



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
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CRUISE REPORT

VESSEL: *Townsend Cromwell*, Cruise 01-09 Leg 2 (TC-272)

CRUISE PERIOD: August 12-August 27, 2001

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

TYPE OF OPERATION: Personnel from the Southwest Fisheries Science Center (SWFSC) Honolulu Laboratory (HL), National Marine Fisheries Service (NMFS), surveyed fish assemblages, collected specimens, using remote cameras, fish traps, and conventional scuba in the waters of French Frigate Shoals, Pearl and Hermes, Laysan, and Maro reef.

ITINERARY:

- 12 August - Start of cruise. On board Raymond Boland, Brian Greene, Frank Parrish, Jeffrey Polovina, John Buchanan, and Tom Swenartan. Departed Honolulu 1000.
- 14 August - Conducted remote camera work at Necker Bank.
- 15-17 August - Conducted remote camera surveys, fish collections, and trapping in the waters of French Frigate Shoals.
- 18 August - Conducted dives at bank depths at Gardiner Pinnacles.
- 19 August - Conducted dives at bank depths at Laysan.
- 20-22 August - Conducted fish collections and trapping in the waters of Pearl and Hermes.
- 24 August - Conducted dives at bank depths at Maro Reef. Hole found in bow chamber of ship requiring immediate departure for Honolulu with a touch and go at French Frigate Shoals.
- 25 August - Arrived French Frigate Shoals and picked up Kyler Abernathy, Sean Hayes, and Brenda Becker. Departed French Frigate Shoals.
- 27 August - Arrived Snug Harbor; all disembarked. End of cruise, Leg 2.



MISSIONS AND RESULTS:

- A. Collect specimens for fatty acid analysis for monk seal forage studies.

Specimens of reef and invertebrates were collected using traps and divers. Priority items were deep slope fish species at depths greater than 50 meters. A total of 19 fish traps were set. Four divers spent five days hunting target species with pole spears.

- B. Establish stations and preform a visual census of reef fish assemblages at Pearl and Hermes Atoll.

Twelve stations were established including sites on the outer barrier, inner barrier, patch reef and reticulated reef. Each station was surveyed by divers who counted and estimated size of all non-cryptic fish species. Patch reefs were surveyed in their entirety, and barrier and reticulated reefs were surveyed with 50-m belt transects. Fish on each transect were counted by two divers and their size estimated by a third diver. Counts from these surveys will be compared with counts made at the same locations in previous years.

- C. Estimate the abundance of algae on the bank summits.

Quantitative scrapings of benthic algae on the summit of the banks of Laysan, Maro, and Gardiner Pinnacles were collected to estimate the standing biomass of primary productivity. These estimates will be used as parameters to revise the ecopath model.

- D. Support NWHI CTD time series.

Casts were made at the fixed stations south of Nihoa and Necker.

**SCIENTIFIC
PERSONNEL:**

Frank Parrish, Chief Scientist, National Marine Fisheries Service (NMFS), Southwest Fisheries Science Center (SWFSC), Honolulu Laboratory (HL)

Raymond Boland, Research Associate, Joint Institute for Marine and Atmospheric Research (JIMAR), University of Hawaii (UH)

Jeffrey Polovina, Mathematician, NMFS, SWFSC, HL

Brenda Becker, Wildlife Biologist, NMFS, SWFSC, HL


John Buchanan, Fishery Biologist, NMFS, SWFSC, Pacific Islands Area Office (PIAO)


