

August 25, 2000

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CRUISE REPORT

VESSEL: *Townsend Cromwell*, Cruise 97-06 (TC-221)

CRUISE PERIOD: June 11-July 10, 1997

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

TYPE OF OPERATION: Personnel from the Southwest Fisheries Center (SWFSC) Honolulu Laboratory (HL), National Marine Fisheries Service (NMFS), NOAA conducted lobster trapping operations in the waters of the Northwestern Hawaiian Islands. Supplies were delivered to the field camp at French Frigate Shoals and personnel were picked up from Lisianski and Laysan field camps.

ITINERARY:

11 June Start of cruise. On board were Philip Anderson, Gerard DiNardo, Wayne Haight, Robert Moffitt, Linda Nesar, Samuel Pooley, and Armando Vega. Departed Snug Harbor at 1800 and proceeded to Necker Island.

13 June Arrived at Necker Island. Commenced lobster fishing operations.

14-23 June Continued lobster trapping operations.

24 June Finished trapping operations. Departed Necker Island and proceeded to French Frigate Shoals.

25 June Arrived at French Frigate Shoals and off-loaded fuel. Proceeded to Maro Reef.

26 June Arrived at Maro Reef. Commenced lobster fishing operations.

27 June Continued lobster trapping operations.

28 June Hauled lobster gear and proceeded to Midway Island.

- 30 June Arrived at Midway Island. Disembarked Anderson and proceeded to Lisianski Island.
- 1 July Arrived at Lisianski Island. Broke down the Lisianski field camp, loaded camp equipment and supplies, and embarked Hannah Nevins, Matthew Rutishauser, and Josh Adams. Departed Lisianski and proceeded to Laysan Island.
- 2 July Arrived at Laysan Island. Loaded field camp equipment and supplies. Disembarked Adams; embarked Brenda Becker. Departed Laysan and proceeded to Maro Reef.
- 3 July Arrived at Maro Reef and continued the interrupted lobster trapping operations.
- 4-5 July Continued lobster trapping operations.
- 6 July Hauled last lobster traps. Departed Maro Reef and proceeded to Snug Harbor, Oahu.
- 10 July Arrived at Snug Harbor, Oahu. End of cruise.

MISSIONS AND RESULTS:

- A. Conduct lobster trapping operations at selected sites in the NWHI using plastic lobster traps.
1. Collected data on abundance and species composition of trap-captured lobsters at two banks in the NWHI to compare with results of previously collected data.

A total of 4,811 lobsters were caught in 223 lobster trapping stations conducted on adult lobster fishing grounds using black plastic (Fathom's Plus) lobster traps with a 1- by 2-inch 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 set within two depth ranges: 10-20 and 20-35 fathoms.

Catch rates of spiny lobster were low at Maro Reef, approximately 0.19 lobster per trap-night for all depths and locations. Catch rates of slipper lobster were high (approx 4.00/trap-night) at most of the sites at the shallower depths, but only 0.67 in quad 4-7. Slipper catch rates varied from 0.09-2.15 in the 20-35 fathom sets. A total of 30 kona crab, *Ranina ranina*, were caught in quad 2-6.

Catch rates of spiny lobster at the shallower depths at Necker Island were similar to those of 1996. They ranged from 0.24 per trap-night in quad 6-5 to 3.34 in quad 5-8. Spiny lobster caught on the southern extension of the bank were large (carapace lengths frequently > 100 mm). Slipper lobster catch rates in 1997 ranged from 0.04 to 0.79 depending upon quad and depth.

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

Carapace length and tail width measurements were recorded for approximately 2,400 spiny and 2,400 slipper lobsters.

3. Conduct lobster trapping in shallow waters, on the barrier reef and inside Maro Reef lagoon.

A total of 2 stations were occupied in shallow water (2-7 fathoms) on the barrier reef of the Maro Reef lagoon. A total of 19 traps were set singly, baited with mackerel and soaked for one night. Lobsters were counted, sexed, and measured from each trap. A total of 14 *Panulirus marginatus*, 5 *P. penicillatus*, and 22 *Scyllarides squammosus* were caught for overall catch rates of 0.74, 0.26, and 1.16 per trap-night, respectively.

4. Conduct Isaacs-Kidd midwater trawl (IKMT) surface plankton trawl tows to identify larval swordfish grounds.

A total of three 1-hour IKMT tows were conducted, two at Necker Island and one at Maro Reef. The intention was to tow through observed surface slicks where fish larvae accumulate, however, due to strong trade winds, no slicks were observed and tows were conducted at arbitrary locations. Larval fish catches were extremely poor and no swordfish larvae were collected.

**SCIENTIFIC
PERSONNEL:**

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Attachment