

## Foreign Fishing Fleets Fined \$6.3 Million

Foreign fishermen have been fined more than \$6.3 million during the past 4 years for violating regulations on fishing in the United States' 200-mile fishery conservation zone.

The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) reports 56 ships from 9 foreign nations have been seized and fined for the violations. Most fines were imposed for underlogging the amount of fish on board, fishing without a permit, or failing to return prohibited species to the ocean. All of the penalties were levied under the Magnuson Fishery Conservation and Management Act.

Japan has had the most seizures—19—and has paid almost \$3.4 million in fines. The Japanese also have posted an additional \$2 million in bond for seven ships that were seized and released. A final settlement on these vessels has not been reached. The largest single fine, \$700,000, was levied in 1979 against a Japanese vessel in the Bering Sea which had about 54 tons of fish on board that was not logged as required.

Fifteen Mexican vessels have been seized and assessed more than \$90,000. Most were shrimp boats caught fishing without a permit in U.S. waters in the Gulf of Mexico. Seizures and fines levied against other countries were: Taiwan, 6 vessels, \$855,000; Russia, 3 vessels, \$650,000; South Korea, 3 vessels, \$400,000; Spain, 3 vessels, \$255,000; Canada, 3 vessels, \$5,816; Poland, 2 vessels, \$387,000; and Italy, 2 vessels, \$300,000.

Twenty-eight vessels were seized in waters off Alaska and 16 in the Gulf of

Mexico. Six were taken off the U.S. east coast, four off the west coast, and two in the western Pacific.

## Canada and U.S. Sign Treaty on Pacific Coast Albacore Vessels, Ports

The United States and Canada have concluded a Treaty on Pacific Coast Albacore Tuna Vessels and Port Privileges, according to the U.S. Department of State. The Treaty was signed 26 May in Washington, D.C., by Deputy Secretary of State William P. Clark and Canadian Ambassador Peter M. Towe.

This long-term agreement replaces an interim arrangement for the albacore fishery off Canada and the United States that expired 1 June and will provide greater benefits for the tuna fishermen of both countries. The Treaty provides reciprocal port privileges for albacore vessels of the United States and Canada and ensures that fishermen of both countries can fish for albacore off the Pacific coast, pursuant to the Treaty, without risk of seizure.

Under the Treaty, each country will open four of its west coast ports to albacore fishermen of the other country for loading fuel and using other services. The four U.S. ports are Bellingham, Wash.; Astoria, Oreg.; Coos Bay, Oreg.; and Crescent City, Calif. U.S. albacore fishermen will receive privileges in the British Columbia ports of Prince Rupert, Port Hardy, Victoria, and Ucluelet.

## LaCovey Is Named NOAA Public Affairs Director

A. Joseph (Jack) LaCovey, a vice president of Burson-Marsteller, has been named director of public affairs for the Commerce Department's National Oceanic and Atmospheric Administration (NOAA). LaCovey was a presidential staff assistant in 1976-77 and an assistant to the director of the National Park Service in 1974-75. He directed the Service's \$5 million bicentennial commemoration.

From 1969 to 1974, LaCovey was director of special projects for the General Services Administration (GSA) and an award winning news correspondent and documentary producer for Washington's WMAL AM-TV from 1961 to 1969.

LaCovey's numerous broadcasting awards included a 1969 Emmy from the Washington Chapter of the National Academy of Television Arts and Sciences for the television documentary, "Courts on Trial," and an Edward R. Murrow International Documentary Award from the Radio-Television News Directors Association. He received a bachelor's degree in radio and TV broadcasting from Ithaca (N.Y.) College in 1961. LaCovey and his wife, the former Carol Chase of Crete, Ill., and their four children, reside in McLean, Va.

## New NOAA Satellite Launched in June

A new and improved environmental monitoring satellite was launched on 22 June, giving the fishing and marine transportation industries, weather forecasters, and others access to improved sea surface temperature information. The Commerce Department's National Oceanic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA) said the satellite, NOAA-7, carries the most versatile scanning radiometer ever sent aloft in such a spacecraft. It gathers visual and infrared imagery and measurements in five spectral channels.

The data should permit more accurate evaluation of land, ice, and water surface temperatures, as well as clouds. Two earlier TIROS-N satellites carried four-channel radiometers. One is still operational. The satellite was launched from Vandenberg Air Force Base, California.

The sea surface temperature data will be valuable to west coast and Gulf of Alaska fishermen and shipping interests along the east coast and in the Gulf of Mexico. Fishermen use charts of sea surface temperatures to pinpoint productive fishing grounds. Many credit the charts with helping improve catches and cut fuel costs. Shippers use similar charts for the Gulf Loop current and Gulf Stream, saving time and money.

