



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Fisheries Science Center
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Project Report

VESSEL

NOAA Ship *Oscar Elton Sette*, SE-21-04

PROJECT PERIOD

The NOAA Ship *Oscar Sette* was engaged as support for a Pacific Islands Fisheries Science Center (PIFSC), National Marine Fisheries Service (NMFS), NOAA, project from 3 Sept 2021 to 30 Sept 2021, with 28 days at sea in Papahānaumokuākea Marine National Monument (PMNM) and the main Hawaiian Islands (MHI).

AREA OF OPERATION

The operating area included the main Hawaiian Islands (MHI) and Papahānaumokuākea Marine National Monument from the island of Hawaii to Kure Atoll with Hawaiian monk seal and marine turtle surveys, camp recovery, and/or pickup/drop off of monk seal patients at Kona, Nihoa, Mokumanamana, French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef, Midway Atoll, and Kure Atoll.

TYPE OF OPERATION

1. Recover Hawaiian monk seal camps and marine turtle camps at French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef, and Kure Atoll.
2. Conduct monk seal and marine surveys at Ni'ihau, Nihoa, Mokumanamana, Midway Atoll, and Kure Atoll.
3. Pick up seals in need of rehabilitation or rehabilitated seals returning to the wild for transport between NWHI sites and Ke Kai Ola (KKO) monk seal hospital in Kona, Hawaii.
4. Opportunistic CTD casts.
5. Retrieve and replace one High-Frequency Acoustic Recording Package (HARP) for the Cetacean Research Program (CRP) near Kona.
6. Recover two Navy gliders (new objective, not in final project instructions).

ITINERARY

- 3 Sep Pearl Harbor
- Departed NOAA Pier at Ford Island, Pearl Harbor at 0800. Conducted ship familiarization and began transit to Nihoa.
Embarked (4): Ronco, Staman, Barbieri, Cedillo
- 4 Sep Nihoa
- Launched SE-2 at 1100 to deploy 4 personnel to conduct monk seal surveys on Nihoa's main beach and west ledge. Recovered shore party at 1500, secured operations, departed for Mokumanamana.
Shore Party (4): Ronco, Staman, Barbieri, Cedillo
- 5 Sep Mokumanamana
- Launched SE-2 at 1030 to deploy 4 personnel to Mokumanamana's saddle landing to conduct monk seal surveys. Two personnel surveyed the saddle ledge and nearby sectors while the other two hiked overland to the far ledges. Recovered shore party at 1545, secured operations, departed for FFS.
Shore Party (4): Staman, Barbieri (saddle area); Ronco, Cedillo (overland hike)
- 6 Sep French Frigate Shoals
- Launched SE-2 and SE-4 at 0800 to deploy shore team to assist camp breakdown and on load. During the 2 days at Tern Island, the following items were recovered from the seal and turtle camp: equipment and supplies including pelicans, buckets of supplies, 4 pallet tubs, one 19-ft Zodiac Inflatable, one 17-ft Boston Whaler, up to eight 55-gal drums of gasoline, 20 tanks of propane and 200 empty 5-gal water jugs. Evaluated 2 seal rehabilitation candidates in a pen on Tern Island, conducted seals surveys to search for 1 additional candidate. Recovered shore party and Clemans at 1600, secured operations.
Shore Party (3): Staman, Cedillo, Barbieri
Embarked (1): Clemans
- 7 Sep
- Launched SE-4 at 0800 to deploy shore team to continue camp breakdown and on load. Continued evaluation of 2 seal rehabilitation candidates: neither were embarked but both were dewormed under veterinary supervision on island prior to release. Recovered shore party and remaining field staff at 1600, secured operations, and departed for Kona.
Shore Party (4): Ronco, Staman, Barbieri, Cedillo
Embark (5): Schneiderman, Kozama, Kerschner, McLean, Stoll