Tom Swenartan, Fishery Biologist, NMFS, SWFSC, PIAO

Brian Greene, Research Associate, JIMAR, SWFSC, HL

Sean Hayes, Ecologist, NMFS, SWFSC, HL

Kyler Abernathy, Cooperating Scientist, National Geographic TV

Submitted by: 
 Frank Parrish
 Chief Scientist

Approved by: 
R. Michael Laurs
Director, Honolulu Laboratory

Attachment

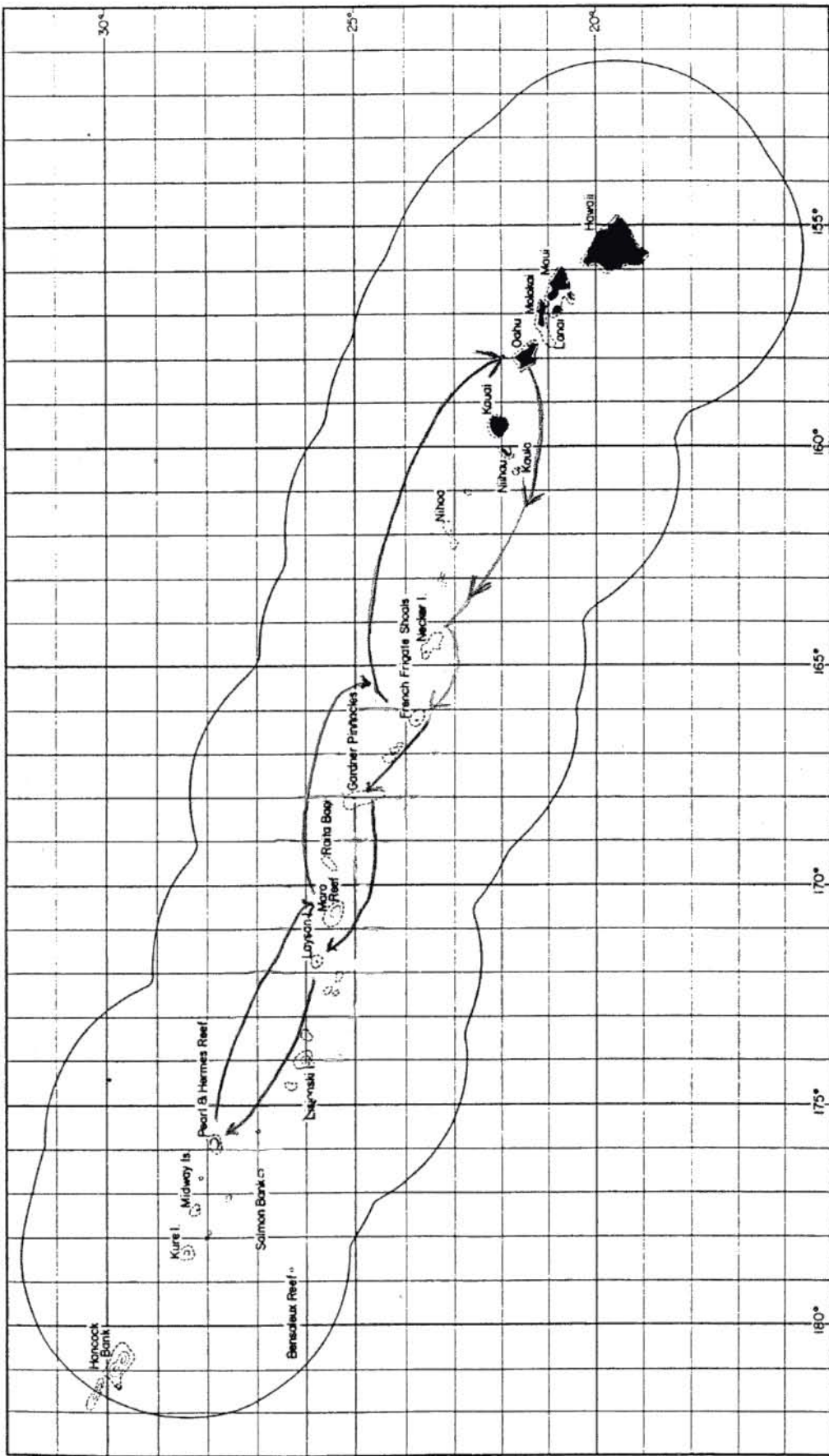


Figure 1.--Track of the NOAA ship Townsend Cromwell cruise TC-01-09 Leg II (TC-272), August 12-31, 2001.