

October 16, 1995 F/SWC2:FAP:FLF
CR9506-1.FAP

CRUISE REPORT

VESSEL: *Townsend Cromwell*, Cruise 95-06 (TC-202)

CRUISE PERIOD: September 11-October 1, 1995

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

TYPE OF OPERATION: Personnel from the Southwest Fisheries Center (SWFSC) Honolulu Laboratory (HL), National Marine Fisheries Service (NMFS), NOAA conducted diving and trapping operations in the waters of the Northwestern Hawaiian Islands supporting studies of the Hawaiian Monk Seal (*Monachus schauinslandi*) forage base. Islands visited include French Frigate Shoals (FFS), Pearl and Hermes Reef (PH), and Midway Island (MID).

ITINERARY:

- 11 September - Start of cruise. On-board Kendall Clements, Edward DeMartini, Alan Everson, Linn Montgomery, Nick Palaia, Frank Parrish, and Margaret Dahlgren.
- 13-15 September - Arrived FFS. Octopus pots were set and divers surveyed fixed scuba transects and conducted reef fish collections. Disembark Palaia and Dahlgren.
- 18-21 September - Arrived PH. Deployed fish traps on the SE outer barrier reef and collected fish by diving.
- 22-25 September - Arrived MID. Conducted fixed transect surveys and collection of reef fish by diving.
- 28 September - Arrived FFS. Retrieved octopus pots and finished fish collections.
- 1 October - Arrived at Snug Harbor, Honolulu, Oahu, at 1100. End of cruise.

MISSIONS AND RESULTS:

A. Visual census of reef fish assemblages at fixed historical transect stations.

1. Nine stations at both FFS and MID were surveyed by divers who counted and estimated size of all non-cryptic fish species. At each atoll the fixed transects represented both patch reef and barrier reef habitats. Patch reefs (~50 m diameter) are surveyed in their entirety and barrier habitats are surveyed with 50-m belt transects. Fish on each transect are counted by two divers and size estimation is done simultaneously by a third. Counts from these surveys will be compared counts made at the same locations in the early 1990s and 1980s.

B. Collection of reef fish specimens for work with seals in captivity. Labrids and holocentrids were the target genera.

1. Four strings fish traps (3 m by 1 m times 5 m by 1 m meter chicken wire) set at 30 m on the SE outer barrier of PH for 3 nights yielded poor landings. Most of the 126 fish (~18 kg) landed were Mullidae--a genera not requested.
2. Collection of reef fish by divers using spears yielded 80 kg of labrids and 80 kg of holocentrids mostly collected along the barrier reef at PH.

C. Test deployment of octopus traps.

1. Four strings of 10 pots were deployed at FFS, two deep (20 m) and two shallow (7 m). The pots consisted of two pieces of PVC pipe wired together (double-barrel style) and weighted at one end, leaving the other end of the pipes open. Only one octopus was obtained when the traps were retrieved. Prior to retrieval the pots were visually assessed by divers for possible octopus escapement that might occur during the pull of the gear. No additional octopus were seen.

D. Collection of bottom grabs.

A bottom grab was collected from each of FFS, PH and MID lagoon depths by divers and 100 fm depths by shipik bottom grab.

E. General observations and miscellaneous activities.

Bird flock, fish school, and marine mammal sightings were recorded by the ship's officers and crew during daylight hours when possible.

Standard weather observations were made at 0000, 0600, 1200, and 1800 (G.m.t.) by the ship's officers and crew.

RECORDS:

The following forms, logs, and data records were kept and turned into the Honolulu laboratory upon termination of the cruise.

Marine operations log
 Station number and activity log
 Trap, Pot, and Net Report
 Occurrence of birds, aquatic mammals and fish schools log
 Pacific dolphin project marine mammal sighting form
 Chief scientist's logs
 Diver's logs
 Weather logs
 Activity reports

**SCIENTIFIC
 PERSONNEL:**

Frank A. Parrish, Chief Scientist, National Marine Fisheries Service (NMFS), Southwest Fisheries Science Center (SWFSC), Honolulu Laboratory (HL)
 Edward E. DeMartini, Fishery Biologist, NMFS, SWFSC, HL
 Alan R. Everson, Fishery Biologist, NMFS, SWFSC, HL
 Kendall Clements, Cooperating Scientist, University of Auckland, New Zealand
 Linn Montgomery, Cooperating Scientist, Arizona State University
 Nick Palaia, Cooperating Scientist, U.S. Fish and Wildlife Service (USFWS)
 Margaret Dahlgren, Cooperating Scientist, USFWS

Submitted by:

 Frank A. Parrish
 Chief Scientist

Approved by:

 R. Michael Laurs
 Director, Honolulu Laboratory

Attachment

