

NATURAL HISTORY AND CONSERVATION

of the Hawaiian Monk Seal

NATURAL HISTORY

Things You Should Know About the Hawaiian Monk Seal

The Hawaiian monk seal:

- Has many traditional Hawaiian names, including ʻiliokai (“dog of the sea”), ʻilioholoikauaua (“dog running in the rough seas”), and mea hulu (“furry one”)
- Is part of a healthy Hawaiian ecosystem
- Is endemic to the Hawaiian Islands archipelago and Johnston Atoll, meaning it is native and exists nowhere else on Earth
- Is one of only two living mammals native to Hawaiʻi’s terrestrial environment
- Is one of the most endangered animal species in the world — only about 1,400 seals are left
- Is protected by the Marine Mammal Protection Act, Endangered Species Act, and Hawaiʻi state law
- Is Hawaiʻi’s official state mammal



Taxonomy

The Hawaiian monk seal, *Neomonachus schauinslandi*, is one of only three species of monk seals and the only seal in the world that’s found in the tropics.

- The Caribbean monk seal is extinct, with the last wild animal seen in 1952.
- There are between 600–700 Mediterranean monk seals remaining in the wild.



Kingdom: Animalia
Phylum: Chordata
Class: Mammalia
Order: Carnivora
Family: Phocidae
Genus: *Neomonachus*
Species: *schauinslandi*

Physical Description

- Adult Hawaiian monk seals are about 6–7 feet in length and weigh up to 400–600 pounds.
- Their maximum age is 30–35 years.
- Monk seals molt, or shed the top layer of their skin and fur, once a year.
- Males and females are similar in size and appearance.

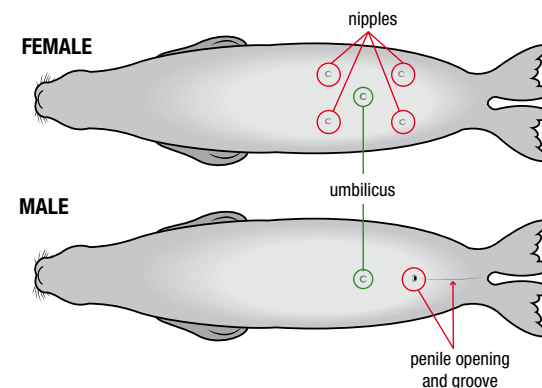


How to Tell Seals Apart

Most Hawaiian monk seals have unique natural markings, such as scars, that help identify individual seals. Some seals have identifiers, such as flipper tags and/or temporary bleach marks, which are applied by authorized NOAA Fisheries personnel to help track individual animals.



The only way to confirm whether a seal is female or male is by looking at its belly:



Diet

Based on data from diet studies, Hawaiian monk seals:

- Are “generalist” feeders that eat a wide variety of prey species, focusing primarily on a diverse range of fish and cephalopods (octopuses and squid)
- Feed mostly in water less than 200 feet deep, though they can dive down to more than 1,800 feet deep
- Hunt day or night for easy-to-catch prey, especially those that live on or near the ocean floor and hide in the sand or under rocks (in contrast, most of the locally popular gamefish that fishermen catch, including ulua, ahi, and mahi-mahi, spend their time swimming in open water)
- Weigh an average of 300 pounds as adults and eat up to 5% of their body mass (about 15 pounds) each day

Main Threats to Hawaiian Monk Seals



- **Northwestern Hawaiian Islands (NWHI):** Starvation, unusual shark predation on pups at one atoll, and aggressive male seals attacking other seals
- **Main Hawaiian Islands (MHI):** Human disturbance
- **Both NWHI and MHI:** Entanglement in marine debris and fishing gear, habitat loss due to climate change and human development, and infectious disease and biotoxins

Threats impact seals in the MHI and NWHI differently. For example, 96% of all entanglements occur in the NWHI, where ocean currents cause derelict fishing nets to accumulate. On the other hand, most seals affected by diseases like toxoplasmosis (which is spread in cat feces) are found in the MHI.