### Keeping Quality of Fresh and Frozen Widow Rockfish

Landings of the widow rockfish, *Sebastes entomelas*, a species little known until the last few years, have contributed significantly to the increase in total rockfish landings in the Pacific Northwest from about 66 million pounds in 1979 to 80 million pounds (preliminary data) in 1980. Widow rockfish are

harvested by Oregon trawlers using mid-water trawls and fishing just off the coast at night. The fresh fish are landed later the same day, filleted, and rushed to fresh fish markets along the coast. Experience with the species showed that the fresh refrigerated fillets are highly perishable and should be marketed within 6 or 7 days. Discoloration of the skin and flesh and development of off-odors are the indicators of unacceptability in this species.

The increased landings of widow rockfish and its popularity as a moderately priced fillet fish soon resulted in freezing and storage of the packaged fillets as the processors sought to stabilize the fishery. Our laboratory obtained frozen widow rockfish fillets from a commercial processor in northern California to determine the characteristics and storage life of the frozen fish. Individual species of *Sebastes* vary in cold storage characteristics; therefore each species must be tested separately.

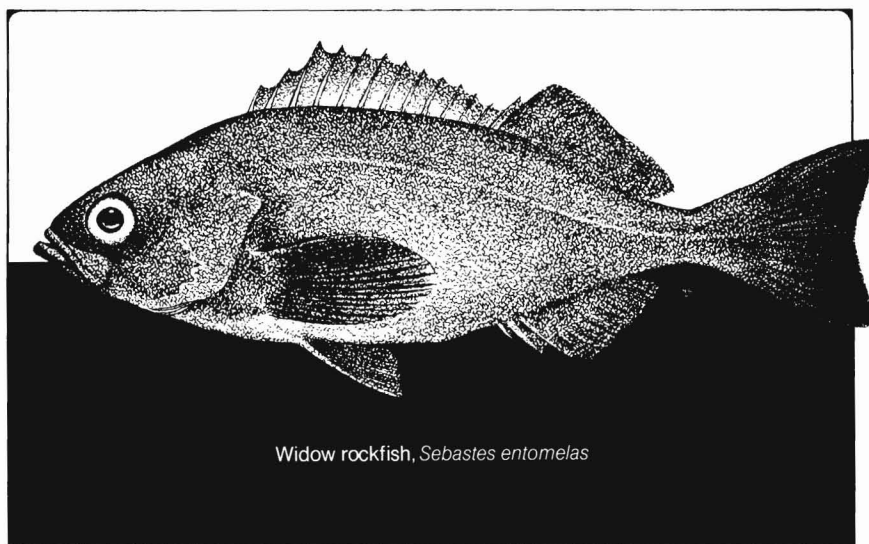
The Utilization Research Division of the NMFS Northwest and Alaska Fisheries Center recently examined the widow rockfish fillets after 4 months of storage at 0° and -20°F. Development of rancidity in the exposed flesh areas and the dark meat of fillets stored at 0°F were rated moderate to severe. Considerable variation was apparent from var-

ious fillet portions; however, the conclusion is that the fillets stored at 0°F were unacceptable after 4 months. The fillets stored at -20°F were superior to those stored at 0°F and deep-fat-fried fillets stored at -20°F were rated good. The problem of variability depending on exposure was still noted, however, in the -20°F samples. Texture differences were measured by thaw, cook, and expressed drip and showed no significant differences in relation to the storage temperature.

The rapid development of severe rancidity in some widow rockfish fillets stored at 0°F for only 4 months indicates a serious problem in keeping quality. It appears from this initial study that pretreatment with additives to inhibit oxidative changes, good packaging, and storage at the lower temperature are essential for extending the keeping quality of frozen widow rockfish fillets. Further work on freezing and holding widow rockfish is planned in conjunction with resource assessment studies of rockfish off Washington and Oregon.

The research on freezing and storage of this series of samples is being conducted by Jim W. Conrad, NOAA Corps, on assignment to the Utilization Research Division, NWAFC.

John Dasso



Widow rockfish, *Sebastes entomelas*

### Hydrolab Unit Eyes Coral Reefs, Fisheries

Scuba-diving scientists operating from NOAA's undersea laboratory Hydrolab have been conducting four experiments this summer aimed at better management of coral reefs and their fishery resources.

Located at a depth of 50 feet near the mouth of the Salt River off St. Croix, U.S.V.I., Hydrolab holds four scientists for up to 2 weeks at a time, permitting them to swim out into the water to conduct research. The projects, which started 4 June, make use both of the natural coral reef near Hydrolab and the nearby artificial reef constructed for comparison studies, NOAA officials said.

John Ogden of Fairleigh Dickinson University's West Indies laboratory

headed a team to implant ultrasonic tags under the skin of 40- to 50-pound parrotfish—a vegetarian species—to follow their meanderings as they forage the area for seagrass. Parrotfish are the chief catch in Virgin Island fish pots, so mapping their habits will lead to better management of resources in the nearly fished-out waters, Ogden said. His team used Hydrolab 4-16 June and included scientists from the Bernice P. Bishop Museum of Honolulu, Hawaii, and the Government of the U.S. Virgin Islands.

