

## “Optimum Sustainable Population” Concept Offered at North Pacific Fur Seal Meeting

The United States Delegation to the April Conference on North Pacific Fur Seals in Washington, D.C., proposed that a different management concept be introduced in a permanent Convention on the Conservation of North Pacific Fur Seals.

The concept of “optimum sustainable population,” which is included as a management objective in the Marine Mammal Protection Act of 1972, would require consideration of the esthetic and recreational value of the fur seals and the necessity of maintaining the health and stability of the marine ecosystem as well as maintaining the number of seals needed to permit maximum productivity.

The present Interim Convention on the Conservation of North Pacific Fur Seals requires that the North Pacific fur seals be managed in such a way as to achieve the “maximum sustainable productivity,” so that the fur seal populations can be maintained at levels which will provide the greatest harvest year after year.

A draft environmental impact statement which outlined this different concept and how it would affect fur seal management was reviewed by interest-

ed parties throughout the United States. It received favorable comment from private citizens and representatives of States, environmental protection groups, and conservationists.

The Interim Convention on the Conservation of North Pacific Fur Seals is an agreement entered into in 1957 by the United States, Canada, Japan, and Union of Soviet Socialist Republics to regulate the harvest of fur seals in the North Pacific. Nearly 80 percent of the northern fur seal resource is currently associated with the Pribilof Islands of the United States, which are located off the coast of Alaska. The rest of the seals are associated with other United States or Soviet islands in the Sea of Okhotsk and the western and eastern North Pacific.

The four countries could not reach agreement on the U.S. management proposal or on other alternative proposals for a permanent Convention. The delegations agreed to explore the possibility of meeting again to reconsider various proposals.

The head of the U.S. Delegation, C.J. Blondin, of the Commerce Department's National Oceanic and Atmospheric Administration, stated that

even though the Commission failed to reach agreement on a permanent Convention, he felt that substantial gains were made in exploring and understanding the positions of other governments. “The present Convention does not expire until 1976. Consequently, all members have time to assess the positions of the other governments. A meeting later in the year should allow us to work rapidly toward a permanent Convention,” said Blondin who is assistant Director for International Fisheries of NOAA's National Marine Fisheries Service.

## Project SCORE Eyes Deep Coral Reef Wall

A research submersible, an underwater laboratory, and a variety of underwater safety stations as well as surface vessels and facilities were marshalled for a month-long research project beginning 1 April off Freeport, in the Bahama Islands. Purpose of the project was to enable scientist-divers to make concentrated studies of the vertical wall of a coral reef to depths as great as 250 feet.

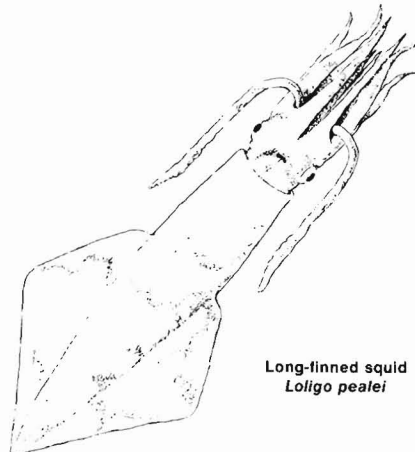
Project SCORE (Scientific Cooperative Operational Research Expedition) uses saturation diving, deep air excursions, and submersible lock-out techniques for deep reef studies of fishes, corals, algae and geology of the

### Squid Fishery Could Aid New England Economy

A recent economic study conducted by the Department of Commerce's National Oceanic and Atmospheric Administration indicates that a viable squid fishery off the New England coast could add over \$600,000 a year to the economy of the region. NOAA's National Marine Fisheries Service conducted the study for the New England Fisheries Development Program which is a government-industry cooperative effort aimed at developing a market for species of marine life found in the area which are underused by Americans.

Approximately 70 million pounds of squid were taken from the waters off the coast of the northeast United

States by foreign and American vessels in 1973. The United States has a quota of approximately 12 million



Long-finned squid  
*Loligo pealei*

pounds in the northeast area, however, only about 3.5 million pounds were harvested in 1973. The majority of squid landed by U.S. fishermen in the northeastern United States is caught incidentally while trawling for cod, flounders, haddock, and other fish and is used for food and bait.

During four trips to test the feasibility of a directed squid fishery, a charter boat making 218 tows caught over 169,000 pounds of squid and over 14,000 pounds of finfish for a total value of almost \$30,000. The study provides evidence that the quota, if taken, could supplement the earnings of about 30 vessels in a seasonal squid fishery.

reef environment. The project was carried out cooperatively by the Commerce Department's National Oceanic and Atmospheric Administration, the Harbor Branch Foundation, Inc., of Fort Pierce, Fla., and the Perry Foundation, Inc., of Riviera Beach, Fla.

The Perry Hydro-Lab habitat provided diver teams with an underwater "home," and Harbor Branch's submersible *Johnson-Sea-Link* shuttled them from the laboratory to their research sites as far as a mile away and to depths 190 feet deeper than Hydro-Lab.

Program Coordinator was James Miller, Deputy Director of NOAA's Manned Undersea Science and Technology (MUS&T) program. Operations Director was Robert Wicklund of the Perry Foundation, Inc., and Director of Submersible Operations and Training was Roger Cook of Harbor Branch Foundation, Inc. Morgan Wells of NOAA's MUS&T was Chief Scientist.