You Can Make a Difference

- It is natural for monk seals to come ashore for long periods of time. **Please give seals space to rest, molt, give birth, and care for their pups.**
- **Monk seals are a protected species, and it is important that they are able to rest undisturbed while they are hauled out on land.** When observing resting monk seals, a good trick to use to figure out how much space to give them is the “rule of thumb.” Simply make a “thumbs-up” gesture and extend your arm out straight in front of you, with your thumb parallel to the ground. If your thumb covers the entire seal, you are far enough away!
- In the ocean, monk seals may exhibit inquisitive behavior. **Avoid approaching or “playing” with these seals.** If approached by a seal, move away to avoid interaction.
- Allow seals to remain wild and hunt for food on their own. **Feeding seals is illegal** and may cause them to become dependent on humans for food. This may decrease the seal’s chances of survival in the wild.
- When in the presence of a monk seal, please remember to **keep your dog on a leash at all times** to avoid injury and prevent disease transmission for both your dog and the seal.
- **Keep cats indoors** to prevent spread of the disease toxoplasmosis, which can be deadly to monk seals.

Assist Researchers and Help Seals:

Please report all seal sightings and human-seal interactions:

NOAA Fisheries monk seal hotline at: (888) 256-9840
email: PIFSC.monksealsighting@noaa.gov

How to Prevent Seals from Getting Your Fish and Bait

Fishermen are partners in ocean stewardship, and fishing has deep cultural roots in many local families. NOAA scientists are working with fishermen to conduct research to better understand and mitigate fisheries interactions. Seal conservationists and Hawai'i's fishermen have a lot to learn from each other while working together on marine conservation issues.



What can be done to minimize the possibility of a seal eating a fisherman's catch or stealing bait?

1. Don't feed the seals or discard old bait or scraps into the water if seals are known to frequent or are seen in the area. A seal that has been fed even once may associate humans with food and persistently seek out humans thereafter. This creates possible risks for humans and reduces the seal's natural instincts to hunt on its own, which hurts its chances for long-term survival in the wild.
2. Use a barbless circle hook. Barbless hooks help minimize hooking injuries and have been proven to be effective in catching fish and retaining bait. Live bait can be bridled and fished effectively. To learn more about barbless hooks, visit the Barbless Hook Project website: www.fisheries.noaa.gov/pacific-islands/recreational-fishing/barbless-circle-hooks.



3. If a seal is encountered while you are fishing, take a short break or change locations. Seals are curious creatures and investigate everything. Taking a short break from fishing while seals are passing through the immediate area may allow them to move through quickly.

Critical Habitat Designation

Critical habitat is a specific area, or areas, that contain natural features that are essential for an endangered or threatened animal or plant to survive, avoid extinction, and recover to a healthy population. A critical habitat designation does not directly impact your access or ability to recreate on the public beaches of Hawai'i. Critical habitat designation only directly affects federal activities: those that are federally authorized, carried out, or funded.



For more information on critical habitat and Hawaiian monk seal conservation and management efforts, visit:
www.fisheries.noaa.gov/species/hawaiian-monk-seal#conservation-management



NOAA Fisheries permit 18786

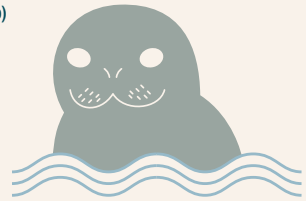


NOAA Fisheries
Pacific Islands Region
Visit our website for more information.
www.fisheries.noaa.gov/region/pacific-islands

HISTORICAL TIMELINE OF THE HAWAIIAN MONK SEAL

70 mya (million years ago)

A series of volcanic eruptions begins, eventually forming the islands of the Hawaiian archipelago.



10–11.6 mya

Monk seals as we know them today first appear in the oceans.

3.5–11.6 mya

Monk seals make their way to Hawai'i, presumably through the Central American Seaway, a previously existing open water passage between North and South America.

