



**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL MARINE FISHERIES SERVICE**  
Pacific Islands Fisheries Science Center  
1845 Wasp Blvd. Bldg. 176 • Honolulu, Hawaii 96818  
(808) 725-5300

## PROJECT REPORT

**VESSEL:** NOAA Ship *Oscar Elton Sette*, Project SE-17-05

### PROJECT PERIOD:

The NOAA Ship *Oscar Elton Sette* was engaged as support for a NOAA project by the Pacific Islands Fisheries Science Center (PIFSC) National Marine Fisheries Service (NMFS) from May 12 to June 3 for a total of 23 sea days in the Papahānaumokuākea Marine National Monument (PMNM) and main Hawaiian Islands (MHI).

### AREA OF OPERATION:

The operating area included transit from Ford Island, Pearl Harbor, first south to Hawaii Island, then northwest along the main Hawaiian Islands and through PMNM. Protected Species Division (PSD) operations (including opportunistic Hawaiian monk seal surveys, field camp deployment, and transport of Hawaiian monk seals) took place at Hawaiian Island, Ni'ihau Island, Nihoa Island, Mokumanamana Island, French Frigate Shoals (FFS), Laysan Island, Lisianski Island, Pearl and Hermes Reef (PHR), Midway Atoll, and Kure Atoll.

### TYPE OF OPERATIONS:

1. Deploy Hawaiian monk seal and turtle camps at French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef and Kure Atoll.
2. Conduct monk seal surveys at Midway Atoll, Ni'ihau, Nihoa, and Mokumanamana.
3. Return rehabilitated Hawaiian monk seals from Ke Kai Ola (KKO) rehabilitation facility to their sites of origin within PMNM.
4. Pick up seals in need of rehabilitation for transport to KKO.
5. Conduct CTD casts at permanent CTD stations in PMNM.

### ITINERARY:

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|--------|--|
| 12 May | <b>Pearl Harbor:</b> Embarked 18: Robinson, Burns, Farry, Guerin, Carpenter, Northey, J Staman, M Staman, Reininger, Ronco, Tovar, Dodge, Barcina, Dolan, D Roberts, M Roberts, Cummings, Gibson. Departed IRC pier for fueling, then transited to Kona. |
| 13 May | <b>Kona:</b> Morning arrival outside Honokohau Harbor. SE-2 transported seals in cages (1 per run) from dock to ship, loaded 4 seals for transport back to the PMNM. Embarked 2: Barbieri, Wickam. Departed to Ni'ihau.                                  |
| 14 May | <b>Transit:</b> Evening arrival offshore of Ni'ihau.   |