Four teams of diver-scientists saturated in the Perry Hydro-Lab for five days each at a depth of 60 feet. The *Johnson-Sea-Link* picked up and transported two members of each team into deep water, where one locked out and descended to depths as great as 250 feet for up to 45 minutes. Other team members swam from Hydro-Lab to depths as great as 200 feet for one hour. "The use of air as a breathing mixture to these depths for extended times represents a significant advance in diving technology," said Miller. "The same techniques are expected to be used in the offshore oil industry in the near future at comparable depths, to avoid the expense and complications of exotic gas mixtures."

Dives are uncommon below 200 feet for scientific research on coral reefs. Those that have been made yielded species of coral, fish, algae, and other marine organisms new to the area—some previously reported only from single dredge hauls elsewhere. Preliminary research on some of the deeper dives also showed that biological zones are very pronounced at depths in which most environmental conditions are relatively constant.

Scientists conducted experiments, made collections, and photographed the reef and its inhabitants. Scientific goals of SCORE were to: (1) extend

oceanographic, geological, chemical, and biological knowledge of the reef environment; (2) supplement previous shallow-water studies of species composition, distribution, abundance, and dynamics; and (3) obtain environmental data on reaction of a coral reef community to natural and man-induced stresses.

Data on the relationships between living organisms and their environment will assist scientists in identifying those factors that influence the distribution and abundance of the organisms, and their ability to survive under different types of environmental stress.

Seneca College of Applied Arts and Technology, King City, Ontario, provided support divers for the SCORE operation. Scientist-divers from France

and Germany participated during two of the missions.

The decompression schedules for excursions from the Perry Hydro-Lab and for lockout dives from *Johnson-Sea-Link* were developed by Tarrytown (N.Y.) Labs., and extensively tested in the hyperbaric chamber facility at Duke University. Medical supervision was provided by Harbor Branch Foundation Inc., with assistance from the MacInnis Foundation of Canada.

Project SCORE brought together again, in a joint endeavor, two modern-day ocean pioneers, John H. Perry Jr. and Edwin A. Link. In 1966 the two men collaborated in designing and constructing the *Deep Diver* submersible, the world's first commercial diver lockout submarine.

## **Major U.S. Fish Freezing Plant Agrees to Participate in Commerce Inspection Plan**

The National Oceanic and Atmospheric Administration has announced that the Bellingham Cold Storage Co., Bellingham, Wash., signed an agreement to participate in the Department of Commerce's Sanitation Inspection Fish Establishment (SIFE) program.

The company, which is participating through NOAA's National Marine Fisheries Service, is one of the largest freezing and processing facilities in the United States and is the largest cold storage plant using the sanitary inspection service offered by the Department of Commerce. The Bellingham complex covers 26 acres of land, has 4,260,000 cubic feet of freezing space and can freeze 1.8 million pounds of product a day. It services approximately 50 U.S. and Canadian companies from Alaska to Georgia.

As a qualified SIFE plant, the company will be listed in the "Approved List. Sanitarily Inspected Fish Establishments." This quarterly publication is distributed to seafood purchasers to aid them in determining sources of fishery products that have been produced in plants that have been sanitarily inspected, approved, and certified by the USDC.

More important, since Bellingham is a SIFE plant, all companies having products custom processed and packed by Bellingham are eligible for contract

product inspection. Companies whose product has been certified as meeting the requirements of inspected products are allowed to display the Federal inspection marks on their products. This assures the consumer that the product complies with requirements of wholesomeness, cleanliness, sanitation, true weight, and good quality. One of the largest troll caught salmon producers in the Pacific northwest, Northwest Halibut Producers Cooperative, Inc., has already taken advantage of this by signing a contract for product inspection. These firms join two other USDC inspected fishery products processors located in the Bellingham, Wash. area, Vita Food Products, Inc., and Wakefield Seafoods, Inc.

## **New York Island Studied As Estuarine Sanctuary**

The Department of Commerce is considering a proposal that 1,200 acres on Grindstone Island in the St. Lawrence River near Clayton, N.Y., be designated an estuarine sanctuary, permitting them to be maintained in their natural state for scientific and educational purposes. If the proposal is accepted by the Office of Coastal Zone Management, an agency of the Commerce Department's National Oceanic and Atmospheric Administration,

Federal funds would be made available toward the purchase of the property adjacent to Delaney and McCrae Bays on Grindstone Island. The State of New York would be expected to provide one-half of the cost.

The Coastal Zone Management Act of 1972 encourages states to preserve for research and educational uses examples of the various types of estuaries found in the United States and its territories. Delaney and McCrae Bays are ecologically typical of estuaries in eastern Lake Ontario and the St. Lawrence Region and are considered to be in an undisturbed state, that is, natural and unspoiled by mankind.

Edward T. LaRoe, Estuarine Sanctuaries Coordinator and Coastal Ecologist for the Office of Coastal Zone Management, said the proposal was submitted by State University of New York's College of Environmental Science and Forestry which has a research station on Governor's Island about a mile from the proposed sanctuary. The sanctuary would be owned by the State university and operated by the college in cooperation with the New York Department of Environmental Conservation. Recreational hunting, fishing, trapping, boating, etc., of a low intensity would be permitted on a controlled basis.