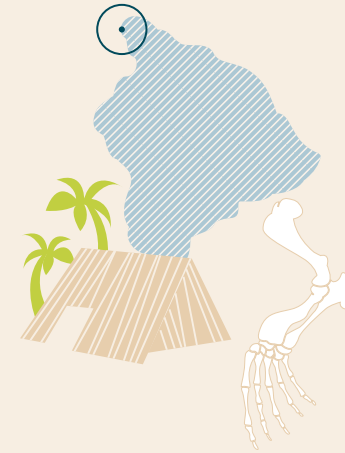


1000–1290 A.D.

The first Polynesian settlers arrive in Hawai'i.

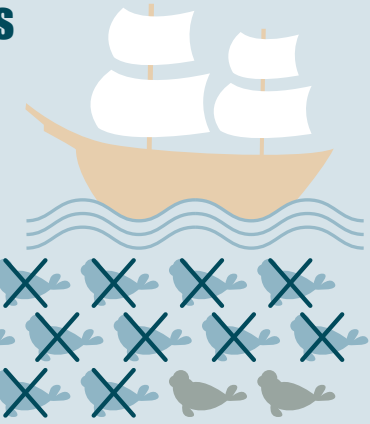
1400–1750

Hawaiian monk seal remains are buried in a Hawaiian midden (domestic waste pile) on the Island of Hawai'i. Archaeologists unearthed the bone during the summer field seasons of 1968–1970. This area was first settled around 600 years ago.



1800s to 1900s

Seal hunting expeditions during the middle 19th century reduced the Hawaiian monk seal population to near extinction across the Hawaiian islands.



Past to Present

Monk seals have lived in the Hawaiian archipelago for a very long time. Archeological and historical records indicate the seals have occupied the main Hawaiian Islands for at least the past several hundred years, and everything we know about monk seals suggests that the entire archipelago has served as monk seal habitat for millions of years.

1891

The first Hawaiian monk seal specimens were collected for science.



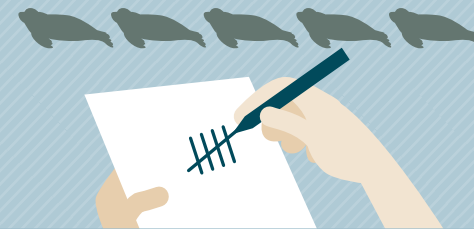
1905

The Hawaiian monk seal is given its scientific name, *Monachus schauinslandi* (changed to *Neomonachus schauinslandi* in 2015), after Dr. H. Schauinsland brought a seal skull back from Laysan Island in the Northwestern Hawaiian Islands (NWHI).



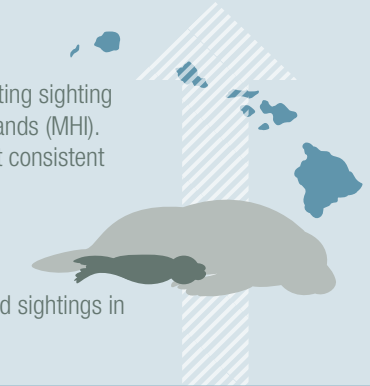
1956

Scientists conduct the first systematic survey to count the number of Hawaiian monk seals.



1982

NOAA Fisheries begins collecting sighting data in the main Hawaiian Islands (MHI). Sightings are fairly sparse but consistent throughout the 1980s.

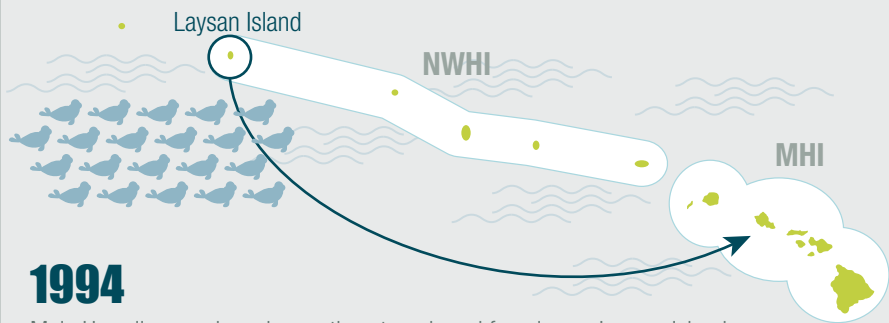


1990s

Hawaiian monk seal births and sightings in the MHI increase.

