

July 25, 2003

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CRUISE REPORT

VESSEL: *Oscar Elton Sette*, Cruise 03-05 (OES-06) (Fig. 1)

CRUISE PERIOD: June 11-30, 2003

AREA OF OPERATION: Northwestern Hawaiian Islands (NWHI)

TYPE OF OPERATION: Personnel from the Pacific Islands Fisheries Science Center, National Marine Fisheries Service (NMFS), NOAA, conducted lobster trapping operations in the waters of the NWHI.

ITINERARY:

11 June Start of cruise. On board were Carole Berini, Thomas William Claborn, Gerard DiNardo, Jami Johnson, Marti McCracken, Garrett McNulty, Robert Moffitt, Joseph O'Malley, Niklas Tysklind, and Emilie Weed. Departed Snug Harbor at 0900 and proceeded to Maro Reef.

14 June Arrived at Maro Reef and commenced lobster trapping and QTC (Quester Tangent benthic habitat classification) operations.

15-18 June Continued lobster trapping and QTC operations.

19 June Hauled half of traps in the water then proceeded to Midway Island on a medical emergency.

21 June Arrived at Midway Island. Disembarded Emilie Weed. Proceeded back to Maro Reef.

22 June Arrived at Maro Reef and resumed lobster trapping and QTC operations.

23-25 June Continued lobster trapping and QTC operations.

26 June Hauled last lobster traps. Departed Maro Reef and proceeded to Tern Island, French Frigate Shoals.

- 27 June Arrived Tern Island. Embarked Trevor Joyce. Proceeded to Pearl Harbor, Oahu.
- 30 June Arrived at Pearl Harbor, Oahu. Disembarked Carole Berini, Thomas William Claborn, Gerard DiNardo, Jami Johnson, Marti McCracken, and Robert Moffitt. Put on fuel then transited to Snug Harbor. End of cruise.

MISSIONS AND RESULTS:

- A. Collected data on abundance and species composition of trap-captured lobster at Maro Reef in the NWHI to compare with results of previously collected data.

1. A total of 351 spiny lobster, *Panulirus marginatus*; 3,499 slipper lobster, *Scyllarides squammosus*; 8 ridgeback slipper lobster, *S. haanii*; and 11 Chinese slipper lobster, *Parribacus antarcticus*, were caught in 1,099 trap hauls from 102 lobster trapping stations (Table 1) conducted on adult lobster fishing grounds using black plastic (Fathom's Plus) lobster traps with a 1- by 2-in mesh. Each station consisted of a single string of traps. Strings were composed of either 8 or 20 traps separated by 20 fathoms of ground line. Traps were baited with 1.5-2.0 lb of cut mackerel and soaked overnight. Traps were generally set within one of two depth regimes: 10-20 or 20-35 fathoms.

Catch rates of spiny lobster at 0.30 per trap-night, though double the 2002 catch rate of 0.15, remain low in historical terms. Catch rates of slipper lobster were very high at approximately 3.22 slipper lobster per trap-night (considerably higher than the 1999 catch rate of 2.63 and the 2000 catch rate of 1.98, and only slightly lower than the 2001 catch rate of 3.71 and the 2002 catch rate of 3.60).

Current and historical catch rates for lobster (number per trap night) at Maro Reef by quad are shown in Tables 2-5 below. All data presented below are based on gross catch rates and should not be interpreted as a thoroughly analyzed assessment.

2. After processing, lobster were returned to the bottom in a release cage. A camera was mounted to the release cage on several occasions to record any predation during and immediately after the release operation. Sharks were observed to nose, but not eat, lobster after release. Jacks were not observed during this release operations.

- B. Obtain length-frequency data on spiny and slipper lobsters to compare with those of previous years and to refine estimates of growth and mortality.

All lobster captured were sexed and measured. The presence or absence of eggs was recorded for all females. Data were returned to the Center for computer entry and future analysis.

- C. Collect pleopod measurements from female lobster for ongoing maturation studies.

Pleopod and tail width measurements were taken from nearly all female spiny lobster and slipper lobsters. Data on the relative length of the female pleopod will be used to estimate size at maturity for female spiny and slipper lobsters. Current year's data can be compared to previously collected data to determine interannual variation in size at maturity for lobster populations.

- D. Collect spiny and slipper lobsters to return alive to the laboratory for pit tag evaluation studies.

We collected, tagged, and returned approximately 100 live spiny and slipper lobsters. No mortalities occurred during the cruise.

- E. Collect fish and invertebrate specimens for monk seal diet fatty acid analysis.

We continued to fulfill specimen needs for an ongoing prey item fatty acid study.

- F. Collect genetic material from select lobster and fish species.

We collected tissue samples from several species including *Panulirus marginatus*, *Scyllarides squammosus*, *Canthigaster jactator*, and several species of *Gymnothorax*. These samples were turned over to various investigators at the University of Hawaii for their ongoing projects.

- G. Run Quester Tangent Acoustic Seabed Classification Surveys over trapping sites

We conducted Quester Tangent acoustic seabed classification operations for several nights covering all lobster trapping sites and other bank areas.

- H. Conduct pilot camera trap operations.

A camera equipped trap was set on two occasions. The purpose of the camera trap was to observe activity around a lobster

trap during the overnight soak. Attempts were marginally successful. More work on the system is needed.