The university would utilize a combination of fee simple acquisition, conservation easements, and life estate purchases to provide the degree of land control necessary for the sanctuary. Owners of property adjacent to the area already have been approached by State representatives. Delaney and McCrae Bays include open water; a variety of submerged, floating, and emergent aquatic vegetation; tall, slender shrubs; flooded leafy trees; and adjacent agricultural upland. Numerous species of fish, including northern pike, bass, yellow perch and brown bullheads are in the waters of the bays, which also have such waterfowl as herons, ducks, and hawks, and mammals including muskrat and beaver.

Under a proposed study program, the water level of Delaney Bay would be artificially controlled, while that of McCrae Bay would be allowed to fluctuate naturally. Comparison studies would be conducted, including periodic sampling of plankton, plant and animal

life, and water physics and chemistry. The goals of the study would be to better understand the effects of disturbance and development on freshwater coastal estuarine areas so that the coasts can be more effectively managed.

In addition to the cost of land acquisition, funds would be required to construct and maintain water level controls

at Delaney Bay and for other operational costs.

The Coastal Zone Management Act authorizes the Secretary of Commerce to make grants up to 50 percent of the cost of acquisition, development and operation of estuarine sanctuaries for the purpose of creating natural field laboratories for scientific research.

## **Closed Culture System May Make Inland Clam and Oyster Farming Possible**

Fresh oysters and clams grown in Des Moines or, for that matter, any other noncoastal city in the United States could become a reality if Sea Grant scientists at the University of Delaware are on the right track.

A team of Delaware aquaculturists, working under a grant from the Commerce Department's National Oceanic and Atmospheric Administration, has completed work on the first stage of a unique project to produce fast-growing, palatable, disease-resistant oysters and clams that can be reared at a competitive price in a totally self-contained environment. When successfully developed, this prototype would be available for commercial adaptation anywhere in the United States.

Eight groups of 250 shellfish each are well into their second year of growth, thriving on diets of laboratory-reared algae in a closed (recycled) seawater system. So far, the clams are growing three to five times faster than they do in Delaware Bay, and the oysters about one-and-one-half times faster. Some of the clams in the initial crop already have grown to marketable cherrystone size.

The NOAA-supported Sea Grant team, consisting of biologists, chemists, engineers, nutritionists, economists, and an attorney is under the leadership of Melbourne R. Carriker, Professor of Marine Studies at the University of Delaware.

In addition to providing the potential for a new industry, the aquaculture system could be used to produce seed for boosting natural stocks of oysters and clams, and possibly increasing commercial catches.

Groundwork for the aquaculture program got underway in the late 1960's, after an endemic disease had severely depleted the natural oyster

stocks in Delaware Bay. To prevent a repetition of such a disaster, the University of Delaware set out to establish a new system for producing shellfish that would be free of the vagaries of nature that could destroy the industry almost overnight.

"Duplicating in the laboratory what it has taken thousands of years of evolution to develop is a considerable challenge," said Carriker. "Our most serious problems involve determining the ideal shellfish diet, anticipating the threat of disease, and monitoring and controlling waste products. We also have to consider certain factors that nature doesn't worry about, such as keeping costs in line with those of naturally grown shellfish, examining the legal problems of commercial aquaculture development, and eventually using natural, less expensive energy sources."

But if the project has its challenges, it also has its advantages. One of the most obvious benefits to the consumer would be the year-round availability of fresh shellfish. "Another great value of a closed-cycle aquaculture system," explains research engineer Gary Pruder, "is that almost every aspect of the rearing process can be controlled. Toxic metals can be eliminated, uniform growth can be maintained throughout the year, even the organic shellfish wastes can be used productively as a source of nutrients for the algal feed."

In addition, Pruder points out that, unlike traditional flow-through aquaculture systems, in which seawater is pumped through once and then discharged, the location of a closed-cycle system need not be restricted to the shoreline nor to a readily available supply of clean water. This, he says, is vital if commercial application is to become a reality. Not only does coastal



property tend to be more expensive than an inland site but coastal areas are generally subject to more legal restraints.

The National Sea Grant Program is designed to enhance the development of the nation's marine resources in the oceans, the Gulf of Mexico, and the Great Lakes. To accomplish this, NOAA awards grants for marine-related programs to universities, laboratories, and others. At least one-third of the funds for each Sea Grant Program must come from non-Federal sources.

## FISH CATCH WASTE REDUCTION SOUGHT

For every pound of shrimp that a Gulf Coast shrimp fisherman catches in his trawl, he throws back from three to four pounds of usable but unwanted fish that have been caught unintentionally, Sea Grant scientists at Texas A & M University have found.

According to Vito J. Blomo and John P. Nichols, leaders of an investigation supported by the National Oceanic and Atmospheric Administration's Sea Grant Program, the so-called incidental catch comprises a variety of species ranging from porgies, which could have ended up on someone's dinner table, to menhaden, which could have been processed into fish meal and fed to chickens.

The researchers in the Commerce Department agency-funded study calculated that shrimp fishermen discard between 52 and 368 million pounds of fish per year in the Western Gulf alone—an area that yields about 45 percent of the approximately 220 million pounds of shrimp landed annually in the Gulf of Mexico.

