, some fisherman might break the law by hitting, poking or sticking the seal to make it go away; or the seal could be accidentally hit by a spear. Divers may also feed the seal a fish or fish scrap to make it go away or 'to pay respect to the ocean', but this conditions the seal to associate divers with food. Tragically, an inexperienced or frightened diver might even shoot a threatening seal in self-defense. In 2013 a seal was wounded by a spear (see photo above), but the circumstances of the incident have not been determined.

Certain seals conditioned by feeding may become aggressive with divers, and thus are considered a nuisance. NOAA keeps a list of "seals of concern" that have begun to interact with people too frequently or in potentially threatening ways. Problem seals are monitored by NOAA field biologists, who first attempt to scare them away in hopes they will not come back. If displacement techniques do not work, a seal may be captured and relocated to an area where there are fewer people. Sometimes several relocations are carried out to deter continued interaction with divers. If this doesn't work, NOAA may move the seal to another island, or to the Northwestern Hawaiian Islands.

Monk Seal Interactions in Hawaii



Spearfishing

Impact on Fishermen

The major complaint of spear fishermen is loss of catch. A seal is particularly attracted to fish that have been speared or put on kuis where they are easy game for a seal. Some seals may learn to shadow spear fishermen for the very purpose of stealing fishing, but it is not known how many seals fit this description due to lack of reporting by fishermen and the difficulty of confirming a seal's identification tag number underwater. Certainly, the loss of catch is a nuisance, as is having to stop fishing until the seal leaves or moving to another location. However, many fishermen consider these impacts a 'cost of doing business' in the seal's home.

Some divers also complain they are harassed by seals. An aggressive seal could potentially harm a diver (e.g., by bumping, biting, nipping or pulling off the diver's mask). NOAA has documented about 10 incidents of seals biting, mouthing or nipping swimmers, divers or spear fishers since 1991. However, it is thought that many of the less serious incidents are not being reported. Until more seal interactions are reported and more accurate data is collected, NOAA and DLNR will continue to struggle in their quest for long term solutions to diver-seal interactions. Reporting interactions is a key way for divers to play a role in creating community-based solutions.

Monk seal taking fish from a kui. NOAA



Monk Seal Interactions in Hawaii



Spearfishing

Avoiding Interactions with Seals

NOAA circulates a handout, “Guidelines for Prevention, Safety and Reporting,” that urges fishermen to avoid interactions with monk seals insofar as practicable, and to deal properly with interactions that do occur [http://www.fpir.noaa.gov/Library/PRD/Hawaiian%20monk%20seal/HMS-fishing_guidelines-FINAL-PUBLIC.pdf]. Guidelines relevant to spearfishing are as follows:

- Do not feed seals old bait or fish scraps or fish to avoid conditioning the seal to associate food with divers.
- If a seal is encountered while spear fishing, take a break and get out of the water, to see if the seal will move on. Alternatively, move to a different dive location.
- If an aggressive seal bothers a diver, NOAA recommends the dive be ended as soon as safely possible, and the dive location changed. The incident should be reported to NOAA (see below).
- Reduce fish attractants in the water by removing caught fish from the water or putting them in a sealed float bag; do not throw unwanted fish back into the water if a seal is present.

NOAA urges fishermen to report significant interactions soon after they occur so the agency can identify, monitor and deal with a seal that is causing problems. To report interactions, fishermen should call this toll free number which is manned 24/7: (888)-256-9840. In sum, by following the guidelines and reporting seal encounters, spear fishermen can reduce the negative impacts seals have on them, as well as their impacts on seals.

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