- 8–9 Sep Transited
- 10 Sep Kona
- Launched SE-4 at 1545 to Honokohau Small Boat Harbor to embark Nikolai and pick up one KKO seal patient. Launched SE-2 at 1600 offshore of Kona to retrieve and redeploy Cetacean Research Program (CRP) HARP. Recovered both boats by 1730, secured operations, and departed for Pearl Harbor.
Embarked (1): Nikolai
- 11 Sep Pearl Harbor
- Secured at NOAA Pier at Ford Island, Pearl Harbor at 1100. Offloaded all French Frigate Shoals field camp equipment, supplies, boats. Departed NOAA Pier at Ford Island, Pearl Harbor at 1530. Conducted ship familiarization and drills, and began transit to Laysan Island.
Disembarked (6): Staman, Barbieri, Schneiderman, Kerschner, Clemans, Stoll.
- 12–14 Sep Transited
- 15 Sep Laysan
- Launched SE-2 and SE-4 at 0800 to deploy shore party to assist camp breakdown and on load. Recovered seal camp from Laysan Island: 3 people, equipment and supplies including 4 pallet tubs, buckets, propane, pelicans, and 100 empty 5-gal water jugs. Recovered shore party at 1230, secured operations, departed for Lisianski Island.
Shore Party (4): Cedillo, Kozama, McLean, Nikolai
Embarked (3): Cox, Humphrey, Filardo
- 16 Sep Lisianski
- Launched SE-2 and SE-4 starting at 0800 to deploy shore party to assist camp breakdown and on load, and build shorepen for release of KKO seal patient. SE-4 transferred KKO seal patient to Lisianski, seal released into pen and retagged at 1000. Recovered seal camp from Laysan Island: equipment and supplies including 4 pallet tubs, buckets, propane, pelicans, and 100 empty 5-gal water jugs. Recovered shore party at 1530 and secure operations.
Shore Party (4): Ronco, Cedillo, Nikolai, Filardo
- 17 Sep Launched SE-4 at 0800 to deploy shore party to assist camp breakdown and on load. Conducted seals surveys to search for deworming/vaccine booster candidates and tag/retag larger animals. Recovered shore party at 1600 and secure

operations.

Shore Party (8): Ronco, Cedillo, Nikolai, McLean, Kozama, Filardo, Humphrey, Cox

18 Sep Launched SE-4 at 0800 to deploy shore party to assist camp breakdown and on load. Conducted seals surveys to search for deworming/vaccine booster candidates and tag/retag larger animals. Recovered shore party at 1330, secured operations, and departed for Kure Atoll.

Shore Party (6): Ronco, Humphrey, Nikolai, McLean, Filardo, Cedillo

Embarked (3): Bane, Bataille, Matheny

20 Sep Transited

21 Sep Kure

Launched SE-4 at 0800 to deploy shore party to assist camp breakdown and on load. Recovered seal camp from Green Island: 2 people, along with equipment and supplies including 2 pallet tubs, buckets, pelicans, 3 tanks of propane, and fifty 5-gal water jugs (empty). Retrieved empty water jugs from DLNR camp and fill onboard twenty 5-gallon jugs. Conducted seals surveys to search for deworming/vaccine booster candidates and to tag/retag larger animals. Recovered shore party at 1600, secured operations, departed for Midway Atoll.

Shore Party (10): Ronco, Cedillo, Nikolai, Cox, Kozama (am), McLean (pm), Filardo, Bane, Bataille, Matheny

Embarked (2): Jones, Ely

22 Sep Midway

Launched SE-4 at 0800 to deploy two teams to conduct seal and marine turtle surveys of Sand Island and Eastern/Spit Island complex. Recovered shore parties at 1600, secured operations. Sanitized small boats and all equipment per PMNM BMP requirements.

Shore Party—Sand (5): Ronco, Cedillo, Kozama, Filardo, Bane

Shore Team—Eastern (5): Humphrey, Cox, McLean, Matheny, Bataille

23 Sep Launched SE-4 at 0800 to deploy two teams to conduct seal and marine turtle surveys of Sand Island and Eastern/Spit Island complex. Recovered shore parties at 1600, secured operations, and departed for PHR. Sanitized small boats and all equipment per PMNM BMP requirements.

Shore Party—Sand (5): Ronco, Cedillo, McLean, Jones, Ely

Shore Party—Eastern (5): Humphrey, Cox, Nikolai, Kozama, Filardo

24 Sep Pearl and Hermes Reef

Launched SE-4 at 0800 to deploy shore party to assist camp breakdown and on load. Ronco/Chauvin launched small boat *Elele* (F1823) from Southeast Island at 1000 to run small gear to ship, Chauvin swapped for Mino at 1300. Recovered seal camp from Southeast Island: 4 people, equipment and supplies including pelicans, buckets of supplies, 4 pallet tubs, two 19-ft Zodiac Inflatables, six 55-gal drums of gasoline (mostly empty), empty propane tanks and 120 empty 5-gal water jugs. Recovered shore parties at 1600, secured operations.

Sanitized small boats and all equipment per PMNM BMP requirements.

