



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-22-02

PROJECT PERIOD: March 29, 2022 to April 17, 2022

AREA OF OPERATION: Main Hawaiian Islands (Penguin Banks, west Lānai‘i, Maui Nui, west coast of Hawai‘i Island.

TYPE OF OPERATION: Bottomfishing for life history samples of Bottomfish Management Unit Species, Integrated Ecosystem Assessment (IEA)

ITINERARY:

30 March Tested all scientists for COVID (0600). Embarked scientists (O’Malley, Dahl, Reed, Schemmel, Harsanyi, Park, Staman, Gonzales, McLean, Norris) (0700). Departed Ford Island (1440). Conducted Welcome Aboard brief, safety drills, operational planning and equipment preparations throughout the day. Transit to west Lāna‘i for the night.

31 March Arrived south side of Moloka‘i (0600). Conducted small boat safety meeting (0730). Launched small boat *SteelToe* for bottomfishing operations (0800). Deployed and retrieved DCIP from the NOAA Ship *Oscar Elton (Sette)* (2 drops). Recovered *SteelToe* (1600). Transit to west Lanai for the night.

01 April Arrived south side of Moloka‘i (0600). Conducted small boat safety meeting (0730). Launched small boat *SteelToe* for bottomfishing operations (0800). Deployed and retrieved DCIP from the *Sette* (4 drops). Recovered small boat *SteelToe* (1600). Transit to west Lāna‘i for the night.

- 02 April Arrived south side of west side of Lāna‘i (0600). Conducted small boat safety meeting (0730). Launched small boats *SteelToe* and *Rubber Duck* for bottomfishing operations (0800). Deployed and retrieved DCIP from *Sette* (5 drops). Recovered small boats *Rubber Duck* and *SteelToe* (1610). Transit to west Lāna‘i for the night.
- 03 April Arrived north side of Kaho‘olawe (0600). Weather safety check indicated too dangerous for operations (0615). Arrived in the middle of Maui Nui and assessed weather (0645). Conducted small boat safety meeting (0730). Launched small boats *SteelToe* and *Rubber Duck* for bottomfishing operations (0800). Deployed and retrieved DCIP from the *Sette* (5 drops). Recovered small boats *Rubber Duck* and *SteelToe* (1610). Transit to west Lāna‘i for the night.
- 04 April Arrived north side of Kaho‘olawe (0600). Conducted small boat safety meeting (0730). Launched small boats *SteelToe* and *Rubber Duck* for bottomfishing operations (0800). Deployed and retrieved DCIP from the *Sette* (5 drops). Recovered small boats *Rubber Duck* and *SteelToe* (1610). Transit to Ford Island.
- 05 April Arrived PH Buoy (0730). The NOAA Ship *Oscar Elton Sette* arrived at Ford Island Pier (0930). End of Leg 1 scientific operations. Scientists disembarked and offloaded gear.
- 05 April Tested all scientists for COVID (1300). Embarked scientists (Gove, Burns, Gavagon, Gonzales, Graves, Hayes, Hennessey, Lloyd-Lim, Nakoa, Osborn, Overly, Pascoe, Pugh, Samhuri, Schmidt, Teague, Whitney). Departed Ford Island (1630). Conducted Welcome Aboard brief, dive neurological exams, operational planning and equipment preparations throughout the day. Transit to the west coast of Hawai‘i Island.
- 06 April Arrived to the west coast of Hawai‘i (0600). Conducted small boat safety meeting and familiarization (0730). Launched small boats *SteelToe*, *Rubber Duck*, and SE-4 for diving operations. Recovered all small boats (1630).
- 07 April Conducted small boat safety meeting (0730). Launched small boats *SteelToe*, *Rubber Duck*, and SE-4 for diving operations. Disembarked Burns at Kawaihae. Recovered all small boats (1630). Night-time CTD operations.
- 08–10 April Conducted small boat safety meeting (0730). Launched small boats *SteelToe*, *Rubber Duck*, and SE-4 for diving operations. Recovered all small boats (1630). Night-time CTD operations.