Seeking ways to prevent continued waste of such large amounts of valuable protein, the Texas A & M Sea Grant scientists evaluated the possible markets for the discarded trawl fish and estimated the potential volumes that could be marketed. They concluded that the majority of the discarded trawl fish could be used only for processing into fish meal, fish oil and solubles, and pet food. However, they pointed out that, depending on the particular species, some of the incidental catch could be suitable as more valuable seafood—

fresh and frozen fillets, fish sticks and portions, and whole fresh fish. The Sea Grant scientists found two major obstacles to be overcome if the discards are to be put to profitable use—neither a working market structure nor economically feasible systems of using the shrimpers' incidental catch exist.

Texas A & M and the Southeast Utilization Research Center of the National Marine Fisheries Service have drawn up a memorandum of understanding relating to technological research on these species. The joint Sea Grant/NMFS project began by mincing various species of Gulf groundfish to test their frozen shelf life. The problems of rancidity, texture and color of minced fish flesh are being determined and solutions devised for overcoming them. Later research will deal with commingling various combinations of Gulf groundfish. Continuing

their study, the researchers are examining the cost considerations involved in using this incidental fish catch, in order to determine its economic feasibility.

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The Texas A & M scientists have reported on the first part of their study in "Utilization of Finfishes Caught Incidental to Shrimp Trawling in the Western Gulf of Mexico. Part I: Evaluation of Markets" is available for \$3.00 from Department of Marine Resources Information, Texas A & M University, College Station, TX 77843.

## Key Largo, Fla. Marine Sanctuary Nominated

The largest living coral reef in continental United States coastal waters—a major tourist attraction and a valuable scientific resource—may become the first marine sanctuary of its kind in the Nation, according to the U.S. Department of Commerce. The National Oceanic and Atmospheric Administration's Office of Coastal Zone Management has received a nomination to designate as a sanctuary an area approximately 100 square miles in size off Key Largo, Fla. (see map).

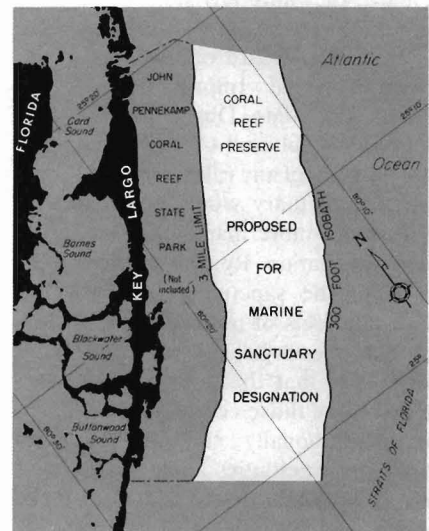
The area, up to 5 miles wide and about 21 miles in length, is adjacent to the John Pennekamp Coral Reef State Park and overlaps the Key Largo Coral Reef Preserve. Its nomination as a marine sanctuary, submitted by the Florida Department of Natural Resources, is a move to preserve the reef's ecosystem, parts of which are currently without protection.

Earlier this year the site of the wreckage of the Civil War gunboat USS Monitor, off Cape Hatteras, N.C., was designated as the country's first marine sanctuary, for its historic value. The coral reefs would be designated for their value as a natural resource.

Under law, the Secretary of Commerce is empowered to designate marine areas as sanctuaries to preserve them for their conservation, recrea-

tional, ecological or esthetic values. NOAA's Office of Coastal Zone Management is responsible for handling and processing nominations. The coral reef nomination is a modification of an earlier one by Dennis M. O'Connor of the University of Miami, and Rezneat M. Darnell of Texas A&M University. The original nomination was considered to cover too large an area and, with the nominators' agreement, was modified and re-submitted by the state.

Within the area, which is seaward of John Pennekamp Coral Reef State Park, is a wide variety of plant and



animal life, featuring coral but ranging from plankton to giant jewfish and predatory shark. Of great importance is the fact that the reef is still "alive," the coral continuing to grow and develop. Coral reefs recently have come under considerable stress from a variety of man's activities, which in some cases have killed reefs.

Under proposed terms of the nomination, removal or destruction of natural resources and marine life other than fish would be prohibited, as would dredging, filling, or polluting. Fishing, skin diving and boating would be permitted under limited conditions, and the proposed sanctuary could be temporarily closed to public use to allow recovery from overuse and to permit scientific research relating to protection and management.

Robert R. Kifer, Marine Sanctuary Coordinator for OCZM, said the nomination proposes that the sanctuary be administered by the Florida Department of Natural Resources, Division of Recreation and Parks. This agency would be joined by the state's Division of Marine Resources and the U.S. Coast Guard in enforcement of rules and regulations, according to the nomination.

Once the sanctuary is designated, it is proposed that permits would be issued for educational endeavors, scientific and industrial research, commercial fisheries activities, and recreational activities, all consistent with the rules and regulations. An advisory board for the sanctuary also would be created, with members representing the National Park Service, the U.S. Coast Guard, the State Divisions of Recreation and Parks and of Marine Resources, the Board of Trustees of the State Internal Improvement Trust Fund, the State Department of Pollution Control, and OCZM.

