

Hawaiian Monk Seal

COMMON NAME: Hawaiian Monk Seal

HAWAIIAN NAME: *Ilio-holo-i-ka-uaua* (*The Dog that Runs in Rough Seas*)

SCIENTIFIC NAME: *Neomonachus schauinslandi*

LEGAL STATUS: Endangered (Federal and State). Protected under the MMPA. Endangered (IUCN Red List).

APPEARANCE: Monk seals are named for the folds of skin on their head that look like a monk's hood and because of their mostly solitary nature. Female monk seals are slightly larger than males. Females can be up to 7.5 feet long and weigh 450 pounds while males can be up to 7 feet long and weigh 375 pounds. Adults have silvery-grey colored backs with lighter creamy coloration on their underside. Additional light patches and red and green tinged coloration from attached algae are common. Monk seal life expectancy is 25-30 years.



NATIVE RANGE: Monk seals are endemic to the Hawaiian Islands. The majority of the population lives in the Northwestern Hawaiian Islands (NWHI) Papahānaumokuākea Marine National Monument—the largest contiguous fully protected conservation area in the U.S. Monk seals are also found on the MHI; pupping has been recorded on all islands except Lanai where haul-outs, but not pupping, have been recorded.

POPULATION TRENDS: The Hawaiian monk seal is one of the rarest marine mammals in the world, in part because it was hunted to the brink of extinction in the late 19th century. Over the last 50 years, the Hawaiian monk seal population has declined by more than 60%. The monk seal population is currently declining at 4% annually. The best estimate of the total population size is 1,437 individuals. Survival rates of monk seal pups have dropped from 80-90% in the 1970s to lower than 15% today. As the older breeding females begin to pass away, there are fewer younger animals maturing, which could lead to a catastrophic collapse of the entire population. While the larger NWHI population is shrinking, the MHI population is estimated at approximately 175 animals as of 2021. Over the last 5 years, MCBH hosts an average of 52 monk seal haul-outs each year.

HABITAT: Monk seals spend two-thirds of their time at sea in waters surrounding atolls, islands, and areas farther offshore on reefs and submerged banks. Monk seals also use deep water coral beds as foraging habitat. Monk seals are often seen resting on beaches during the day. Monk seals breed and haul-out on sand, corals, and volcanic rock. Sandy, protected beaches surrounded by shallow waters are preferred when pupping.

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DIET: Monk seals are primarily benthic (bottom) foragers, and eat a variety of prey, including fish, cephalopods (octopus and squids) and crustaceans (crabs, lobster, shrimp). Their diet varies by location, sex, and age. Adults are generally nocturnal hunters while juveniles forage more during the day on species that hide in the sand or under rocks. Monk seals generally forage offshore in waters 60-300 feet deep but can also venture deeper than 1,000 feet, to feed on eels and other benthic organisms.



REPRODUCTION: Females generally mature at age 5-6. It is unknown when males mature. Monk seals are promiscuous and mate underwater. In areas with male-dominated sex ratios, group mobbing of estrus (in "heat") females is known to occur, sometimes causing serious injury or even death to the female. The gestation period is 10-11 months. Birthing rates vary with a range of 30-70% of adult females birthing in a given year. Birthing occurs year-round with most births occurring in late March and early April.

Prior to 2018, pupping and resting islets had shrunk or virtually disappeared (Antonelis et al., 2006). In 2018, the two remaining primary islands where pups were born at French Frigate Shoals (Trig and East Islands) were obliterated due to progressive erosion and hurricane Walaka (in September 2018). Projected increases in global average sea level are expected to further significantly reduce terrestrial habitat for monk seals in the NWHI (Baker et al., 2006, Reynolds et al., 2012). Pups are about 3 feet long and weigh 35 pounds at birth. Newborns are black and "furry" and then molt near the end of their nursing period. Nursing occurs for about 39 days, during which time the mother fasts and remains on land. During this process, the female may lose hundreds of pounds. The process of rearing a pup is very challenging, and most females are not able to reproduce every year. After the pup is weaned, the mother abandons her pup and returns to sea. In rare circumstances, lactating females have been observed fostering others' offspring.