- 11 April Conducted small boat safety meeting (0730). Launched small boats *SteelToe*, *Rubber Duck*, and SE-4 for diving operations. Disembarked Samhuri at Honokohau. Recovered all small boats (1630). Night-time CTD operations.
- 12 April Conducted small-boat safety meeting (0730). Launched small boats *SteelToe*, *Rubber Duck*, and SE-4 for diving operations. Recovered all small boats (1630). Night-time CTD operations.
- 13 April Conducted small boat safety meeting (0730). Launched small boats *SteelToe*, *Rubber Duck*, and SE-4 for diving operations. Disembarked Pugh at Honokohau Harbor. COVID tested and embarked Hoban and Burns. Recovered all small boats (1630). Night-time CTD operations.
- 14–15 April Conducted small boat safety meeting (0730). Launched small boats *SteelToe*, *Rubber Duck*, and SE-4 for diving operations. Recovered all small boats (1630). Night-time CTD operations.
- 16 April Conducted small boat safety meeting (0730). Launched small boats *SteelToe* and *Rubber Duck* for diving operations (0800). Launch SE-4 for gear personnel transfer (08:30). Disembarked Burns, Gavagon, Hayes, Overly, Pascoe, and Teague. Recovered all small boats (1430). Began transit to Pearl Harbor, O‘ahu.
- 17 April Arrived Pearl Harbor Buoy (1300). The NOAA Ship *Oscar Elton Sette* arrived at Ford Island Pier (1400). End of Leg 2 scientific operations. Scientists disembarked and offloaded gear.

MISSIONS AND RESULTS

- A. Collection of federally managed deep-slope bottomfish samples (otoliths, eye lens, gonads, and tissue) from the NOAA Ship *Oscar Elton Sette*-based PIFSC 19-ft SAFE Boats in the 50–400 m depth zone.

Bottomfishing operations resulted in the capture of 63 *Pristipomoides filamentosus*, 3 *Etelis carbunculus*, and 1 *P. sonata*’s from 8 small-boat deployments. Adult specimens were sampled at sea and juveniles were frozen for sampling at PIFSC.

- B. DCIP deployment/recovery from the NOAA Ship *Oscar Elton Sette* between 200- and 500-m depth zone to collect stereoscopic video data to support research and development of a supplementary artificial lighting system.

A total of 21 successful DCIP deployments/recoveries took place within the operational area.

- C. Conducted surveys to assess the total number and size of species of reef fish and benthic reef communities.

A total of 113 reef fish and benthic surveys were performed across the west coast of Hawai‘i Island.

- D. Conducted water samples for environmental DNA (eDNA) analysis to detect species presence/absence from a subset of reef fish and benthic surveys.

eDNA was collected at 81 reef fish and benthic surveys, totaling 507 samples that resulted in 1980 Liters (523 Gallons) of seawater filtered.

- E. Conducted CTD casts and ADCP transects.

A total of 27 CTDs were collected along east-west transects running perpendicular to the coastline.

SCIENTIFIC PERSONNEL:

Leg 1			
#	Name (Last, First)	Title	Affiliation
1	O'Malley, Joseph	Chief Scientist	Pacific Islands Fisheries Science Center
2	Dahl, Kristen	Research Fishery Biologist	PIFSC, NMFS
3	Gonzalez, Alexa	Biological Science Technician	PIFSC, NMFS
4	Harsanyi, Garry	Supervisory Natural Resource Management Specialist	PIFSC, NMFS
5	McLean, Robert	Biological Science Technician	PIFSC, NMFS
6	Park, Nathaniel	NOAA Corps Officer	PIFSC, NMFS
7	Norris, Erik	Research and Operations Technician	CIMAR, RCUH
8	Reed, Erin	Fish Life History Bio-Sampling Specialist	CIMAR, RCUH
9	Schemmel, Eva	Research Fishery Biologist	PIFSC, NMFS
10	Staman, Jan Willem	Biological Science Technician	PIFSC, NMFS

