

ing in the spring" are to be harvested in certain Statistical Regions of the Barents Sea, Norwegian Sea, and waters in the vicinity of the Faroe Islands as designated by the International Council for the Exploration of the Sea. The full text of the 1972 agreement is available on request from the NMFS International Activities staff.

The Norwegian suspicion, that
Fishery Notes

Boats Before Wives for Pt. Judith Fishermen

Ask a Point Judith fisherman what's the worst thing that could happen to him and he will probably mention the loss of his boat before the loss of his wife.

At least that is what two University of Rhode Island social scientists found when they conducted a comparison study of a group of fishermen and a group of mill workers. The conclusions of Dr. Carl Gersuny, a sociologist, and Dr. John J. Poggie, Jr., an anthropologist, are reported in the most recent issue of *Maritimes*, quarterly magazine of the Graduate School of Oceanography at URI, Kingston.

"When we asked the fishermen and mill workers, 'What is the worst thing that could happen to you?' the most frequent response for both groups was the individual's own death or serious illness, while the second most frequent response was 'loss of boat' among fishermen and 'loss of wife' among mill workers." The social scientists said, however, that fishermen's wives need not be unduly alarmed by this because their loss was the third most frequent response of their husbands.

The research conducted by Dr. Gersuny and Dr. Poggie involves much more than pinning down fishermen's priorities. By understanding the subculture of fishermen, they say, it will become more feasible to design workable programs for dealing with social problems facing fishermen and fishing communities. Their research was supported by the URI Sea Grant Program, which is funded by the

what the Soviets defend as research may in fact be a fishing operation, seems to be strengthened by Norwegian fishermen's observations of herring being salted on the Soviet trawlers. Soviet research vessels normally do not process large quantities of landed fish.

While it is true that many Soviet research vessels are medium side

National Oceanic and Atmospheric Administration.

They have found that kinship plays a more important role in the occupational life of fishermen than in most land-bound occupations, including mill workers. "Family relations," they said, "help determine who fishes and with whom." The social scientists have reasoned that if access to commercial fishing is ever limited to prevent excessive exploitation of stocks, the role of kinship in fishing communities must be taken into consideration.

Publications

University of Rhode Island Publications

Socioeconomic research issues in the development of world fisheries is the subject of a 12-page technical report from the International Center for Marine Resource Development at the University of Rhode Island. Research issues dealing with commercial fisheries, artisan coastal and inland fisheries, and the interrelations of agriculture and fisheries are covered in the pamphlet, "**Socio-Economic Research Issues in Fisheries Development**," based on a workshop involving university and governmental personnel held at URI in 1972.

The publication, listed as Marine Technical Report No. 13, notes that information on fishing and fishermen in the developing countries is scarce; what is available is often less reliable than data for other non-urban sectors. Some issues that now seem critical, the report states, are market development and modernization, a systems

trawlers (the same type that the Norwegian fishermen reported off the Lofoten Islands), it is considered unlikely that 6 such vessels would have been conducting research in the same location. Normally, Soviet fishery research vessels are assigned large marine areas in which to conduct their research, and they usually operate singly.

Fishermen may find a greater measure of happiness than people in other occupations, Dr. Gersuny and Dr. Poggie said. Fishermen are among the least alienated of workers—meaning they do not feel they are in the rat race of a meaningless job and do not have a sense of powerlessness over their conditions of work. The reason, Drs. Gersuny and Poggie say, is because of "their close ties to the finished product, their high level of control over work and product, and the fact that a fisherman has a far better chance of becoming a boat owner than has a textile worker of becoming a mill owner."

management approach to river and coastal lagoon development, and the integration of fisheries with agricultural enterprises.

"Fisheries development can help solve employment and income equity problems in many nations of the world, but not unless more attention is concentrated and more research is done on economic aspects of fisheries development," it states. Free copies are available from the Marine Advisory Service, University of Rhode Island, Narragansett Bay Campus, Narragansett, RI 02882.

Rhode Island's Ocean Sands, Marine Technical Report No. 10, published by the University of Rhode Island Sea Grant Program, predicts that an offshore sand and gravel mining industry may soon develop in Rhode Island waters and says the state should be ready to cope with it.

Rising demand for sand and gravel, decreasing land supply, and increasing exploitation of ocean deposits may soon stimulate offshore mining on the East Coast says the author, Malcolm J. Grant, a resource analyst at URI's Coastal Resources Center.

In a series of management recommendations, Grant states that mining in depths shallower than 80 feet should be prohibited unless it is proven that such an operation would not result in beach erosion. The author also recommends that firms be required to submit an environmental impact statement—perhaps a joint effort of all bidders—before the management council issues a mineral extraction lease. The aesthetic impact of mining operations should be considered as part of the impact statement, the URI researcher said.

