



**U.S. DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL MARINE FISHERIES SERVICE**  
Southwest Fisheries Center Honolulu Laboratory  
2570 Dole St. • Honolulu, Hawaii 96822-2396

March 23, 1990

CRUISE REPORT

VESSEL: *Townsend Cromwell*, cruise 90-02 (TC-150)

CRUISE  
PERIOD: February 21-26, 1990

AREA OF  
OPERATION: Kaneohe Bay, Oahu (Fig. 1)

TYPE OF  
OPERATION: Personnel from the Southwest Fisheries Center Honolulu Laboratory (HL) conducted trapping, hook and line, and trawling operations as well as camera drops, bottom grabs, and conductivity-temperature-depth (CTD) probes at 46 to 183 m depths off Kaneohe Bay, Oahu, Hawaii.

ITINERARY: February 21 - Start of cruise. On board were Karl B. Bromwell, Robert B. Moffitt, Frank A. Parrish, and Paul M. Shiota. Departed Snug Harbor at 1000 and proceeded to waters off Kaneohe Bay, Oahu. Commenced fishing operations.

February 22 - Embarked Kevin Kelly and Brian Daniel from Coconut Island in Kaneohe Bay to operate remote operated vehicle, *Snoopy*. Disembarked Kelly and Daniel at Coconut Island. Continued fishing operations.

February 23-24 - Continued fishing operations in Kaneohe Bay.

February 25 - Departed Kaneohe Bay and proceeded to waters off Kailua Bay, Oahu. Commenced fishing operations.

February 26 - Departed Kailua Bay and proceeded to Snug Harbor, arriving at 1100. End of cruise.

MISSION  
AND  
RESULTS:

A. Hook and line fishing for juvenile snappers to establish areas of abundance and estimate snapper length-frequency distribution.



1. Hook and line fishing operations consisted of a single station conducted off the *Townsend Cromwell* and 2 days of fishing off the Honolulu Laboratory whaler, *Nehu*. A total of 103 opakapaka ranging in size from 11 to 20 cm fork length (FL) were caught on a single day of fishing from the *Nehu* at depths of 61 to 85 m. The *Townsend Cromwell* fishing and the remaining *Nehu* fishing day were conducted at depths of 122 to 183 m and resulted in no catch.
- B. Evaluation of trapping operations for juvenile snappers capture.
1. A total of 10 trapping stations were conducted, each with a single string of 10 Fathoms Plus molded plastic traps for a total effort of 100 trap-nights. Traps were baited with about 1.1 kg of frozen mackerel and were soaked overnight. On each of the five fishing nights, one string was set at 73 m and another at 146 m.
  2. No juvenile snappers were caught even though traps were set in areas of high catch rates for hook and line fishing.
  3. Haole crab, *Portunus sanguinolentus*, was the major component of the trap catch.
  4. Two newly settled hapuupuu (23.6 and 24.8 mm SL) were also taken in traps set at 73 m.
- C. Evaluation of trawling operations for juvenile snappers capture.
1. A single 45 minute trawl tow, using a 12 m semi-balloon shrimp trawl, was conducted over proven opakapaka grounds at depths of 58 to 79 m. A total of 36 opakapaka ranging in size from 7 to 17 cm FL were captured.
  2. Other organisms taken in the trawl included flatfish, lizardfish, stingrays, and haole crab.
- D. Camera drops to document bottom type.
1. The Hawaii Undersea Research Laboratory (HURL) remote operated vehicle, *Snoopy*, was set a total of four times to take video and still photos of the bottom at depths of 46 to 107 m. Unfortunately, by the fourth drop all systems had failed, and no pictures of the bottom were obtained for any drop.

- E. Bottom grabs and CTD transects to document physical factors of juvenile snapper habitat.
1. A total of 17 bottom grab 80 CTD drops were conducted. Bottom grabs using a ShipecK grab were taken at all but three sites where the Applied Microsystems portable CTD probes were taken. The remaining CTD drops represent repeated drops taken over a 24 hour period at five sites along a transect ranging in depth from 46 to 107 m in the area of maximum hook and line catch rates for juvenile opakapaka.
- F. General observations and miscellaneous activities.
1. Bird flock, fish school, and marine mammal sightings were recorded by the ship's officers and crew during daylight hours when possible. There was considerable humpback whale activity off Kaneohe Bay during this cruise.
  2. Standard weather observations were made at 0000, 0600, 1200, and 1800 (G.M.T.) by the ship's officers and crew.

SCIENTIFIC  
PERSONNEL:

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Approved by: George W. Boehlert  
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Attachment