- 15 May **Ni'ihau:** Meals and operations started 30 minutes early to accommodate arrival on Ni'ihau by 0745. SE-2 transported 6 scientists to Ni'ihau for full-day survey, then transported 2 staff to Lehua Rock and circumnavigated Lehua for seal surveys. Filled fresh-water jugs while waiting offshore. Picked up Ni'ihau shore party in the afternoon and departed for Nihoa.
- 16 May **Nihoa:** Morning arrival at Nihoa Island. SE-2 transported 5 scientists to Nihoa; 2 surveyed the main beach, 2 maintained the remote cameras, 1 surveyed the west ledge. Filled fresh-water jugs while waiting offshore. Picked up shore party mid-day and departed to Mokumanamana Island.
- 17 May **Mokumanamana (Necker):** Morning arrival at Mokumanamana Island. SE-2 transported 3 scientists to conduct monk seal surveys on the main ledge. Conditions prohibited entry into Shark Bay for additional landings. Filled fresh-water jugs while waiting offshore (total 250 for FFS). Picked up shore party mid-day and departed to French Frigate Shoals.
- 18 May **French Frigate Shoals:** Morning arrival at French Frigate Shoals. French Frigate Shoals boats (a 17-ft Boston Whaler and a 18-ft RHIB) were deployed to Tern Island. Both SE-2 and SE-4 made multiple runs to deploy seal and turtle camp teams (7 people) along with a shore party to Tern Island to set up camp. Offloaded gear included pelicans, buckets of supplies, 5 pallet tubs, a 55-gallon drum of gasoline, 8 bins frozen bait, 24 tanks of propane, and 250 5-gal water jugs. SE-2 transported 2 seals to Tern Island. Disembarked 7: Farry, Guerin, Carpenter, Northey, J Staman, M Staman, Reininger. Operations extended to approximately 1800 to complete French Frigate Shoals camp deployment in a single day. Picked up shore party in the evening and departed to Laysan.
- 19 May **Transit:** Filled fresh-water jugs en route (total 100 for Laysan).
- 20 May **Laysan:** Morning arrival at Laysan Island. Both SE-2 and SE-4 made multiple runs to deploy seal camp team (3 people) along with a shore party to Laysan Island to set up camp. Offloaded gear included pelicans, buckets of supplies, 4 pallet tubs, 8 tanks of propane, and 100 5-gal water jugs. SE-2 transported 1 seal to Laysan Island. Disembarked 3: Ronco, Tovar, Dodge. Picked up shore party in the afternoon and departed to Lisianski. Filled fresh-water jugs en route (total 70 for Lisianski).
- 21 May **Lisianski:** Morning arrival at Lisianski Island. Both SE-2 and SE-4 made multiple runs to deploy seal camp team (2 people) along with a shore party to Lisianski Island to set up camp. Offloaded gear included: pelicans, buckets of supplies, 4 pallet tubs, 11 tanks of propane, and 70 5-gal water jugs. Disembarked 2: Barcina, Dolan. Afternoon, picked up shore party and departed to Pearl and Hermes Reef. Filled fresh water jugs en route (total 120 for PHR).

- 22 May **PHR:** Morning arrival at PHR. PHR boats (two 19-ft Zodiac inflatables) were deployed to Southeast Island. Both SE-2 and SE-4 made multiple runs to deploy seal camp team (4 people) along with a shore party to Southeast Island to set up camp. Offloaded gear included pelicans, buckets of supplies, 4 pallet tubs, 10 fifty-five-gallon drums of gasoline, 11 tanks of propane, and 120 five-gallon water jugs. Disembarked 4: D Roberts, M Roberts, Gibson, Cummings. Picked up shore party in the afternoon and departed to Midway.
- 23 May **Midway:** Morning arrival at Midway. All ship's crew and science party attended a briefing by USFWS on arrival. Three science team members flown to Midway in advance joined our operations. Embarked 3: Becker, Nimz, Golden. Three scientists went with SE-4 to conduct seal surveys of Eastern and Spit Islands. An additional 2 scientists surveyed Sand Island by foot. The remaining 2 scientists organized and fumigated 49 bags of marine debris brought to the cargo pier by USFWS. The *Sette* loaded 5 pallet tubs of gear for NOS maritime archaeology project as well as the first 12 bags of debris. Overnighted at Midway.
- 24 May **Midway:** Three scientists went with SE-4 and conducted seal surveys of Eastern and Spit Islands, while 2 surveyed Sand Island by foot. We continued loading debris, making a total of 42 bags (7 were not taken due to condition / contents), and 4 derelict boats. Shore parties returned to ship in the afternoon and departed for Kure Atoll. Filled fresh-water jugs en route (total 70 for KUR).
- 25 May **Kure:** Morning arrival at Kure Atoll. Both SE-2 and SE-4 made multiple runs to deploy seal camp team (2 people) along with a shore party to Green Island to set up camp. SE-2 transported 1 seal to Green Island. Offloaded camp gear included: pelicans, buckets of supplies, 2 pallet tubs, 1 tank of propane and few 5-gallon water jugs. We also offloaded 2 pallet tubs, buckets and coolers for DLNR's camp, and retrieved one pallet tub and 80 empty water jugs from DLNR. In the mid-afternoon SE-4 experienced engine trouble and had to be cradled on the *Sette* for the remainder of the cruise. The long run times, rough conditions and slower speed of SE-2 made it impossible to complete offload in one day. Overnighted at Kure.
- 26 May **Kure:** SE-2 made three additional runs to complete gear offload to Green Island, including buckets and water jugs bringing the total to 90. Between runs SE-2 transported 1 scientist to survey seals on Sand Island. The remainder of the shore party assessed rehab candidates between offloading gear. No rehab seals were picked up. Disembarked 2: Nimz, Golden. Embarked 1: Bolosan. Picked up shore party in the afternoon and departed to Pearl and Hermes Reef.
- 27 May **PHR:** Morning arrival at PHR. SE-2 transported 4 scientists to shore.