Violators of any rules and regulations of the sanctuary would be liable to a fine of not more than \$50,000 for each day of violation. Regular monitoring of uses of the sanctuary, and research on the effects of particular uses of the coral reef ecosystem will be conducted to ensure that the primary purpose—to preserve those ecosystems—carried out. Additionally, surveillance of development activities along the coast of Key Largo will be conducted to make sure these activities do not adversely

affect water quality and subsequent health of the coral reef ecosystem.

Kifer said copies of the nomination have been sent to appropriate government agencies for their review and to private individuals and organizations for their information and consideration. If reaction to the nomination is favorable, he said, an environmental impact statement would be prepared and a

public hearing held in Florida at which interested parties could speak to the proposed designation. Public approval could mean designation of the area as a marine sanctuary by the end of this year. Copies of the nomination may be obtained from Kifer at the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, Rockville, MD 20852.

## U.S. Edible Fishery Imports Told for 1973

In 1973 the United States imported 2.4 billion pounds of edible fishery products valued at \$1.4 billion, according to statistics compiled by the Bureau of the Census, U.S. Department of Commerce. Canada and Japan accounted for more than 46 percent of this amount (Table 1). By continent,

Asian nations contributed 33.0 percent of the total, North American countries supplied 30.3 percent, European countries provided 18.6 percent, African nations contributed 7.9 percent, South American countries supplied 6.6 percent, and Australia-Oceania shipped 3.2 percent (Table 2).

Table 1.—U.S. fishery imports, by quantity, in 1973 (percentages in declining order).

Country	Percent	Country	Percent	Country	Percent
Japan	25.2	Ecuador	1.0	Netherlands	0.5
Canada	21.7	Korea, Rep. of	1.0	Malaysia	0.5
Iceland	4.8	Philippines	1.0	Guyana	0.4
Mexico	4.4	British Pac. Isl.	0.9	Poland	0.4
Norway	4.4	Ghana	0.9	Nicaragua	0.3
Denmark	3.5	Spain	0.8	Colombia	0.3
South Africa	2.8	Portugal	0.8	Canary Islands	0.3
China (Taiwan)	1.9	Australia	0.8	El Salvador	0.2
U.K.	1.5	Malagasy Rep.	0.7	New Zealand	0.2
Panama	1.1	Mauritius	0.6	Other countries	14.0
India	1.1	Greenland	0.5		
Brazil	1.0	Venezuela	0.5	TOTAL	100.0

Source: Bureau of the Census, U.S. Department of Commerce.

Table 2.—U.S. imports of edible fishery products by continent and country of origin.

Continent and country	Thousand pounds	Percent	Continent and country	Thousand Pounds	Percent
North America			Asia		
Canada	520,914	21.7	Japan	605,128	25.2
Mexico	106,540	4.4	China, Rep. of (Taiwan)	44,999	1.9
Panama	26,163	1.1	India	25,316	1.1
Nicaragua	7,528	0.3	Korea, Rep. of	24,637	1.0
Greenland	12,834	0.5	Philippines	24,314	1.0
El Salvador	5,918	0.2	Malaysia	11,700	0.5
Other	51,627	2.1	Other	56,074	2.3
Total	731,524	30.3	Total	792,168	33.0
South America			Australia and Oceania		
Brazil	24,400	1.0	Australia	19,603	0.8
Ecuador	24,451	1.0	New Zealand	5,311	0.2
Guyana	10,458	0.4	British Pac. Isl.	20,648	0.9
Venezuela	12,110	0.5	Other	31,616	1.3
Colombia	7,241	0.3	Total	77,178	3.2
Other	81,219	3.4			
Total	159,879	6.6	Africa		
Europe			South Africa, Rep. of	66,016	2.8
Iceland	115,408	4.8	Mauritius	13,575	0.6
Norway	106,565	4.4	Malagasy Republic	15,824	0.7
Denmark	83,838	3.5	Canary Islands	8,146	0.3
United Kingdom	35,078	1.5	Ghana	21,428	0.9
Spain	19,225	0.8	Other	63,702	2.6
Portugal	19,374	0.8	Total	188,691	7.9
Netherlands	11,145	0.5			
Poland	10,439	0.4	Total	188,691	7.9
Other	46,535	1.9			
Total	447,607	18.6	Grand total	2,397,047	100.0

Source: Bureau of the Census, U.S. Department of Commerce.

## U.S.-USSR Fisheries Discussions Terminate with Middle Atlantic Fisheries Accord

Following three weeks of discussion in Washington, D.C., the United States and the Soviet Union on February 26 reached agreement on Middle Atlantic fisheries issues but failed to agree on Pacific coast fisheries issues.

The Atlantic agreement extends previous arrangements but calls for stricter enforcement of U.S. regulations regarding U.S. Continental Shelf fishery resources and strengthens measures to lessen gear conflicts between U.S. and Soviet fishermen. Former

### U.S. Buys Less Frozen Flounder, Pollock, Turbot from Japan in 1974

Japanese 1974 exports of frozen arrowtooth flounder, pollock, and turbot to the United States totaled 48,743.9 short tons, a decline of 39.1 percent from 79,983.0 short tons in 1973, according to the Office of International Fisheries, National Marine Fisheries Service, NOAA.