Leg 2			
#	Name (Last, First)	Title	Affiliation
1	Gove, Jamison	Chief Scientist	Pacific Islands Fisheries Science Center
2	Burns, John	Professor	University of Hawaii (UH) at Hilo
3	Gavagon, Lilly	Graduate Research Assistant	UH Hilo
4	Gonzales, Alexa	Biological Science Technician	PIFSC, NMFS
5	Graves, John	Graduate Research Assistant	UH Hilo
6	Hayes, Nathan	Research Technician	Division of Aquatic Resources (DAR)
7	Hennessey, Shannon	Post-doctoral Candidate	Arizona State University (ASU)
8	Hoban, Michael	PHD Candidate	UH Manoa
9	Lloyd-Lim, Calla	Biological Science Technician	PIFSC, NMFS
10	Nakoa, Joseph	Graduate Research Assistant	UH Hilo
11	Osborn, Nicolas	NOAA Corps Officer	PIFSC, NMFS
12	Overly, Ashlynn	Graduate Research Assistant	UH Hilo
13	Pascoe, Kailey	PHD Candidate	ASU
14	Pugh, Ashley	Research Technician	DAR
15	Samhour, Jameal	Research Scientist	Northwest Fisheries Science Center
16	Schmidt, Andrea	Lab Specialist	CIMAR, RCUH
17	Teague, Chris	Program Lead	DAR
18	Whitney, Jonathan	Research Biologist	PIFSC, NMFS

Submitted by: Joseph O'Malley

Joseph O'Malley
Chief Scientist

Approved by: Tia Brown

Tia Brown
Acting Science Director
Pacific Islands Fisheries Science Center

Attachments

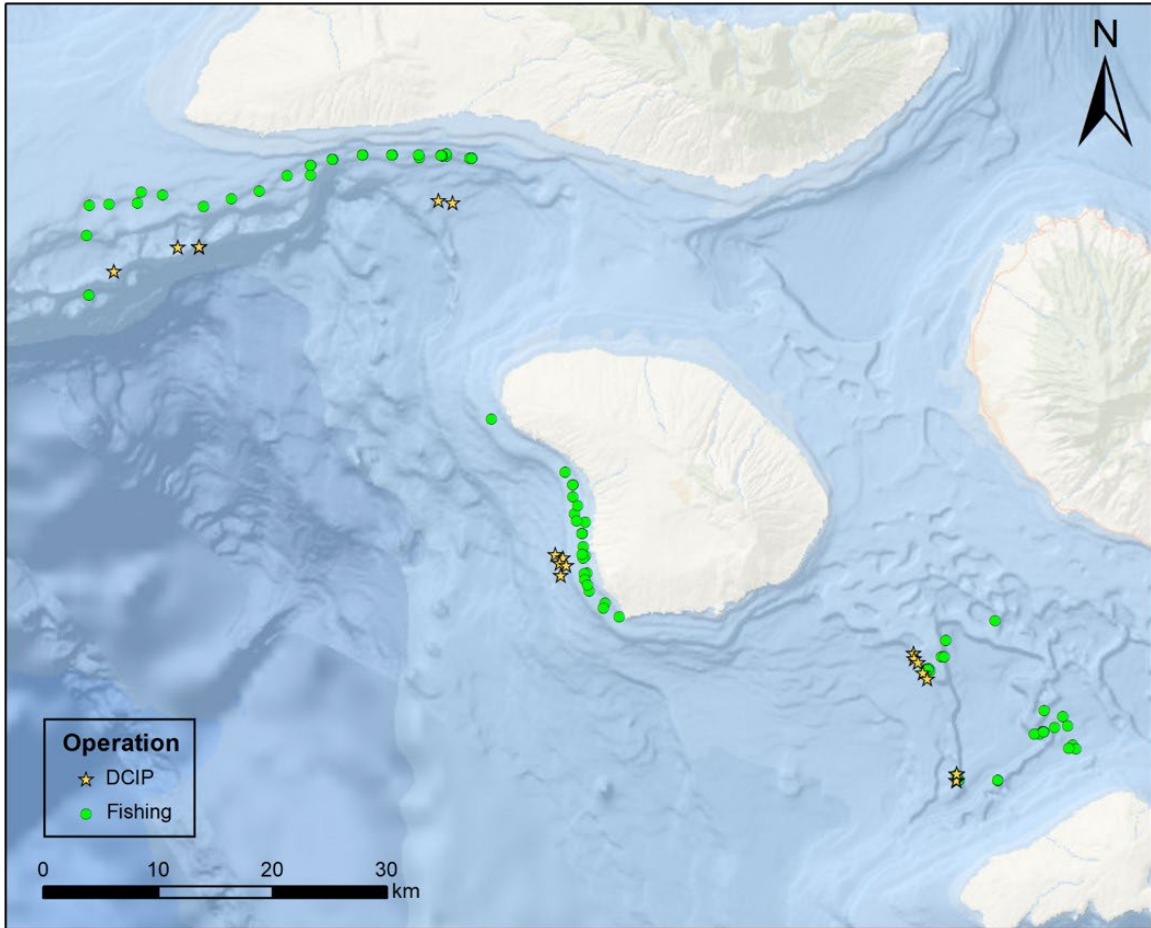


Figure 1. Operations locations during Leg 1. Circles are the fishing locations and stars are the camera drop location.