ECOLOGICAL THREATS: Reasons for the decline of the monk seal include:

- Entanglement in marine debris.
- Toxoplasmosis from beaches or storm water runoff containing infected cat feces.
 - During the past five years (2014-2018) five monk seal deaths have been directly attributed to toxoplasmosis (Mercer, 2020); all five deaths involved female seals.
- Human disturbance, including intentional kills, embedded hooks from recreational fishing, disturbance, and harassment of seals on beaches.
- Food limitations.
- Shark predation.
- Single and multiple male intra-species aggression (mobbing) towards females.

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- Loss of terrestrial habitat at French Frigate Shoals is a serious threat to the viability of the resident monk seal population.
- Disease/parasitism.
- Inherently slow reproductive rates and an aging population.
- Vessel traffic in the populated islands entails risk of collision with seals.
- Habitat loss due to erosion of haul-out and pupping beaches throughout its range.
- Global climate change (if sea level continues to rise many of the remaining beaches will disappear).

HUMAN-SEAL INTERACTION: The increase in monk seals in the MHI requires enhanced attention to threats related to species utilization of populated areas. According to the 2020 Pacific Mammal Stock Assessment report, annual human-caused mortality for the most recent 5-year period (2014-2018) was at least 4.8 animals, which equals Potential Biological Removal, including fishery-related mortality in nearshore gillnets, hook-and-line gear, and mariculture (≥ 2.0 per year [/yr]), intentional killings and other human-caused mortalities (≥ 1.6 /yr), entanglement in marine debris (≥ 0.2 /yr), and deaths due to toxoplasmosis. The most serious human related threats in the MHI, as identified in the *Main Hawaiian Island Monk Seal Management Plan* (NFMS, 2016), include infectious diseases, human-seal interactions, and habitat threats.

NOAA FISHERIES CONSERVATION STRATEGIES: NOAA Fisheries' overarching monk seal recovery strategies are to: (1) enhance survival of female seals, especially juveniles, born in the NWHI; (2) ensure natural population growth and reduce human-seal interactions in the MHI; (3) prevent and mitigate disease and build seal health care capacity; and (4) administer a recovery program for maximum effectiveness, integration, and partnerships. Designated critical habitat was revised in 2015 for the NWHI and the MHI. As per NOAA Fisheries, designated critical habitat include marine habitat from the 200-m depth contour line, including the seafloor and all subsurface waters and marine habitat within 10 m of the seafloor, except where excluded for national security reasons, or deemed ineligible due to protection measures afforded in base INRMPs. Terrestrial areas from the shoreline to 5 m inland were also designated for some areas of O'ahu.

MCBH CONSERVATION MEASURES:

The majority of monk seal haul-outs at MCBH occur at Kāne'ohe Bay along the Mōkapu Peninsula beaches. Monk seals also haul-out on the Puuloa RTF shoreline, although infrequently, and haul-outs at MCTAB may occur but have not been documented. Sightings at MCBH have increased in recent years with 90 sightings occurring between 2012 and 2016, compared to 2017 to 2021, when 215 sightings were reported. NOAA Fisheries determined, as discussed in the final rule, that the conservation measures carried out by *MCBH provide a benefit to the monk seal and its habitat therefore its coastal lands were precluded from critical habitat designation.*

MCBH engages in a variety of conservation measures to support the continued health and viability of this species. The following management activities have been implemented and procedures established to protect Hawaiian monk seals to the greatest extent. Management activities, aimed at maintaining ecosystem health, benefit the species indirectly, such as implementing measures to minimize erosion and polluted run-off and invasive species removal.

CONSERVATION MEASURES that benefit monk seals include:

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Monitoring & reporting HMS presence on MCBH beaches. MCBH Natural Resources staff has partnered with Hawai'i Marine Animal Response (HMAR) to monitor for and respond to monk seal sightings on MCBH beaches. Monk seals sighted are reported to the HMAR dispatcher. The HMAR monk seal hotline is posted on the MCBH Natural Resources website and on interpretive signs installed on all MCBH beaches (except Pu'uloa).

Seal protection measures. All monk seal sightings are reported to the HMAR Monk Seal Hotline at (808) 220-7802; however, MCBH military police also receive reports at (808) 257-2123.

If a monk seal hauls-out in an area people frequent, trained, designated staff will erect barriers around the animal and monitor the site. Signs indicate these are protected species, that people and pets are required to remain at least **50 feet** away from any seal on land and in water. If a mother monk seal is with their pup(s) stay out of the water as mother monk seals can become very aggressive. Contact information is posted on the warning signs.