**SCIENTIFIC
PERSONNEL:**

Robert B. Moffitt, Chief Scientist, National Marine Fisheries Service (NMFS), Pacific Islands Fisheries Science Center (PIFSC)
 Carole Berini, Research Technician, Joint Institute for Marine and Atmospheric Research (JIMAR), University of Hawaii (UH)
 Thomas W. Claborn, Research Technician, JIMAR, UH
 Gerard DiNardo, Fishery Biologist, NMFS, PIFSC
 Jami Johnson, Research Technician, JIMAR, UH
 Marti McCracken, Mathematical Statistician, NMFS, PIFSC
 Garrett McNulty, Research Technician, JIMAR, UH
 Niklas Tysklind, Research Technician, JIMAR, UH
 Joseph M. O'Malley, Research Technician, JIMAR, UH
 Emilie Weed, Research Technician, JIMAR, UH
 Trevor Joyce, Cooperating Scientist, U.S. Fish and Wildlife Service

DATA COLLECTED:

Trap, Pot, and Net Report Form No. 57
 Lobster Morphology Log HL-0153
 Marine Operations Log
 Station Number and Activity Log HL -0007
 Fish Sampling Log
 Deck Log - Weather Observation Sheet NOAA form 77-13D
 Acoustic Doppler Current Profile (ADCP) data
 Sette SCS computer data
 Quester Tangent benthic habitat Classification (QTC) data
 Chartlets of trapping and QTC operations

Submitted by: (/s/Robert B. Moffitt)

 Robert B. Moffitt
 Chief Scientist

Approved by: (/s/Jeffrey J. Polovina)

 Jeffrey J. Polovina
 Acting Director, Pacific Islands
 Fisheries Science Center

Attachment

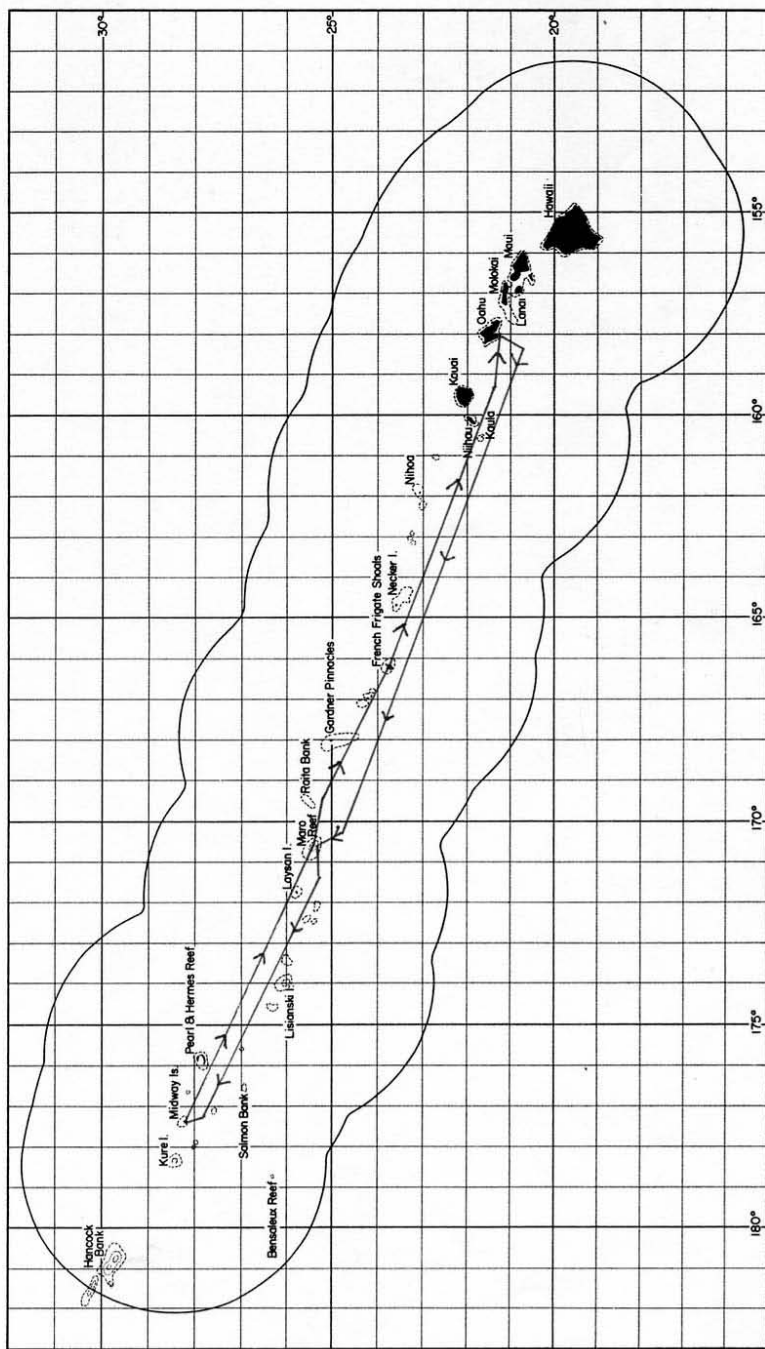


Figure 1.--Track of the NOAA ship Oscar Elton Sette cruise OES-03-05 (OES-06), June 11-30, 2003.