

May 14, 1999

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CR9904-2.WRH

CRUISE REPORT

VESSEL: *Townsend Cromwell*, Cruise 99-04 (TC-242)

CRUISE PERIOD: 24 March-20 April 1999

AREA OF OPERATION: Necker Island (Fig. 1)

TYPE OF OPERATION: Personnel from the Joint Institute for Marine and Atmospheric Research (JIMAR) and National Marine Fisheries Service, NOAA conducted lobster trapping and tagging, trap bycatch collection, bottomfish sampling, ADCP transects, and plankton tows in the waters around Necker Island.

ITINERARY:

24 March Start of cruise. On board, Carolyn Cornish, Robert Dollar, Wayne Haight, Dave Gummesson, Bert Kikkawa, Robert Marshall, Jesse McMillan, Scott Murakami, and James Uchiyama. Departed Snug Harbor at 1800; transited to Necker Island.

26 March Arrived at Necker Island. Commenced lobster trapping and tagging, bycatch collection, bottomfishing, and acoustic Doppler current profiler (ADCP) operations.

27 March-15 April Continued lobster trapping and tagging, bycatch collection, bottomfishing, and ADCP operations.

16 April Hauled lobster traps and departed Necker Island en route to Twin Banks.

17 April Arrived at Twin Banks and commenced bottomfishing operations. Departed Twin Banks for Oahu.

20 April

Arrived Snug Harbor, Oahu. End of cruise

MISSIONS AND RESULTS:

A. Collect, tag, and release live trap-captured Hawaiian spiny lobster (*Panulirus marginatus*) to provide data necessary for reestimation of key biological and population parameters for the Necker Island lobster stock.

1. Collect data on the abundance and species composition of trap-captured lobster at Necker Island; tag and release spiny lobster.

A total of 160 trapping stations covering 20 separate sites (Fig. 2) were fished with black plastic lobster traps. Each trapping station consisted of a string of 20 traps. Traps, set at 1500 hours, were baited with mackerel and allowed to soak overnight. Approximately 160 traps were set each night. A total of 3,537 lobster were caught in 3,129 trap hauls for an overall CPUE of 1.13 lobster/trap-haul. A total of 2,686 spiny lobster were tagged and released. Carapace length, tail-width, and reproductive information were collected from each lobster caught.

2. Obtain lobster length-frequency data to compare with previous research and commercial fishery data.

Carapace length and tail width measurements were recorded for approximately 2,724 spiny and 813 slipper lobsters.

3. Collect 100 slipper lobster for fecundity and sexual maturity analysis.

A total of 100 slipper lobster were collected, labeled, and frozen for sexual maturity analysis.

B. Collect trap bycatch specimens for Hawaiian monk seal nutritional analysis.

A total of 300 specimens representing 60 different species were collected, labeled, and frozen for tissue analysis.

C. Conduct ADCP transects and zooplankton tows at night on predetermined tracks.

Five ADCP transects and 13 plankton tows were completed in waters around Necker Island.

**SCIENTIFIC
PERSONNEL:**

Wayne R. Haight, Chief Scientist, Joint Institute for Marine and
Atmospheric Research (JIMAR), University of Hawaii (UH)
Carolyn Cornish, Cooperating Scientist, JIMAR, UH
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Submitted by:

Wayne R. Haight
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Approved by:

R. Michael Laurs
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Attachments

Figure 1. Track of the NOAA Ship R/V Townsend Cromwell, cruise TC-99-04, March 24 to April 20, 1999.

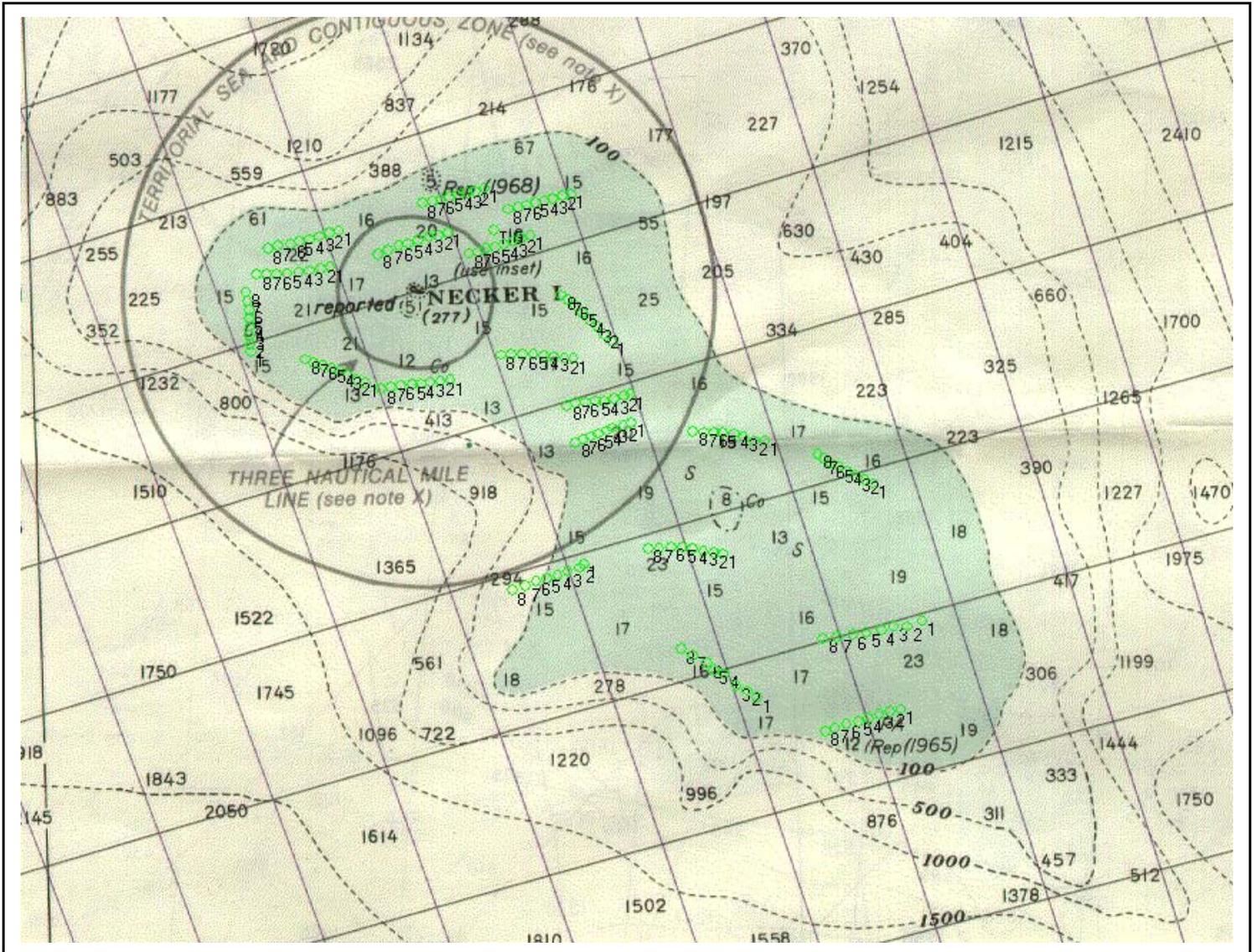


Figure 2. Lobster tagging and release sites, cruise TC 99-04, (numbers denote individual stations at each site).