1994

Male Hawaiian monk seals greatly outnumbered females on Laysan Island, leading to high levels of male aggression, with some males injuring and killing female seals. To prevent the further loss of females, NOAA Fisheries relocated 21 adult males from Laysan to the MHI.



1995

National Geographic's "CRITTERCAM" investigations begin revealing new insights about foraging areas and feeding habits of the Hawaiian monk seal.



2000s

The revised Hawaiian Monk Seal Recovery Plan describes the threats facing the species and recommended actions needed to address those threats. Lt. Governor Aiona signs legislation establishing the Hawaiian monk seal as the official state mammal.

2014

The opening of The Marine Mammal Center's Ke Kai Ola hospital on the Island of Hawai'i represents a major step forward for the recovery of the Hawaiian monk seal population, as it is the first-ever rehabilitation facility devoted to this endangered species.

2016

NOAA Fisheries launches an effort to vaccinate Hawaiian monk seals against morbillivirus, a genus of virus that has killed thousands of marine mammals in other parts of the world and is also behind measles and canine distemper. This initiative is the first to ever try to vaccinate a wild marine mammal species.

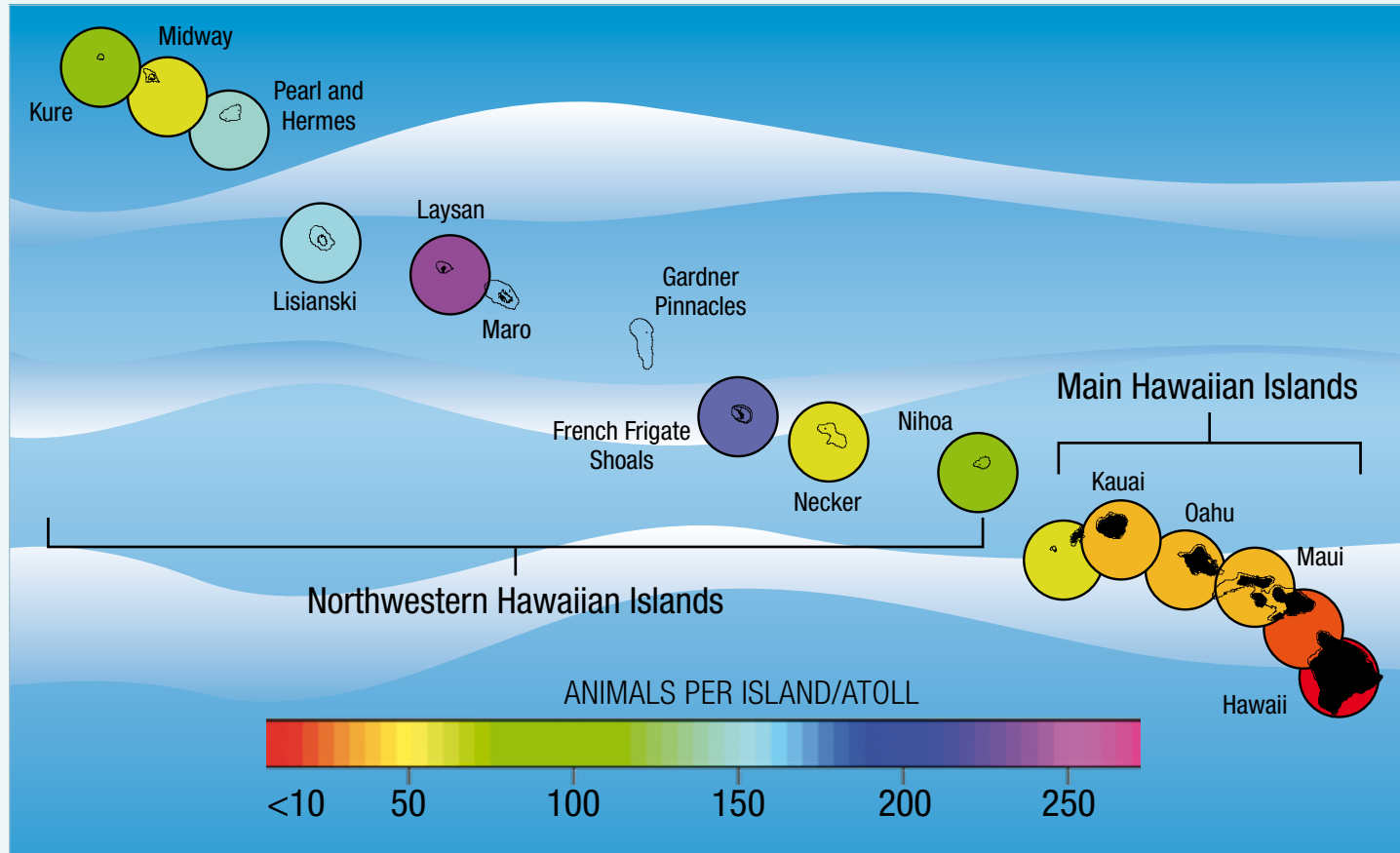


Today

About 30% of the Hawaiian monk seal population is alive today thanks to the recovery actions and interventions of NOAA Fisheries, such as disentanglement, rehabilitation, and more.

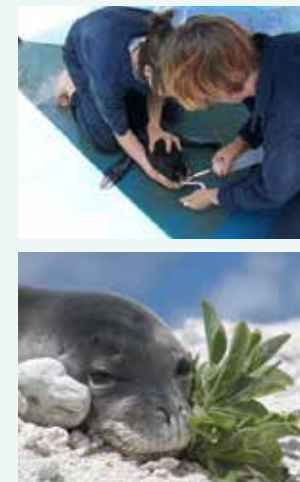
NOAA Fisheries Pacific Islands Region Recovering the Hawaiian Monk Seal

Hawaiian Monk Seal Population Across the Archipelago



- A prolonged decline in the already depleted NWHI monk seal population has been documented since systematic studies of the species began in the late 1950s, with an approximately 50% reduction between the 1950s and 1970s.
- The NWHI population declined at a rate of about 4% annually from 1998 to 2006. However, more recent data suggest the number of seals in the NWHI is stabilizing, in part due to NOAA Fisheries' recovery efforts.
- Seals in the MHI are generally in better body condition than seals in the NWHI.

