



RECENT FISHERY PUBLICATIONS

FISH AND WILDLIFE SERVICE PUBLICATIONS

THESE PROCESSED PUBLICATIONS ARE AVAILABLE FREE FROM THE OFFICE OF INFORMATION, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON, D. C. 20402. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES.
SEP. - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.
SL - STATISTICAL LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.
SSR - FISH - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).

- | Number | Title |
|----------|--|
| CFS-3776 | - Packaged Fishery Products, 1964 (Revised), 5 pp. |
| CFS-3829 | - Massachusetts Landings (by Gear and Sub-area), 1964 Annual Summary, 16 pp. |
| CFS-3860 | - Gulf Coast Shrimp Data, January 1965, 15 pp. |
| CFS-3871 | - New York Landings, May 1965, 5 pp. |
| CFS-3874 | - Maryland Landings, May 1965, 4 pp. |
| CFS-3876 | - Michigan, Ohio & Wisconsin Landings, April 1965, 4 pp. |
| CFS-3877 | - Michigan, Ohio & Wisconsin Landings, May 1965, 4 pp. |
| CFS-3883 | - South Carolina Landings, June 1965, 3 pp. |
| CFS-3884 | - New Jersey Landings, June 1965, 3 pp. |
| CFS-3886 | - Maine Landings, June 1965, 4 pp. |
| CFS-3887 | - California Landings, April 1965, 4 pp. |
| CFS-3888 | - California Landings, May 1965, 4 pp. |
| CFS-3891 | - Shrimp Landings, February 1965, 5 pp. |
| CFS-3892 | - Gulf Coast Shrimp Data, February 1965, 15 pp. |
| CFS-3893 | - Alabama Landings, June 1965, 3 pp. |
| CFS-3894 | - Texas Landings, April 1965, 2 pp. |
| CFS-3895 | - New York Landings, June 1965, 4 pp. |
| CFS-3896 | - Rhode Island Landings, April 1965, 3 pp. |
| CFS-3898 | - Mississippi Landings, April 1965, 3 pp. |
| CFS-3906 | - Florida Landings, July 1965, 8 pp. |
| CFS-3907 | - Louisiana Landings, June 1965, 3 pp. |
| CFS-3909 | - California Landings, June 1965, 4 pp. |
| CFS-3914 | - Mississippi Landings, May 1965, 2 pp. |
| SL- 36 | - Wholesale Dealers in Fishery Products, Iowa (Mississippi River and Tributaries), 1964 (Revised), 2 pp. |
| SL-116 | - Firms Canning Food for Animals, from Marine-Animal Products, 1964 (Revised), 4 pp. |
| SL-102 | - Firms Canning Maine Sardines, 1964 (Revised), 1 p. |

Sep. No. 744 - Distribution, Abundance, and Size of Sablefish (*Anoplopoma fimbria*) Found in Deep Water Off the Mouth of the Columbia River.

Sep. No. 745 - Shrimp Potential of the Eastern Gulf of Guinea.

SSR-Fish. No. 513 - Comparison of Vertebral Counts of Atlantic Menhaden, by Fred C. June, 14 pp., illus., June 1965.

Annual Report of the Bureau of Commercial Fisheries Biological Laboratory, Beaufort, N. C., for the Fiscal Year Ending June 30, 1964, Circular 215, 29 pp., illus., June 1965. Summarizes the research work carried out by the laboratory during Fiscal Year 1964, including blue crab, menhaden, shad, and Atlantic Coast striped bass programs.

The Big Bite--Commercial Fisheries of the Middle Atlantic Coast, Conservation Note 17, 8 pp., illus., Feb. 1965. Although the number of Middle Atlantic Coast fishermen (27,000-28,000 recently) has not changed much since the 1930's, landings have nearly doubled in size and have increased fivefold in value in that time. In a recent year, the catch of fish and shellfish totaled more than 1.5 billion pounds, worth nearly \$60 million to the fishermen, according to this leaflet. Included is information on the economic value of shellfish (oysters, clams, scallops, blue crab, and northern lobster); finfish fisheries--for porgy, alewives, flounders, striped bass, shad, butterfish, whiting, sea bass, and cod; and the new fisheries for tuna and swordfish.

Characteristics of Fish Populations in Upper Mississippi River Backwater Areas, by Lyle M. Christenson and Lloyd L. Smith, Circular 212, 56 pp., illus., March 1965.

Effects of Pesticides on Fish and Wildlife--1964 Research Findings of the Fish and Wildlife Service, Circular 226, 83 pp., Aug. 1965.

A Fisherman Looks at Reservoirs, by Charles E. Most, Circular 227, 16 pp., illus., June 1965.