Les Kaufman and John Ebersole of the University of Massachusetts studied whether colonization of a reef is chaotic and haphazard, as is commonly believed, or organized and predictable, as Kaufman surmises. They compared fish inhabiting natural reefs with those in an artificial reef, and studied the body design and eating habits of reef fish to correlate them with the fish's range of activity. The results will be used to manage coral reefs for recreational diving. Their research was conducted from 23 June to 5 July.

Kaufman's project was inspired by research undertaken by M. L. Reaka of the University of Maryland. From 12 to 24 July, she made her third study of factors affecting the way a reef is colonized. Invertebrates such as crab and shrimp, she believes, determine how many fish settle on a reef. They are the chief food source of carnivorous species. She baits artificial reefs with invertebrates that attract smaller fish and in turn lure larger, commercially valuable species. One purpose of her research is to establish a reef construction model that will effectively attract the larger fish.

William McFarland of Cornell University led a team study from 1 August through 13 August studying the early life stages of coral reef fish and aggression in young and adult fish. They examined vision in the open water phase of larval fish to determine their relative sensitivity to blue light, and studied otoliths to calculate how old the fish are when they settle on the reef. Edward B. Brothers, who accompanied McFarland, said that what they learn about the larval stage—the most critical period in a fish's life—can be used to increase the

survival rate of commercially important species.

NOAA's Hydrolab at present is the only undersea habitat operated by the United States. It was constructed in 1971 and bought by Perry Oceanographics, Inc.<sup>1</sup>, for studies off Florida and the Bahamas. NOAA purchased and refurbished it in 1978 and moved it to the St. Croix location.

Fairleigh Dickinson's West Indies laboratory operates Hydrolab for NOAA. It is the first of a planned network of regional university-based undersea research facilities sponsored by NOAA. The second, the Hawaii Undersea Research Laboratory (HURL), was dedicated early in May.

### New Hawaiian Undersea Laboratory Is Dedicated

Sponsored by NOAA, the Hawaii Undersea Research Laboratory (HURL) was dedicated in Waimanalo, Hawaii, in early May 1981. The laboratory is the second in a planned NOAA network of university-based undersea research facilities.

HURL consists of the two-person sub-

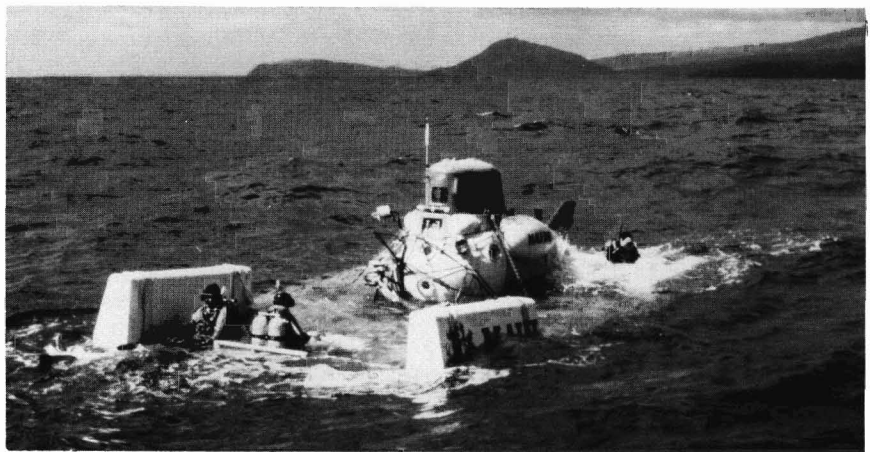
<sup>1</sup>Mention of trade names or commercial firms does not imply endorsement by the National Marine Fisheries Service, NOAA.

mersible *Makali'i* and a launch-recovery-transport vehicle. Under the direction of John Craven, Dean of Marine Programs at the University of Hawaii, HURL will concentrate its research on fisheries, pollution, sea-floor properties and processes, and ocean technology and services.

Scientists from Stanford University and the University of Hawaii will use the *Makali'i* to study and collect deepwater sponges and gorgonians (sea fans) for possible use as marine pharmaceuticals. One series of dives has been made on the Penguin Rocks off the island of Molokai.

A second research project, begun in July, involved lengthy scientific observations at Eniwetok Atoll, formerly a nuclear weapons test site, some 2,400 miles west of Hawaii. While the shallow waters of the atoll have been more extensively studied than any other atoll in the world, little is known about the waters of the lagoon—about 90 percent—that are below scuba depth. Nor is much known about the deep ocean waters surrounding the 360-square-mile atoll and lagoon.

Scientists wish to understand more fully the deeper ocean environment and ecology of the area to better advise the original islanders who have resettled there. Scientists from the Mid-Pacific Research Laboratory on Eniwetok, and other institutions, will use the HURL facilities to study the geology, biology, and radiochemistry of the tropical reef.



The research submersible *Makali'i*.