Dredging in spawning and nursery grounds or in productive shellfish beds should be discouraged, notes Grant. Extensive research on the offshore commercial fishing industry must be completed before conflicts with marine mining can be effectively resolved, he adds. Dredging should not be allowed in areas where barges or the associated equipment would interfere with commercial or recreational navigation and the coastal council should regulate small scale land mining of beach material to prevent erosion.

The 51-page publication contains information on the possible economic and environmental impact on the state of offshore mining as well as legal considerations. Free copies may be obtained from the Marine Advisory Service, University of Rhode Island, Narragansett Bay Campus, Narragansett, RI 02882.

Commercial quantities of red crab have been found off the northeastern coast of the U.S. and a 21-page booklet, **The Red Crab**, prepared by the URI Marine Advisory Service (MAS), discusses how to handle, process and market them. The Technical Report Number 11 is free from MAS.

To obtain a copy write to Univer-

sity of Rhode Island, Narragansett, RI 02882.

The second volume of a two-volume study entitled, "**Coastal and Offshore Environmental Inventory: Cape Hatteras to Nantucket Shoals**," has been published by the University of Rhode Island Marine Experiment Station.

The new 480-page volume surveys the state of knowledge in coastal vegetation, marine geology, offshore weather and climate, and coastal zone utilization. The first volume covered the areas of physical oceanography, chemical oceanography, phytoplankton, zooplankton, benthic fauna, fisheries, marine mammals and birds. Elaine Y. Pratt served as managing editor for both volumes.

In his introduction, Dr. Saul B. Saila, experiment station director, said that many cases of changes in

environmental quality clearly emphasize the importance of monitoring efforts in addition to the gathering of baseline information, in order to properly assess the effects of specific man-made or natural phenomena. He added that "only the outcomes of effective research programs will permit the force of intelligent management to bear on man's inevitably increasing role in coastal areas and estuarine processes."

Copies of volume two, entitled complement volume, are available at \$5 each from the URI Marine Advisory Service, University of Rhode Island, Narragansett Bay Campus, Narragansett, RI 02882. All orders must be prepaid by check payable to the University of Rhode Island. A limited number of copies of the first volume are still available at \$10 each.

Recent NMFS Scientific Publications

NOAA Technical Report NMFS SSRF-674, Bowman, Edgar W. "**Lake Erie bottom trawl explorations, 1962-66**," January 1974, iv + 21 p.

ABSTRACT

The Bureau of Commercial Fisheries (now the National Marine Fisheries Service) Exploratory Fishing and Gear Research Base, at Ann Arbor, Mich., surveyed the abundance, availability to the otter (bottom) trawl, and depth distribution of various Lake Erie fish stocks between April 1962 and October 1966. The four exploratory cruises, conducted aboard the research vessel *Kaho*, clearly demonstrated the effectiveness of the bottom trawl in producing commercial quantities of yellow perch, *Perca flavescens*, and rainbow smelt, *Osmerus mordax*. Freshwater drum, *Aplodinotus grunniens*; carp, *Cyprinus carpio*; channel catfish, *Ictalurus punctatus*; and white bass, *Roccus chrysops*, were all produced in commercial quantities at least once during the study and collectively accounted for 17.1% of the total landings.

Between the first exploratory cruise in 1962 and the last in 1966 the abundance of yellow perch decreased significantly, and that of alewife, *Alosa pseudoharengus*, increased dramatically.

NOAA Technical Report NMFS CIRC-387, Manning, Raymond B. "**Marine flora and fauna of the Northeastern United States. Crustacea: Stomatopoda**," February 1974, iii + 6 p.

ABSTRACT

This manual includes an introduction on the general biology, an illustrated key, an annotated systematic list, a selected bibliography, and an index to the stomatopod Crustacea of the inner continental shelf of the Northeastern United States. Four species are treated.

The 16-page publication "**Fishermen's Simplified Recordkeeping Sheets**," (NOAA Form 88-46) is now available from the U.S. Government Printing Office. The book is divided into parts I and II, which deal with trip accounts and vessel owner's accounts. The record sheets permit recording of the number of days at sea, number of days fished, amount of sales, fuel expenses and much more.

The book can be obtained for \$0.65 from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Russian and Polish Volumes Are Translated

The following Russian books, published by John Wiley & Sons and Israel Program for Scientific Translations (IPST), were translated by IPST in 1973. They are available at the prices indicated from Halstead Press, a division of John Wiley & Sons, 605 Third Ave., New York, NY 10016, or Keter Publishing House, P.O. Box 7145, Jerusalem, Israel. When ordering, cite the books' accession numbers.

