



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE/NOAA FISHERIES

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CRUISE REPORT¹

VESSEL: *Oscar Elton Sette*, Cruise OES-07-02 (OES-50)

CRUISE PERIOD: March 26–April 12, 2007

AREA OF OPERATION: Northwestern Hawaiian Islands (Fig. 1)

TYPE OF OPERATION: In support of a Pacific Islands Fisheries Science Center research project to conduct cetacean surveys, make ecosystem observations, and implement the deployment of a High Frequency Acoustic Recording Package (HARP)

ITINERARY:

March 26 Embarked scientists Johnstone, Yoshinaga, Baker, Chapla, Thorne, and Williams. Departed Honolulu at 1300.

March 26–28 Transited to French Frigate Shoals (FFS) and conducted cetacean observations. Returned to Pearl Harbor to off-load injured crew member. Transited to FFS.

March 30 Arrived FFS at 0800. Delivered U.S. Fish and Wildlife Service (USFWS) equipment.

March 30 Departed FFS at 1800. Transited to Midway (MDY) and conducted cetacean observations.

April 1 Arrived MDY at 1200. Off-loaded USFWS supplies.

April 2 Departed MDY at 1500; transited to Ladd Seamount.

April 2 Arrived Ladd Seamount at 2200. Conducted night conductivity-temperature-depth casts across the seamount.

¹PIFSC Cruise Report CR-07-010
Issued 18 June 2007



- Apr 3 At 0700, scouted for a location to deploy HARP at Ladd Seamount.
- April 4–5 Deployed HARP in ~ 400 m depth. Surveys were conducted around HARP location to record boat noise.
- Apr 6 Departed Ladd Seamount; transited to Honolulu and conducted cetacean observations.
- Apr 12 Arrived Honolulu. Disembarked scientists Johnston, Yoshinaga, Baker, Chapla, Thorne, and Williams.

MISSIONS AND RESULTS:

- A. Collect line-transect data on cetacean abundance and density to estimate abundance for all cetacean species present in the study area.
1. Over 50 groups of cetaceans were visually detected, including groups of sei whales, humpback whales, sperm whales, minke whales, pilot whales, bottlenose dolphins, and rough-toothed dolphins.
 2. A hydrophone array was towed during daylight hours (weather permitting), and approximately 150 gb of acoustic data were recorded. This includes recordings of the vocalizations of humpback whales, sperm whales, minke whales, pilot whales, bottlenose dolphins, and rough-toothed dolphins.
- B. Collect photo-ID data and biopsy samples for genetic studies of population structure.

We obtained over 40 gb of cetacean photos for ID purposes and 10 biopsies of cetaceans for ongoing population discrimination studies.

- C. Deploy HARP at Ladd Seamount.

A HARP was deployed on the summit of Ladd Seamount in the Papahānaumokuākea Marine National Monument.

- D. Assist USFWS with transportation of gear, fuel, and personnel to FFS and Midway.

Assisted USFWS with the transportation of gear, fuel, and personnel to FFS and Midway.

**SCIENTIFIC
PERSONNEL:**

David Johnston, Chief Scientist, Joint Institute for Marine and Atmospheric Research
(JIMAR), University of Hawaii (UH)

Chad Yoshinaga, Monk Seal Biologist, Pacific Islands Fisheries Science Center (PIFSC),
National Marine Fisheries Service (NMFS)

Jason Baker, Zoologist, PIFSC, NMFS

Marie Chapla, Cetacean Observer, Aquatic Farms Contractor

Lesley Thorne, Cetacean Observer, Duke University

Lynne Williams, Bioacoustician, Duke University

(/s/David Johnston)

Submitted by: _____

David Johnston
Chief Scientist

(/s/Samuel G. Pooley)

Approved by: _____

Sa muel G. Pooley
Science Director
Pacific Islands Fisheries Science Center

Attachment

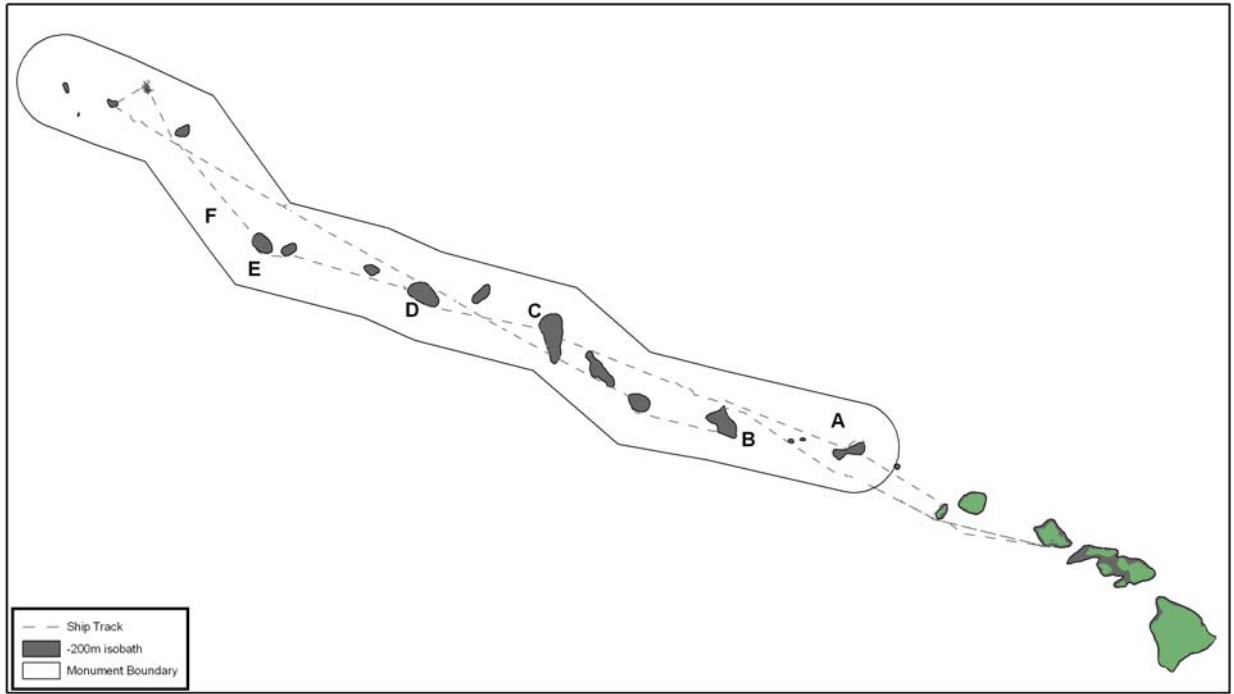


Figure 1.--Track of NOAA ship *Oscar Elton Sette* cruise OES-07-02 (OES-50), February 26 to April 12, 2007.