Japanese trade journals consider the decline normal in view of the exceptionally strong demand for fish in 1973 resulting from the meat shortage and the high meat prices. By contrast, 1974 was a relatively normal year, and high inventories were carried over from 1973. There were also some cases during 1974 of Japanese exports being of poor quality which may have had an adverse effect on sales. Statistics for 1974 with comparisons for 1973 are shown in tabular form.

Japan's fish product exports to the United States.

	Year		Comparison 1974/1973
	1974	1973	
	Short tons		Percent
Arrowtooth flounder			
Block	237.3	1,454.1	- 83.7
Fillet	1,630.8	4,383.4	- 62.8
Total	1,868.1	5,837.5	-146.5
Pollock			
Block	17,348.2	29,146.8	- 40.5
Fillet	314.4	145.7	+115.8
Ground	434.2	636.9	- 31.8
Minced	7,076.0	14,048.1	- 49.6
Total	25,172.8	43,977.5	- 6.1
Turbot			
Block	1,463.9	2,508.9	- 41.7
Fillet	20,239.1	27,659.1	- 26.8
Total	21,703.0	30,168.0	- 68.5
Grand total	48,743.9	79,983.0	-221.1

Pacific coast agreements relating to crab fishing in the eastern Bering Sea, arrangements to prevent gear conflicts near Kodiak Island, and the fisheries of the northeastern Pacific extending from Alaska to California were extended to 1 July 1975.

Robert W. Schoning, Director, National Marine Fisheries Service, and a member of the U.S. Delegation, expressed serious concern about the level of Soviet fishing off the Pacific coast and the lack of agreement. He noted that it was the view of the U.S. Delegation that Soviet fishing in the North Pacific be reduced to conserve important stocks of interest to U.S. fishermen in the area.

"Countries with which we have no agreements have begun fishing in the North Pacific," said Schoning. "This, coupled with the failure of the United States and the Soviets to agree on meaningful catch and fishing effort limitations, seriously complicates efforts to

stop overfishing on many resources off the Pacific coast."

Schoning, who also serves as a U.S. Commissioner on the International Pacific Halibut Commission, said that separate talks on halibut were held between the U.S., Canada, and the USSR during the time of the U.S.-USSR bilaterals. The U.S. and Canada made an urgent request for conservation measures to reduce the impact of Soviet trawl fisheries on depleted stocks of halibut in the eastern Bering Sea and Gulf of Alaska. Schoning expressed serious concern that the halibut talks failed to produce meaningful action by the USSR.

The U.S. Delegation, led by Thomas A. Clingan, Deputy Assistant Secretary of State for Oceans and Fisheries Affairs, included representatives from the Departments of State and Commerce, the Coast Guard, State governments, and industry. The Soviet Delegation was led by Vladimir M. Kamentsev, Deputy Minister of Fisheries. Both countries agreed to meet later this year.

## NOAA and HUD Sign Joint Agreement to Coordinate Coastal Planning, Management

An agreement to help coastal states coordinate their planning and management activities assisted by the Commerce Department's National Oceanic and Atmospheric Administration and the Department of Housing and Urban Development's Office of Community Planning and Development has been signed in Washington, D.C. The joint agreement for coordination was signed 19 February 1975, by Robert W. Knecht, Assistant Administrator for NOAA's Coastal Zone Management, and David O. Meeker, Jr., Assistant Secretary for HUD's Community Planning and Development. The agreement is expected to help make state planning and management more effective and less costly for coastal areas.

Both agencies are involved in assisting states develop comprehensive planning programs. The Office of Coastal Zone Management is concerned specifically with helping states create programs for managing the lands and waters in their coastal zones. HUD, with its recently added man-

datory land use element, provides financial assistance to comprehensive planning at the state, regional and local levels of government.

A key element of the agreement, which is expected to simplify state efforts, is HUD's willingness to accept approved coastal zone management programs as meeting the minimum land use planning requirements necessary for states to remain eligible in HUD's 701 program. In effect, coastal zone management programs approved by the Secretary of Commerce would constitute accepted portions of HUD land use elements for the geographic areas concerned.

Additionally, the two agencies agreed that both HUD and OCZM will participate in reviewing state coastal zone management and 701 program applications, and that the staffs of both agencies will work towards establishing procedures to facilitate development of both programs. The agencies also agreed to explore the possibility of joint funding of pilot projects within coastal states.

## Japanese Longliner Seized off Alaska

The Japanese longliner, *Eikyū Maru* No. 33, was seized by a U.S. Coast Guard cutter (with a National Marine Fisheries Service enforcement agent aboard), about 3 miles off Great Sitkin Island in the western Aleutian Islands, Alaska, on April 4. The 42-meter, 230-GRT Japanese vessel was reported to have been sighted in U.S. territorial waters. The 24-metric ton catch on board consisted primarily of sablefish. The vessel was taken to Kodiak, Alaska.