"Specific Production of Aquatic Invertebrates," by V. E. Zaika. The author defines production as the total amount of organic matter produced by a given system and specific production as the amount of production per unit time per unit of system biomass. Topics include alterations of the Bertalanffy equation, productivity calculations, infusoria productivity, diurnal specific productivity data on more than 100 species of invertebrates and their relation to factors such as animal weight, age structure of a population, and environment temperature. Mathematical models are proposed to predict probable limits of specific production variability under different conditions. IPST Cat. No. 22077, 154 pp., \$16.00.

"Morphology and Ecology of Marine Mammals," edited by K.K. Chapskii and V.E. Sokolov. This is a collection of articles intended for zoologists, morphologists, physiologists, and bioncists. It covers selected research topics in the USSR on seals, dolphins, and porpoises. Subjects include thermoregulation in seals, the possibility of taste perception in dolphins, new data on the biochemistry of blood of Black Sea dolphins, methods of electrophysiological experiments (described in English for the first time), signalling behavior in dolphins, and a Soviet perspective on oceanariums in the United States and Japan. IPST Cat. No. 22056, 232 pp., \$20.00

"Schooling in the Ecology of Fish," by D. V. Radakov. Describes the

structure and function of schooling of fish from an ecological perspective. Topics include empirical investigations, different theoretical views of schooling behavior, materials and methods of observations, characteristics and importance of schooling, and practical application of research findings. Both original and published data are analyzed. The book is intended for a broad audience of biologists, students, and workers in the fishing industry. It contains an extensive, current, international bibliography. IPST Cat. No. 22076, 173 pp., \$16.00.

"Chemical Kinetics," by H. M. Emanuel' and D. G. Knorre. Intended to be a textbook. Contains the technical principles of the kinetics of homogeneous chemical reactions, with numerous examples. This is a revision of an earlier edition and contains new material on principles of electron paramagnetic resonance (EPR). IPST Cat. No. 22061, 447 pp., \$24.00.

The translation and printing of selected articles from the Polish journal *Technika i Gospodarka Morska* (Marine Technology and Management) are being done in Poland for the National Science Foundation under the Special Foreign Service Science Information Program (financed with Public Law 480 Funds). The translations are sold for \$3.00 each by the National Technical Information Service (NTIS), Springfield, VA 22151. Selections from one or two issues are included under one cover and the latest ones to be published are from Vol. 20, 1970: Nos. 8-9 as TT 70-55125/8,9, Nos. 10-11 as TT 70-55125/10,11 and No. 12 as TT 70-55125/12.

When ordering, cite the translations' accession numbers. Articles on fisheries in those issues include: Polish herring fisheries in the North Sea and the Celtic Shelf area; economic principles of selecting fishing grounds; capacity of Polish cutter ports; human infection by marine fish parasites; reaction of fish to underwater explo-

sions; protection of catch by means of ionizing radiation; maritime economy in Poland; problems of economic cooperation among Baltic countries; water temperature measurements; stowage and marine transport of fishmeal; Northeast Atlantic (Greenland) halibut; consumption of fish products in Gdansk Voivodship in 1950-1969; evaluation of efficiency of B-29 trawler fish processing equipment; development of cephalopod fisheries; marine fisheries of North Vietnam; mechanism of profits and indices of profitability of deep-sea fisheries; liquid nitrogen for freezing on vessels; and Cuba's marine fisheries.

A limited number of free copies is available from the Translation Program, International Activities Staff, Fx41, NMFS, NOAA, U.S. Department of Commerce, Washington, DC 20235.

Virginian Sea Chart

"Bathymetry of the Virginian Sea," a detailed multicolored map of the depths of the sea floor of the Chesapeake Bight extending from Cape Henlopen to Cape Hatteras, is available from the Virginia Institute of Marine Science. The sea floor bathymetry is based on approximately 100,000 depths from 66 original hydrographic sounding sheets and other data, contoured at 12-ft intervals out to 496 ft and 100-ft intervals out to 1,000 ft. The map, which covers an area of over 20,000 sq mi, resulted from the most detailed compilation of depth information yet attempted for the Virginia continental shelf.

The data was compiled in conjunction with a study of ocean wave refraction for Virginia's continental shelf and coastline. Dr. Victor Goldsmith is principal investigator for the research, supported by a Sea Grant project administered by the National Oceanic and Atmospheric Administration (NOAA). The map, published as SRAMSOE No. 39, is available for \$3 from the Virginia Institute of Marine Science Library, Gloucester Point, VA 23062.