



Challenges, Satisfaction, and Lots of Monk Seal Pups During 2021 Field Season

November 10, 2021

NOAA biologists have returned from monitoring and protecting Hawaiian monk seals and green sea turtles. There were 2–5-month-long field camps in the Papahānaumokuākea Marine National Monument this field season.



Field camp established at Manawai (Pearl and Hermes Reef). Credit: NOAA Fisheries.

NOAA biologists are pleased to have completed a successful season of assessment and recovery camps in the remote Northwestern Hawaiian Islands. These camps form the foundation of our research and recovery efforts for threatened Hawaiian green sea turtles and endangered Hawaiian monk seals in the Papahānaumokuākea Marine National Monument. Field camps are typically deployed yearly, but the COVID-19 pandemic suspended the 2020 season, making the 2021 camp notable since many research activities remain limited.

This year, after numerous special precautions to work safely, [the teams returned to the field](#) and started making up for lost time. They set out in March, with the early turtle team at Lalo in the French Frigate Shoals. Seal teams were at all sites in July. They returned on the NOAA Ship *Oscar Elton Sette* on September 30, 2021. In their months in the field, NOAA biologists collected data critical for stock assessment. They also undertook numerous activities to aid in the recovery of the species and participated in several projects with partner agencies in Papahānaumokuākea.

Science: the Backbone of NOAA Conservation



A team surveys a beach for seals. Credit: NOAA Fisheries.

A primary priority of the assessment and recovery camps is conducting surveys to collect data on animal abundance for stock assessments. A full survey for monk seals might entail walking

several miles through deep sand around an island's perimeter or boating between small islets across an 18–25-mile-wide atoll. This year field teams completed 57 complete monk seal surveys.

Our researchers identify seals with numbered flipper tags. These identification tags are crucial to tracking the survival of individual seals year to year. They can reveal movements of seals from one island or atoll to another. This year, researchers found many untagged pups and juveniles because the 2020 field season was cancelled and the 2021 season began relatively late in the summer.

At least 171 pups were born in Papahānaumokuākea this year, and field teams managed to tag at least 135 of them. NOAA teams also tagged 43 yearlings during the 2020 camp season. Ten more yearlings were tagged by partners including the Papahānaumokuākea Marine Debris Project and U.S. Fish and Wildlife Service staff. Field teams also tagged or retagged several older seals with lost or damaged tags.

The Lalo turtle team deployed a small team in March, and it was a good thing—it was a bumper year for the turtles! They identified more than 1,000 individual turtles at Lalo, including 679 females on Tern Island (the largest island in the atoll). The average number of females on Tern Island was only 254 over the past three seasons. Across the atoll, East Island is still recovering after being washed away by Hurricane Walaka in 2018. Some of the turtle nests were successful, though. The team conducted 109 night surveys and even tagged a loggerhead turtle—the first time we have ever recorded one attempting to nest at Lalo!

Taking Action to Help Recover Protected Species



Young seals can easily get entangled in large fishing nets and other debris that wash up on the islands in Papahānaumokuākea. NOAA field teams and other partners work to remove dangerous debris from the environment and rescue entangled wildlife. Credit: NOAA Fisheries (Permit #22677).

Working with threatened and endangered species means we cannot simply study the populations, we must also help their recovery. While in Papahānaumokuākea, NOAA field teams attempt to minimize threats to wildlife and improve their survival chances.

At Tern Island at Lalo, wildlife can get trapped in aging infrastructure from World War II, so teams performed daily entrapment walks. They released turtles, seals, and seabirds that were entrapped or otherwise unable to get back to the ocean. Additionally, field teams performed 23 seal interventions including:

- Disentangling them from marine debris
- Administering antibiotics to compromised seals
- [Collecting a prematurely weaned pup at Kuaihelani \(Midway\) that was in need of rehabilitation](#) ↗

One bright spot was that we saw no sharks exhibiting predatory behavior on nursing or recently weaned seal pups at Lalo. Historically, shark predation has taken up to 20 percent of the pups

at this site. Note that this season was shorter than many, so if pups were taken earlier, we did not see them.

Intervention Highlights



The aging seawall around Tern Island at Lalo can be an attractive hazard to wildlife. Field teams monitored these areas daily and rescued hundreds of entrapped animals this season. Credit: NOAA Fisheries.

Entrapments at Lalo

Staff conducted daily entrapment surveys and document 356 total animals entrapped in the seawall or other structures and unable to return to the ocean:

- 344 turtles, including 55 adult females and juveniles, and 289 hatchlings
- 10 seabirds
- Two seals

Observers released 340 animals. Eleven turtles and one seal found their way out on their own, and four turtles died.

Translocations

Fourteen weaned seal pups were translocated to Tern Island: seven from East Island and seven from the Gin Islands.

Antibiotics

Two seals treated with long-acting antibiotics at Manawai (Pearl and Hermes Reef) to help recover from injuries.

Entanglements

Program staff and partners disentangled seven seals:

- One adult female seal at Lalo
- Two weaned pups and two immature seals at Kamole (Laysan Island), including a subadult female disentangled by Papahānaumokuākea Marine Debris Project and NOAA staff in April
- One weaned pup at Manawai (Pearl and Hermes Reef)
- One adult female seal disentangled with help of partners from the NOAA Marine Debris Project and the State Department of Land and Natural Resources field camp at Hōlanikū (Kure Atoll)

Rehabilitation

One weaned seal pup from Kuaihelani (Midway Atoll) was released at Kapou (Lisianski Island) after rehabilitation.

In addition to these activities, staff collected marine debris that was dangerous to wildlife and removed it from the environment.