- Shore party examined 1 juvenile seal for rehab (not picked up), helped the PHR team bleach seals, and used a PHR boat to survey Bird, Grass, and Seal-Kittery Islands looking for rehab candidates. Picked up shore party in the afternoon and departed to Lisianski.
- 28 May **Lisianski:** Morning arrival at Lisianski. SE-2 transported 5 scientists to shore. Shore party examined 1 juvenile seal for rehab (not picked up), and helped Lisianski team clean marine debris from the south point. Picked up shore party in the afternoon and departed to Laysan.
- 29 May **Laysan:** Morning arrival at Laysan. SE-2 transported 5 scientists to shore. Shore party examined juvenile seals for rehab (not picked up), helped bleach seals, and helped train Laysan camp staff in vaccinating seals with pole syringes. Picked up shore party shore team in the afternoon and departed to FFS.
- 30 May **Transit**
- 31 May **FFS:** Morning arrival at FFS. SE-2 transported 3 scientists to shore. Shore party examined juvenile seals for rehab and checked Shark and East Islands for rehab candidates. Two seals were picked up for rehab; 1 pre-weaned pup and 1 three- year-old. Seven bags of marine debris were loaded. In the afternoon picked up shore party and 2 rehab seals and departed to Kona.
- 01 June **Transit**
- 02 June **Transit**
- 03 June **Kona:** Morning arrival at Honokohau Harbor. Operations started at 0530 to allow same-day arrival in Honolulu. SE-2 made 2 runs to transport rehab seals to shore, along with vet and vet tech. Disembarked 2: Barbieri, Wickam. Departed to Pearl Harbor.
- Pearl Harbor:** Evening arrival at Pearl Harbor. Disembarked 4: Robinson, Burns, Bolsan, Becker. End of cruise.

**MISSIONS AND RESULTS:**

The main objectives and results for SE 17-05 were the following:

1. Deploy Hawaiian monk seal and turtle camps at French Frigate Shoals, Laysan Island, Lisianski Island, Pearl and Hermes Reef and Kure Atoll.
2. Conduct monk seal surveys at Midway Atoll, Ni’ihau, Nihoa, and Mokumanamana.
3. Return rehabilitated Hawaiian monk seals from Ke Kai Ola (KKO) rehabilitation facility to their sites of origin within PMNM.
4. Pick up seals in need of rehabilitation for transport to KKO.
5. Conduct CTD casts at permanent CTD stations in PMNM.

**1. Deploy Hawaiian monk seal and turtle camps.**

Monk seal field camps were successfully deployed at French Frigate Shoals (4 staff), Laysan Island (3 staff), Lisianski Island (2 staff), Pearl and Hermes Reef (4 staff), and Kure Atoll (2 staff). Additionally a turtle field camp was successfully deployed at French Frigate Shoals (3 staff).

**2. Conduct monk seal surveys.**

Successful surveys were conducted at all target sites that lack long term field camps.

Ni’ihau & Lehua: full survey 5/15, preliminary estimate 42 seals.

Nihoa: full survey 5/16, preliminary estimate 34 seals.

Mokumanamana: partial survey 5/17, preliminary estimate 15 seals.