Shore Party (8): McLean, Cox, Filardo, Bane, Bataille, Matheny, Jones, Ely

Embark (4): Mino, Chauvin, Glover, Yost

25 Sep Launched SE-4 at 0800 to deploy shore party to continue camp breakdown and on load. Following completion of on load at 1200, Ronco/Mino launched *Elele* (F1823) from Southeast Island to conduct seal and marine turtle surveys of North and Little North Islands. Recovered SE-4 and Southeast shore party at 1200, recovered *Elele* (F1823) and survey team at 1530, secured operations, and departed for Pearl Harbor. Sanitized small boats and all equipment per PMNM BMP requirements.

Shore Party (8): Ronco, Mino, Cedillo, Kozama, McLean, Nikolai, Chauvin, Humphrey

26 Sep Transited, Navy glider alongside recovery at 2126

27 Sep Transited

28 Sep Transited, Navy glider alongside recovery at 0140

29 Sep Transited

30 Sep Pearl Harbor

Secured at NOAA Pier at Ford Island, Pearl Harbor at 0900. Offloaded all field camp and veterinary equipment, supplies, boats.

Disembarked (17): Ronco, Cedillo, Kozama, McLean, Nikolai, Cox, Humphrey, Filardo, Bane, Bataille, Matheny, Mino, Chauvin, Glover.

End of project.

MISSIONS AND RESULTS

Results for the main objectives for SE-21-04 are as follows:

1. Recover Hawaiian monk seal camps and marine turtle camps at French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef, and Kure Atoll.

Field staff and their gear were successfully picked up from French Frigate Shoals (6 staff), Laysan Island (3 staff), Lisianski Island (3 staff), Kure Atoll (2 staff), and Pearl and Hermes Reef (4 staff).

2. Conduct monk seal surveys at Ni’ihau, Nihoa, Mokumanamana, Midway Atoll, and Kure Atoll.

Hawaiian monk seal and marine turtle surveys with full island or atoll coverage (Censuses and Atoll Counts) were conducted at Nihoa, Mokumanamana, and Midway Atoll for population assessment purposes. An atoll count was not conducted at Kure Atoll because Sand Island (the island intended for survey) was awash at the time of this cruise. Sand Island had been ephemeral throughout the season, at times appearing as a small sand bar and other times completely awash.

Seal and turtle surveys with partial island/atoll coverage (Incidentals) were conducted at FFS to search for rehabilitation candidates, and at Lisianski, Kure, and PHR for vaccine booster candidates and to tag/retag larger animals. New staff were trained at all opportunities.

Table 1. Summary of preliminary Hawaiian monk seal survey data collected during SE-21-04. Midway numbers are approximate and will be confirmed once data is analyzed.

| Site | Survey Date | Seal Count | Seals Tagged | Survey Type | Notes |
|--------------|-------------|------------|--------------|-------------|-----------------------------|
| Nihoa | 4 Sep | 29 | 0 | Census | |
| Mokumanamana | 5 Sep | 44 | 0 | Census | Overland hike (2 staff) |
| FFS | 6 Sep | na | 0 | Incidental | Search for rehab candidates |
| Lisianski | 17 Sep | na | 1 | Incidental | |
| Lisianski | 18 Sep | na | 2 | Incidental | One weaned pup boosted. |
| Kure | 21 Sep | na | 5 | Incidental | 4 juveniles, 1 subadult |
| Midway | 22 Sep | 25* | 2 | Atoll Count | |
| Midway | 23 Sep | 28* | 3 | Atoll Count | |
| PHR (North) | 24 Sep | na | 0 | Incidental | One weaned pup boosted. |

3. Pick up seals in need of rehabilitation for transport from any site where seals are found to Ke Kai Ola (KKO) monk seal hospital in Kona, Hawaii.

Two candidate seals were identified at French Frigate Shoals for potential rehabilitation and were evaluated on 6 Sep by the veterinary team. Both seals were in borderline body condition and ultimately were deemed ineligible for rehabilitation. On 6 Sept they were treated with oral de-wormer by the veterinary team and then released from their pen on Tern Island. Seals were not evaluated for rehabilitation at the other field sites during this cruise due to no veterinarian being on board for leg 2. However, the veterinary team participated in seal surveys at Lisianski, Kure, Midway, and PHR to evaluate any juvenile seals in poor body condition as candidates for treatment with oral de-wormer. No potential candidates were observed during surveys at the 4 sites.