Partnering to Protect Papahānaumokuākea



NOAA field teams work with USFWS and other partners to maximize the group effort in the hard-to-reach islands and atolls of Papahānaumokuākea. Credit: NOAA Fisheries.

The monk seal field teams supported research by other groups within the Pacific Islands Fisheries Science Center by tagging and monitoring turtles in collaboration with the Marine Turtle Biology and Assessment Program. They staged marine debris for pickup by marine debris cruises, and conducted a cetacean necropsy at Manawai under the direction of the Marine Mammal Stranding Network. They also conducted a variety of conservation and research activities such as:

- Deploying acoustic recorders at Lalo and Manawai for a University of Hawaii graduate student
- Conducting Laysan Duck surveys at Kamole (Laysan Island)
- Dispersing endangered pōpolo fruit and seeds at Grass Islet (Manawai)
- Documenting erosion and other ecological conditions throughout Manawai for the U.S. Fish and Wildlife Service

Impressions From the Field

Most people never get to experience Papahānaumokuākea—it's so remote. We try to describe the monument through the eyes of our field biologists. They leave civilization behind for the sake of [researching and helping wildlife in this isolated environment](#).

Of course the team missed their friends and family the most! A close second was fresh produce, which is too perishable to bring to the remote camps and could harbor invasive pests. As biologist Rob on Lalo put it, “Our team was able to make culinary miracles happen with the canned veggies that we were provided, but there is something about the texture of fresh veggies that is lost in the canning process.”

Once home, our biologists miss the peaceful remoteness and rich wildlife they were treated to in field camp. Many commented that they will particularly miss the night sky as seen from some of earth's most remote islands. Biologist Paige on Manawai sums it up: “With no light pollution, the milky way and stars are phenomenal! The pictures of the sky don't do it justice.” Each team experienced challenges, successes, and learning moments.

This map of the Hawaiian Archipelago shows the long string of islands and atolls extending northwest of the inhabited Hawaiian Islands, making up the Papahānaumokuākea Marine National Monument. We establish camps at five sites: Hōlanikū (Kure Atoll), Manawai (Pearl and Hermes Atoll), Kapou (Lisianski Island), Kamole (Laysan Island), and Lalo (French Frigate Shoals). Kuaihelani (Midway Atoll), Mokumanamana (Necker Island), and Nihoa Island are also important monk seal habitats, but we cannot camp there, so we survey them during other NOAA research cruises. Credit: NOAA Fisheries.

Team Hōlanikū (Kure Atoll)

Greatest Satisfaction

One of the most satisfying things we accomplished this season, with the help of our partners, was disentangling VH26. She's a young adult female who gave birth to a pup this year. We were stoked to set her free and hope she will pup successfully again in 2022! (Team)

Team Manawai (Pearl and Hermes Reef)

Greatest Challenge

Training all new field staff on how to safely handle animals, collect data, conduct boating ops, and live in such a remote field setting. (Paige, team lead)

Greatest Satisfaction

Together, our team tagged a subadult male seal—it required all of us to work together to safely get the seal tagged and released. (Team)

New Discovery

Pearl and Hermes has a lot more turtle activity than I thought it did. We identified more than 250 marked individuals, plus we experienced baby turtles emerging from their hatch crater right in camp! (Paige, team lead)

Team Kapou (Lisianski Island)

Greatest Satisfaction

We tagged all of the weaned pups from 2021, and almost all of the 2020 pups as well. In such a short season following a skipped season, it feels good to be “caught up,” especially since all three of our team members were new to field camp. (Michelle, team lead)

New Discovery

We were amazed at how fast monk seals heal from traumatic wounds! One young seal had a facial wound, likely from a shark bite. It was a shocking sight, but after only 11 days, it was completely closed. By the end of the summer, the seal was gaining weight and all healed up! (Team)

Team Kamole (Laysan Island)

Greatest Challenge

The most challenging part of Laysan was dealing with the flies. When you are outdoors, there are commonly 50 or more flies on you at any given moment. (Alex)

Greatest Satisfaction

Getting to know the seals individually. Despite there being more than 300 seals on Laysan, it is really exciting to identify which seals have what scars, who is molting, or which pups have weaned. (Alex)

Team Lalo (French Frigate Shoals)

Greatest Challenge

Avoiding disturbing seals, especially on the smaller islands. I always felt really satisfied when I was able to survey an entire spit without a single seal waking up. (Christy, monk seal team)

Dealing with the constant turtle entrapments, and all of the loud birds that poop on everything! (Brittany, turtle team)

Greatest Satisfaction

The frequent rescues of huge nesting green sea turtles. The nesting females would get lost behind the sea wall on Tern island at Lalo, and our team regularly assisted them back into the ocean. (Rob, monk seal team)

It was so satisfying to find hatch craters and beautiful clean hatchlings. Also seeing old tags on turtles. (Jamie, turtle team)

New Discovery

One interesting thing I learned this season was how quickly and suddenly the little sand islets around the atoll change. (Leah, turtle team)

On Tern this year we got to see a loggerhead turtle come on shore and try to nest. Never before seen in the Northwestern Hawaiian Islands! (Brittany, turtle team)

Aloha Papahānaumokuākea Field Teams

We appreciate the knowledge that our field teams bring back from the islands—about their study species and about life in Papahānaumokuākea. While they may miss the quiet island life, we're thrilled to have them back.

Sunset in the Papahānaumokuākea Marine National Monument from the NOAA Ship Oscar Sette. Credit: NOAA Fisheries.

[Listen to the downloadable audio file of our November 10th briefing with local media outlets >](#)

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[Pacific Islands Fisheries Science Center](#)
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