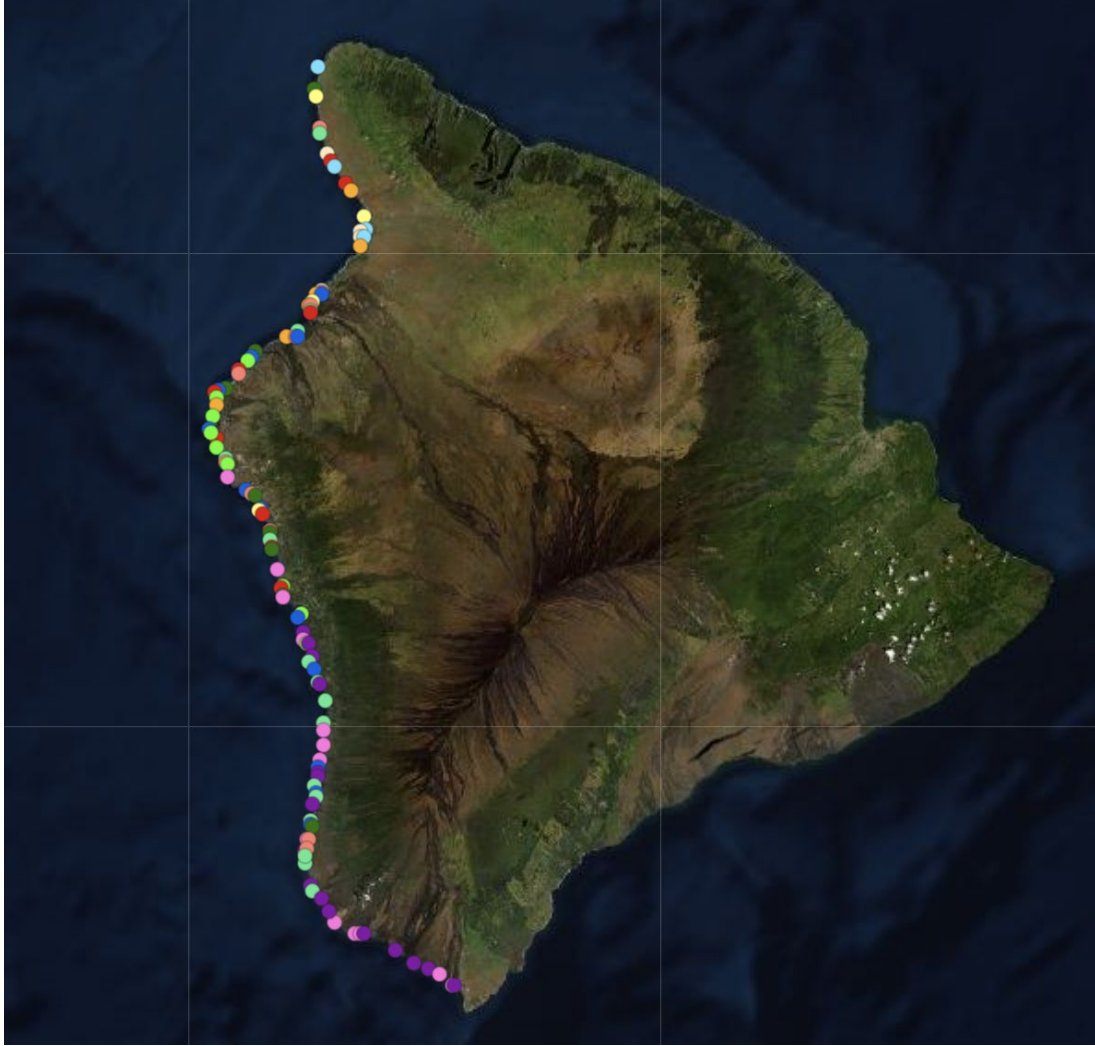


Figure 2. Map of reef fish, benthic, and eDNA locations surveyed along the west coast of Hawaii Island during Leg 2 of SE-22-02.