After successful rehabilitation, KKO seal patient PP08 was released during this cruise at Lisianski after several days on island in a shore pen. PP08 was originally identified as an underweight pup weaned too early from her mother in the spring of 2021 by USFWS biologists on Midway Atoll. With support from the US Coast Guard, the pup was rescued in June 2021 and transported to Ke Kai Ola, The Marine Mammal Center's hospital in Kailua-Kona for rehabilitative care, and then transported by the Sette from Kona to Lisianski for release.

4. Opportunistic CTD casts.

Shipboard CTD casts were not conducted on this cruise because the CTD winch was inoperable and will require repairs before it can be used in the future.

5. Retrieve and replace one High-frequency Acoustic Recording Package (HARP) for the Cetacean Research Program (CRP) near Kona.

The HARP was successfully recovered offshore of Kona on 10 Sept 2021 and the new HARP was successfully deployed at 1630. The coordinates of the new deployment are 19–34.899N, 156–00.515W.

6. Recovery two Navy gliders

This objective was added at the request of the US Navy during the cruise. Two Navy gliders were successfully recovered outside the Monument during the stretch of transit days at the end of the cruise. The two gliders had malfunctioned and were scheduled to be scuttled if not recovered by the end of September. The recovery of these two gliders saved the Navy approximately \$470,000.

PERSONNEL

| # | Name (Last, First) | Title | Embark | Disembark | Affiliation |
|----|------------------------|--|------------|------------|-------------|
| 1 | Ronco, Hope | Marine Biologist (Chief Scientist) | 3 Sept 21 | 30 Sept 21 | NOAA/PSD |
| 2 | Cedillo, Claudia | Veterinary Technician | 3 Sept 21 | 30 Sept 21 | NOAA/PSD |
| 3 | Staman, Marylou | Marine Science Coordinator (Operations Lead Leg 1) | 3 Sept 21 | 11 Sept 21 | JIMAR |
| 4 | Barbieri, Michelle | Veterinary Medical Officer (Leg 1) | 3 Sept 21 | 11 Sept 21 | NOAA/PSD |
| 5 | Clemans, Brittany | JIMAR Research Assistant (FFS) | 6 Sept 21 | 11 Sept 21 | JIMAR |
| 6 | Kozama, Christy | JIMAR Research Associate (FFS, Operations Lead Leg 2) | 7 Sept 21 | 30 Sept 21 | JIMAR |
| 7 | McLean, Robert | Biological Technician (FFS) | 7 Sept 21 | 30 Sept 21 | NOAA/SOD |
| 8 | Schneiderman, Jonathan | JIMAR Research Technician (FFS) | 7 Sept 21 | 11 Sept 21 | JIMAR |
| 9 | Kerschner, Leah | JIMAR Research Assistant (FFS) | 7 Sept 21 | 11 Sept 21 | JIMAR |
| 10 | Stoll, Jamie | JIMAR Research Assistant (FFS) | 7 Sept 21 | 11 Sept 21 | JIMAR |
| 11 | Heidi Nikolai | TMMC Veterinary Technician | 10 Sept 21 | 30 Sept 21 | TMMC/KKO |
| 12 | Cox, Marjorie | JIMAR Research Technician (Lay) | 15 Sept 21 | 30 Sept 21 | JIMAR |
| 13 | Humphrey, Ann | JIMAR Research Assistant (Lay) | 15 Sept 21 | 30 Sept 21 | JIMAR |
| 14 | Filardo, Alexander | JIMAR Research Assistant (Lay) | 15 Sept 21 | 30 Sept 21 | JIMAR |
| 15 | Bane, Michele | JIMAR Research Technician (Lisi) | 18 Sept 21 | 30 Sept 21 | JIMAR |
| 16 | Battaile, Brian | JIMAR Research Assistant (Lisi) | 18 Sept 21 | 30 Sept 21 | JIMAR |
| 17 | Matheny, Sanna | JIMAR Research Assistant (Lisi) | 18 Sept 21 | 30 Sept 21 | JIMAR |
| 18 | Jones, Elizabeth | JIMAR Research Technician (Kure) | 21 Sept 21 | 30 Sept 21 | JIMAR |
| 19 | Ely, Megan | JIMAR Research Assistant (Kure) | 21 Sept 21 | 30 Sept 21 | JIMAR |
| 20 | Mino, Paige | JIMAR Research Technician (PHR) | 24 Sept 21 | 30 Sept 21 | JIMAR |
| 21 | Chauvin, Matthew | JIMAR Research Assistant (PHR) | 24 Sept 21 | 30 Sept 21 | JIMAR |
| 22 | Glover, Sarah | JIMAR Research Assistant (PHR) | 24 Sept 21 | 30 Sept 21 | JIMAR |
| 23 | Yost, James | JIMAR Research Assistant (PHR) | 24 Sept 21 | 30 Sept 21 | JIMAR |