Midway Atoll: full atoll surveys 5/23 and 5/24, preliminary estimate >34 seals.

**3. Return rehabilitated Hawaiian monk seals from KKO to PMNM.**

Two weaned pups (VH24 and WH10), one yearling (AG06), and one subadult seal (YK56) were transported from to KKO back to their sites of origin within PMNM.

**4. Pick up seals in need of rehabilitation for transport to KKO.**

One weaned pup (QJ00) and one 3-yearold (Y48F) were transported from French Frigate Shoals to KKO.

**Table 1. Seals transported between NWHI and Ke Kail Ola (KKO).**

W = weaned pup. J = Juvenile. S = Subadult.

	<u>Seal ID</u>	<u>Size</u>	<u>Sex</u>	<u>Source Site</u>	<u>Date Embarked</u>	<u>Destination Site</u>	<u>Date Disembarked</u>
1	VH24	W	F	KKO	5/13/2017	Kure	5/25/2017
2	WH10	W	M	KKO	5/13/2017	Laysan	5/20/2017
3	AG06	J	F	KKO	5/13/2017	FFS	5/18/2017
4	YK56	S	F	KKO	5/13/2017	FFS	5/18/2017
5	QJ00	W	F	FFS	5/31/2017	KKO	6/3/2016
6	Y48F	J	F	FFS	5/31/2017	KKO	6/3/2017

**5. Conduct CTD casts at permanent CTD stations in NWHI.**

Shipboard CTD casts were conducted successfully at 2 out of 10 historical sites during transits between islands (many were curtailed due to concern for stress of seals on board). CTDs were conducted to a depth of 500 m.

**SCIENTIFIC PERSONNEL:**

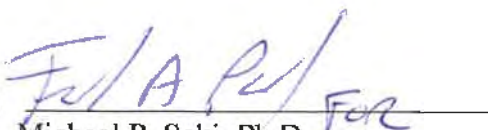
1. Robinson, Stacie, Chief Scientist, NOAA, NMFS
2. Burns, Michael, Operations Lead, JIMAR, UH
3. Barbieri, Michelle, Veterinary Medical Officer, NOAA, NMFS
4. Wickham, Deb, Veterinary Technician, The Marine Mammal Center
5. Farry, Shawn, JIMAR Research Technician, JIMAR, UH
6. Guerin, Sean, JIMAR Research Associate, JIMAR, UH
7. Carpenter, Joshua, JIMAR Research Associate, JIMAR, UH
8. Northey, Allison, JIMAR volunteer, JIMAR, UH
9. Staman, Jan, JIMAR Research Associate, JIMAR, UH
10. Staman, Marylou, JIMAR Research Associate, JIMAR, UH
11. Reininger, Alexandra, JIMAR Research Associate, JIMAR, UH
12. Ronco, Hope, JIMAR Research Technician, JIMAR, UH
13. Tovar, Kristen, JIMAR volunteer, JIMAR, UH
14. Dodge, Helena, JIMAR volunteer, JIMAR, UH
15. Barcina, Keelan, JIMAR Research Technician, JIMAR, UH
16. Dolan, Brittany, JIMAR Research Associate, JIMAR, UH
17. Roberts, Darren, JIMAR Research Technician, JIMAR, UH
18. Roberts, Megan, JIMAR Research Associate, JIMAR, UH
19. Cummings, Caroline, JIMAR Research Associate, JIMAR, UH
20. Gibson, Alix, JIMAR volunteer, JIMAR, UH
21. Nimz, Ilana, JIMAR Research Technician, JIMAR, UH
22. Golden, David, JIMAR Research Associate, JIMAR, UH
23. Becker, Brenda, Field Biologist, NOAA, NMFS
24. Bolosan, Tiana, DLNR Field Biologist, NOAA, NMFS



Submitted by:

Stacie J. Robinson  
Chief Scientist

Approved by:



Michael P. Seki, Ph.D.  
Science Director  
Pacific Islands Fisheries Science Center