The last reported violation of the U.S. Territorial Sea (TS) by a Japanese

**Table 1.—Japanese violations of U.S. fishing limits.**

Vessel	Region	Violation	Date	Penalty
<i>Taiyo Maru</i>	FNE <sup>1</sup>	CFZ <sup>2</sup>	9-5-74	\$450,000 (bond)
<i>Ebisu Maru</i>	FAK	TS <sup>3</sup>	3-20-74	300,000
<i>Mitsu Maru #30</i>	FAK	CFZ	9-16-73	230,000
<i>Kohoka Maru,</i> <i>Ryuyo Maru</i>	FAK	CFZ	4-7-72	180,000
<i>Ryusho Maru #5</i>	FAK	CFZ	11-1-71	115,000
<i>Kyoyo Maru</i>	FAK	CFZ	9-27-70	50,000
<i>Kiyō Maru #16</i>	FAK	CFZ	8-20-70	45,000
<i>Kaki Maru</i>	FAK	CFZ	8-18-70	35,000
<i>Akebono Maru</i>	FAK	CFZ	6-20-70	30,000
<i>Matsuei Maru</i>	FAK	CFZ	6-22-69	10,000
<i>Koai Maru</i>	FAK	CFZ	6-3-69	3,500
<i>Zenpo Maru</i>	FAK	CFZ	6-3-69	5,500
<i>Tenyo Maru #3</i>	FAK <sup>4</sup>	CFZ	7-16-67	5,000

Source: Law Enforcement Division, NMFS

<sup>1</sup>Northeast Region

<sup>2</sup>Contiguous Fishing Zone

<sup>3</sup>Territorial sea

<sup>4</sup>Alaska Region

vessel occurred on 20 March 1974. A penalty of \$300,000 was assessed on the *Ebisu Maru*. On 5 September 1974 a Japanese fishing vessel violated the

U.S. Contiguous Fishing Zone (CFZ) off the coast of Maine. A \$450,000 bond was posted by the owners before the vessel was released (Table 1).

## NOAA Fleet Tells New Ocean Investigations

A fleet of 25 NOAA ships has launched a new season of ocean investigations ranging from a study of the environmental effects of oil exploration and development in Alaskan waters to searching for shrimp off the Brazilian coast. In between, these versatile vessels will also engage in such activities as searching for sunken wrecks, studying the spawning of herring, assessing the environmental effects of deep sea mining of manganese nodules, charting coastal waters, and analyzing the Atlantic seabed.

They comprise the fleet of the National Oceanic and Atmospheric Administration, a Commerce Department agency whose programs are aimed at improving man's comprehension and uses of the physical environment and oceanic life. The NOAA Fleet is operated by NOAA's National Ocean Survey, and is manned by 1,139 officers, scientists, technicians, and crew. Its ships range in size from a 73-foot, 125-ton fisheries research vessel to a 303-foot, 3959-ton deep sea oceanographic floating laboratory. The ships' activities will take them through America's coastal waters and estuaries from Maine to Alaska, across the Atlantic and through the Pacific, and along the northeast coasts of Latin America.

Some of the work will be glamorous; much of it will be routine, but essential. Scientists will probe the massive mountain ranges, canyons, and fractures in the earth at the bottom of the

sea and seek additional evidence of the movement of continents and sea floor spreading. Others will conduct investigations necessary for managing fisheries resources in accordance with numerous international fisheries agreements. And while this is going on, millions of soundings will be taken of the waters which lap the shores of the U.S., its tidal fluctuations and circulatory pattern will be studied and the physical properties of the water analyzed, part of a never-ending process of gathering the data for scientific research and for the nautical charts on which the safety of America's seagoing commerce depends.

Of interest to scientists is the work being done by the *Researcher*, a deep-sea vessel which will examine the geophysical and geological environment along a trans-Atlantic corridor extending from the U.S. to Africa. The geophysical investigation continues into its fifth field season a study of a large section of the earth's crust along an entire ocean basin in a corridor stretching from Cape Hatteras, N.C., to Africa's Cape Blanc, the apparent path of separation of North America and Africa as the continents have drifted apart over the past 200 million years. *Researcher* will also conduct circulation and chemical transport studies in Gulf of Mexico waters and participate in a continuing international study of mesoscale currents in the Sargasso Sea.

While these activities are underway, NOAA vessels will be engaged in important fisheries surveys along the U.S. east coast, off Brazil and the Guianas, in the Caribbean, Gulf of Mexico, Baja California, the U.S. west coast and Alaska, and throughout the Pacific. Nine fisheries research vessels will be engaged in these activities: the *Oregon* and *Oregon II*, *David Starr Jordan*, *John N. Cobb*, *George M. Bowers*, *Murre II*, *Townsend Cromwell*, *Albatross IV*, and *Delaware II*.

They will make comprehensive surveys of fish migrations and growth; seek out the spawning grounds of herring and other fish; investigate the supply of shrimp, lobsters, clams, and other shellfish; and study the activities of ocean mammals. When the season ends, much more will be known about the marine life of skipjack tunas, deep-water shrimp, hake, pollock, crabs, haddock, cod, flounder, striped bass, and weakfish, to name a few of the benthic, pelagic and anadromous species which will be investigated. This research will aid the American fishing industry and assist the United States in negotiating with foreign nations.

The NOAA Fleet supports primarily the activities of three NOAA agencies—the National Ocean Survey, the National Marine Fisheries Service and the Environmental Research Laboratories. The vessels are based principally at Norfolk, Va., Miami, Fla.,



and Seattle, Wash. Smaller vessels in support of NOAA's vast marine programs are located at various ports where fisheries laboratories and research centers are maintained. Included is the Great Lakes Center at Monroe, Mich., which conducts limnology research and nautical charting surveys of the Great Lakes.

