

July 30, 2002

F/SWC2:RBM:FLF
CR0204-1.RBM

CRUISE REPORT

VESSEL: *Townsend Cromwell*, Cruise 02-04 (TC-278)

CRUISE PERIOD: June 5-July 4, 2002

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 and personnel were delivered to the field camp at French Frigate Shoals (FFS).

ITINERARY:

- 5 June Start of cruise. On board were Robert Blyth, Aaron Bush, Kim Campbell, Tracy Dorigo, Pierre Knutsson, Chris Lowe, Robert Marshall, Robert Moffitt, Joseph O'Malley, John Schlosser, and Brad Wetherbee. Departed Snug Harbor at 1000 and proceeded to Tern Island, FFS.
- 7 June Arrived at Tern Island. Off loaded supplies and disembarked Bush, Lowe, and Wetherbee. Departed FFS and proceeded to Maro Reef.
- 8 June Arrived at Maro Reef and commenced lobster trapping operations.
- 9-14 June Continued lobster trapping operations.
- 15 June Finished trapping operations and proceeded to Necker Island.
- 17 June Arrived at Necker Island. Commenced lobster trapping operations.
- 18 June-1 July Continued lobster trapping operations.

- 2 July Hauled last lobster traps. Departed Necker Island and proceeded to Snug Harbor, Oahu.
- 4 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 lobster at two banks in the NWHI to compare with results of previously collected data.

A total of 1,275 spiny lobster, *Panulirus marginatus*; 4,746 slipper lobster, *Scyllarides squammosus*; 29 ridgeback slipper lobster, *S. haanii*; and 34 Chinese slipper lobster, *Parribacus antarcticus*, were caught in 294 lobster trapping stations conducted on adult lobster fishing grounds using black plastic (Fathom's Plus) lobster traps with a 1 in 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.

Our total effort at Maro Reef was 1,115 trap-nights yielding a total of 169 spiny lobster, 4,013 slipper lobster, 13 ridgeback slipper lobster, and 28 Chinese slipper lobster. Catch rates of spiny lobster were low at Maro Reef, approximately 0.15 spiny lobster per trap-night for all depths and locations. Catch rates of slipper lobster were very high at approximately 3.60 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).

Our total effort at Necker Island was 2,223 trap nights yielding 1,106 spiny lobster, 733 slipper lobster, 16 ridgeback slipper lobster, and 6 Chinese slipper lobster. Catch rates of spiny lobster were moderate at 0.50 lobster per trap night (considerably lower than the 2001 and 2000 catch rates of 0.71 and 0.83, respectively). Slipper lobster catch rates were high for Necker Island at 0.33 lobster per trap night (similar to the 2001 and 2000 catch rates of 0.33 and 0.35, respectively).

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 1,275 spiny and 4,746 slipper lobster. Five of the spiny lobster collected at Necker bore tags from 1998-99 tagging studies. Size measurements were taken from these individuals and 4 of them were retagged and returned immediately to the bottom.

3. Collect pleopod measurements from female lobster for ongoing maturation studies.

Pleopod and tail width measurements were taken from most female spiny lobster and slipper lobster at Maro Reef and Necker Island.

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

We collected specimens of several genera from trapping stations ranging in depth from 15-340 fathoms.

5. Run Quester Tangent Acoustic Seabed Classification Surveys over trapping sites

We conducted Quester Tangent acoustic seabed classification operations several nights covering all lobster trapping sites and a great deal of other areas, particularly at Necker bank.

**SCIENTIFIC
PERSONNEL:**

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Submitted by: _____
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Attachment

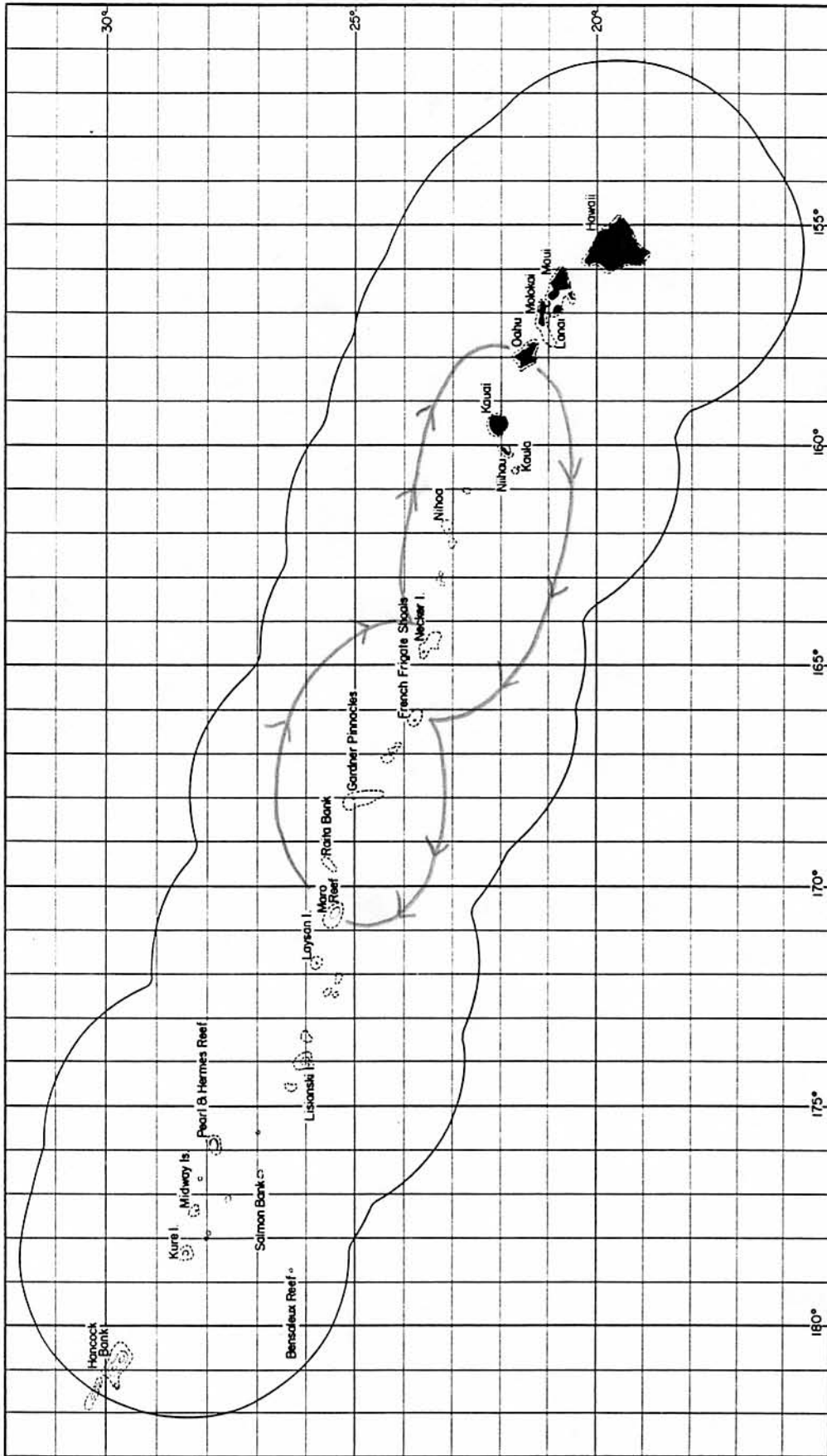


Figure 1.--Track of the NOAA ship Townsend Cromwell TC-02-04 (TC-278), June 5 to July 4, 2002.