Participating Institutions

- NOAA Pacific Islands Fisheries Science Center (PIFSC)
 - Protected Species Division (PSD) & Science Operations Division (SOD)
- Joint Institute for Marine and Atmospheric Research (JIMAR)
- The Marine Mammal Center's (TMMC) Ke Kai Ola (KKO)

PROJECT MEDIA

Media associated with SE-21-04 can be found at the following locations:

- SE-21-04 Cruise Blurb: [NOAA Ship *Oscar Elton Sette* Departs for Papahānaumokuākea to Bring Home NOAA's Remote Field Scientists](#)
- Field season feature story: In progress with editorial, web link expected mid Oct.
- [Partner story on PP08 release](#)

ATTACHMENTS

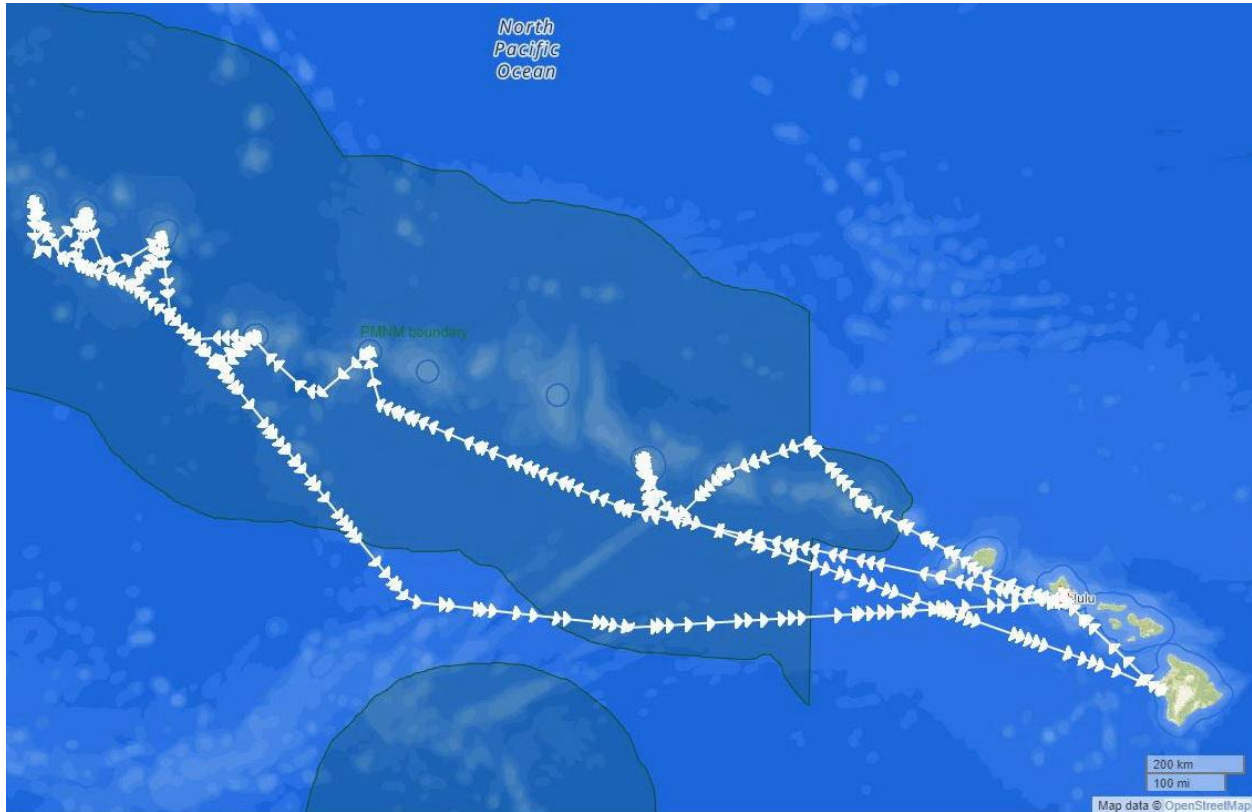


Figure 1. GPS track of NOAA Ship *Oscar Elton Sette* during SE-21-04.

Submitted by: _____
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