Five of NOAA's ships are carrying out environmental impact studies in potentially oil-rich waters of the Gulf of Alaska and the Bering and Beaufort seas. The *Discover*, *Surveyor*, *Miller Freeman*, *Townsend Cromwell*, and *Rainier* are making in-depth studies of the environmental impact of the exploration and development of oil and gas resources in these sub-Arctic and Arctic waters.

Eight ships will conduct the nautical charting surveys essential to safe navigation. They will gather data in Amer-

ica's coastal waters. estuaries, bays and lakes for the two million charts the National Ocean Survey issues each year. These are the *Fairweather*, *Rainier*, *Mt Mitchell*, *Whiting*, *Peirce*, *McArthur*, *Davidson*, and *Ferrel*, and several smaller vessels. Their work will take them to the waters of New Jersey and New York, the Florida Keys, Puerto Rico, the Virgin Islands, Gulf of Mexico, Puget Sound, the West Coast and Alaska, and the Great Lakes.

Essential also to safe navigation are the wire drag surveys for underwater hazards, including wrecks, conducted by the *Rude* and *Heck* along the southeast coast and in the Gulf of Mexico, and the current circulation surveys carried out by the *Ferrel* in Chesapeake Bay, Oregon Inlet, N.C., and the Great Bay-Portsmouth Harbor Estuary in New Hampshire. These three vessels are unique, the only ones of their kind

in the country, built specifically for their specialized work.

Some of the studies engaged in by the NOAA Fleet will seek to extend man's understanding of the ocean and the atmosphere, to evaluate the living marine resources of waters off the United States and South America and in the eastern and mid-Pacific; and to assess the environmental impact of activities in submerged coastal areas, such as man-made pollution in the New York Bight, the 11,500-square-mile area of coastal and outer continental waters extending from Montauk Point, Long Island, N.Y., to Cape May, N.J. And far off the southern California coast, the deep sea research vessel *Oceanographer* will seek to determine the effects of deep sea mining for manganese nodules on the sea environment. Some studies will involve other U.S. agencies, educational institutions, and foreign countries.

#### Foreign Fishery Developments

## Japan: Soviet Talks and Fishing Protest; Tuna Prices and Exports

### JAPAN-USSR FISHERY TALKS

The 19th Annual Meeting of the Japan-Soviet Fisheries Commission opened in Tokyo, Japan, on 3 March 1975 according to the *Suisan Keizai Shimbun* and *Shin Shimbun*. The focal points of this year's negotiations were: 1) allocation of salmon catch quotas; 2) enforcement of salmon regulations in the Area B (south of lat. 45°N) of the North Pacific treaty waters; and 3) regulations of the herring fishery in the Okhotsk Sea.

This year's salmon talks were expected to be tough since Japan wanted a 91,000-metric-ton quota (the same as in 1973, the previous year of good Asian pink salmon runs), whereas the Soviet Union was expected to demand a cut to correct the imbalance in the salmon catches of the two countries. The Soviet Union was also likely to insist on sending their patrol vessels into Area B, a move which Japan strongly opposed. The crab and sea snail fishery negotiations opened in Moscow on March 3rd.

### FISHERMEN PROTEST

About 1,000 irate Japanese fishermen on 28 February 1975 staged a rally in

Tokyo to protest what they called the Soviet fleet's "reckless" fishing in Japanese waters, the *Suisan Keizai Shimbun* and *Minato Shimbun* report. In recent years, Soviet trawlers fishing for Alaska pollock, mackerel, and other fish off the Pacific coast of Japan from Hokkaido to Chiba Prefecture were reported to have caused damages to vessels and fishing gear totaling 300 million yen (US\$1.05 million).

At the rally, the fishermen adopted a resolution calling for: (1) immediate withdrawal of Soviet fleets operating off Japan; (2) compensation for damages to vessels and gear; and (3) early establishment of a 12-mile territorial sea limit. A recent aerial patrol by the Maritime Safety Agency sighted 135 Soviet trawlers and motherships off eastern Japan.

### TUNA PRICE PLAN

The Federation of Japan Tuna Fisheries Cooperative Associations (whose members include most of the Japanese tuna longline vessel owners), anticipating a sharp decline in skipjack and albacore prices in Japan owing to stagnant sales to the United States, has developed a tuna supply adjustment

plan, according to reports in the *Suisan Keizai Shimbun* and *Kanzueme Joho*. From March until August, the Federation plans to store, frozen, over 20,000 metric tons of skipjack and 10,000 metric tons of albacore if the bidding prices for the landings fall sharply.

The prices at which the storage operation will begin are reported to be around ex-vessel 150 yen per kilogram (US\$481 per short ton at 283:1) for skipjack and 220 yen per kilogram (\$705 a short ton) for albacore. The prefectural tuna associations will also participate in this plan. Funds needed to finance the undertaking are estimated to reach 15,200 million yen (\$53.7 million), for which the Federation intends to seek emergency, low-interest government loans. Monetary losses resulting from the supply adjustment plan will be apportioned to the members, who will be assessed 2 yen/kg (\$6.4/short ton) for their landings for one year beginning 1 March 1975. Also included in the plan is the storage of canned tuna. The Tuna Federation's price supporting measure is being closely watched by Japanese tuna packers, who have been hopeful that raw tuna prices would decline in the future.