- Limited prey availability has been a central factor in the decline of the NWHI population.
- The number of seal sightings and pups born in the MHI have increased in recent years.
- The MHI population appears to be increasing, which is promising for the population, but also poses management challenges as the number of monk seal-human interactions increases.



Moving Toward Monk Seal Recovery

NOAA Fisheries uses innovative science and past experience with monk seal recovery efforts to develop targeted strategies and management efforts to recover the Hawaiian monk seal population. Current and future recovery plans are designed to comprehensively address both ecological threats and emerging management issues related to human-seal interactions in the MHI.

Recovery strategies include:

- Studying feeding habits to understand regional differences in juvenile survival
- Relocating weaned pups from areas of low survival/high predation risk to areas of higher survival
- Disentangling and dehooking seals, and removing marine debris
- Developing tools for modifying undesirable monk seal behavior related to seal interactions with humans and fishing gear
- Understanding potential impacts of climate change on the survival and recovery of monk seals in the future, including habitat loss, emerging diseases, and changing food resources
- Continuing community and stakeholder outreach and education programs

Recovery Actions and Objectives:

- Investigate and mitigate factors affecting food limitation
- Prevent entanglements of monk seals
- Reduce shark predation on monk seals
- Minimize the risk of exposure to or spread of infectious diseases
- Conserve Hawaiian monk seal habitat
- Reduce Hawaiian monk seal interactions with fisheries
- Reduce male aggression toward pups/immature seals and adult females
- Reduce the likelihood and impact of human interactions
- Investigate and develop response to biotoxin impacts
- Reduce impacts from compromised and grounded vessels
- Reduce the impacts of contaminants
- Continue population monitoring and research
- Work with partners to rehabilitate Hawaiian monk seals and return them to the wild
- Implement the Main Hawaiian Islands Monk Seal Management Plan