All training events are required to maintain a 150 foot standoff. Stay behind any signs or barriers.



Use the "rule of thumb" to determine a safe distance (if no signs or barriers are present):

1. Make a "thumbs up" gesture and extend your arm straight in front of you.
2. Turn your thumb parallel to the ground in your line of sight of the seal.
3. If your thumb covers the entire seal, you are likely far enough away (about 50 feet or 15 m)

Violations: If you see someone closely interacting with marine wildlife—such as by touching or chasing them—in person or on social media, you may be witnessing a violation of the MMPA or ESA. The best way you can help is to report the incident and submit videos or photos to the Natural Resources staff and Conservation Law Enforcement Officers (CLEOs) of potentially illegal encounters with monk seals, dolphins, whales, and sea turtles.

For NOAA Fisheries to take action, it is important to provide the right information. Videos are much better for documenting an encounter. The most useful videos clearly show the behavior of both the people and the animals involved in the incident. In addition, it can be very difficult to take appropriate action without knowing the identity of the people involved. Photos can help law enforcement identify people, vessels, or vehicles.

To submit a report, you can call:

- MCBH CLEO 808-257-7135
- NOAA Marine Wildlife Hotline: (888) 256-9840 (best number for all protected marine wildlife emergencies, enforcement is option 6)
- NOAA Office of Law Enforcement: (800) 853-1964
- Send photos, videos, and links to respectwildlife@noaa.gov

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Protocols followed during military training and large-scale recreational events. Beaches and nearshore waters in the vicinity of the event are surveyed 1 hour prior to the event and monitored throughout the duration of the event. If monk seals are present prior to the event, the event may be delayed, rerouted, or cancelled. All training is required to remain **150 feet from a monk seal** resting on land. If a monk seal is in the water, all in-water training shall stop and remain so until a half hour after the last sighting of the monk seal. If monk seals appear during an event people are asked to move away from the area and regular protection protocols are followed.

Removal of marine debris. MCBH makes efforts to remove derelict fishing gear and other marine debris from MCBH jurisdictional waters.

Restrictions to protect marine species. MCBH has several regulations in place that provide protection for monk seals. MCBH Kaneohe Bay has a 500-yd seaward buffer zone within which MCBH claims control to all access and resources. MCBH regulations govern fishing, surfing, and other near shore activities in vicinity of MCBH beaches. Enforcement is supported by two full-time federally commissioned CLEOs on the Environmental Division's staff and occasionally by the Military Police Department.

Pet regulations. Per MCBHO 5233.2, pets must be leashed and under their owner's physical control at all times, except when indoors, in a fenced area, or an authorized dog park. Dogs are only allowed on beaches during specific times—prohibited hours 1000-1500. This limits negative interactions between seals and dogs on the beach. In addition, feeding of wild animals aboard MCBH is prohibited. Cat colonies and feeding stations are prohibited; this helps protect seals from the risk of toxoplasmosis. MCBH has a policy that cats must remain indoors or be leashed when outside.

Interagency cooperation. MCBH collaborates with NOAA Fisheries regarding data sharing on monk seal sightings. If a sick, injured, stranded, entangled or dead monk seal appears in MCBH waters or on beaches, it is reported, protected, and, if necessary, transferred to appropriate authorities at NOAA Fisheries for rehabilitation and/or necropsy. On June 10, 2021, MCBH and NOAA collaborated to relocate a weaned monk seal pup (RP96) from Waikiki's Kaimana beach to MCBH and released it in the restricted area of the Nu'upia Ponds WMA in the former jetty channel.

Educational outreach. MCBH posts warning signs at all beaches that there are frequent monk seal haul-outs. Briefings given to military personnel on base include information on monk seal reporting and avoidance procedures. Information on monk seal reporting procedures is posted on the MCBH website and included in Appendix D.

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For more information: MCBH Integrated Natural Resources Management Plan. 2022. Sections 6, 7.1, and 7.4.

PHOTOS

1. Hawaiian monk seal at MCBH. MCBH. 2010.
2. Hawaiian monk seal on O'ahu. SRGII. 2011.
3. Hawaiian monk seal signage used at MCBH. Dr. Diane Drigot. 2010.

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