Pesticide-Wildlife Studies by States, Provinces, and Universities, An Annotated List of Investigations Through 1964, Circular 224, 31 pp., May 1965.

Report of the Bureau of Commercial Fisheries for the Calendar Year 1963, 115 pp., illus., printed, 1965. From 1950 through 1962 the United States domestic catch of food fish was gradually declining and her imports growing to over a hundred percent. In 1963,

however, while the imports of food fish decreased, the percentage of the total supply of edible fishery products derived from imports remained about the same. As the population increases the total consumption of fishery products increases, and unless the United States is to become more and more dependent on foreign nations for fishery products, the domestic catch must be increased. This can and must be achieved by assisting the domestic fishing industry. The report touches on developments in 1963 in the domestic fisheries, Federal legislation affecting the industry, and international fishery matters. It also discusses principal Bureau accomplishments in the North Pacific, California, Hawaii, Gulf of Mexico, Atlantic Coast, and Great Lakes regions; research and development programs in foreign fishing explorations, international oceanographic expeditions, fish protein concentrate, new products from fish oil, irradiation of fishery products, effects of pesticides on fisheries, U. S. standards for fishery products and certification service, transportation facilities, shrimp futures on Chicago Mercantile Exchange, canned tuna promotion program, and others; financial assistance programs; work of the American Fisheries Advisory Committee; and cooperation and coordination with International, Federal, State, and other agencies. Included are discussions of the organization, employment, budget, and physical property of the Bureau; and a listing of publications written by its employees. Appendixes contain statistics of United States fisheries; organizations with which the Bureau had research and development contracts; and data on the Fisheries Loan Fund.

Treatment Tips: How to Determine Quantities for Chemical Treatments in Fish Farming, Circular 209, 16 pp., July 1965.

PUBLICATIONS AVAILABLE FREE FROM THE BRANCH OF STATISTICS,
U. S. BUREAU OF COMMERCIAL FISHERIES, RM. 505, 1615 N. FORT MYER
DR., ARLINGTON, VA. 22209.

Number	Title
CFS-3902 (HS No. 1)	- Imports of Fish Meal and Scrap, 1937-1964, 6 pp.
CFS-3903 (HS No. 2)	- U. S. Fish Meal and Scrap Production, 1929-1964, 5 pp.
CFS-3904 (HS No. 3)	- Foreign Trade in Fish and Marine-Animal Oils, 1925-1964, 10 pp.
CFS-3905 (HS No. 4)	- Menhaden Fishery, 1873-1964, 7 pp.

THE FOLLOWING PUBLICATIONS ARE AVAILABLE ONLY FROM THE SPECIFIC OFFICE MENTIONED.

California Fishery Market News Monthly Summary, Part I - Fishery Products Production and Market Data, August 1965, 15 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif. 90731.) California cannery receipts of tuna and tunalike fish and other species used for canning; pack of canned tuna, tunalike fish, mackerel, and anchovies; market fish receipts at San Pedro, Santa Monica, and Eureka areas; California and Arizona imports; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; prices for fish meal, oil, and solubles; for the month indicated

California Fishery Market News Monthly Summary, Part II - Fishing Information, August 1965, 9 pp.,

illus. (U. S. Bureau of Commercial Fisheries, Tuna Resources Laboratory, P. O. Box 271, La Jolla, Calif. 92038.) Contains sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists; for the month indicated.

Gulf of Mexico Monthly Landings, Production and Shipments of Fishery Products, July and August 1965, 9 pp. each. (Market News Service, U. S. Fish and Wildlife Service, Rm. 609, 600 South St., New Orleans, La. 70130.) Gulf States shrimp, oyster, finfish, and blue crab landings; crab meat production; LCL express shipments from New Orleans; wholesale prices of fish and shellfish on the New Orleans French Market; Gulf menhaden landings and production of meal, oil, and solubles; fishery imports at Mobile, Ala., Morgan City and New Orleans, La., Miami, Fla., and Houston, Port Isabel, and Brownsville, Tex., from Mexico; and sponge sales; for the months indicated.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, August 1965, 4 pp. (Market News Service, U. S. Fish and Wildlife Service, 18 S. King St., Hampton, Va. 23369.) Landings of food fish and shellfish and production of crab meat and shucked oysters for the Virginia areas of Hampton Roads, Chincoteague, Lower Northern Neck, and Lower Eastern Shore; the Maryland areas of Crisfield, Cambridge, and Ocean City; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data on fishery products and shrimp production; for the month indicated.

New England Fisheries--Monthly Summary, July and August 1965, 21 pp. each. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston, Mass. 02210.) Review of the principal New England fishery ports. Presents data on fishery landings by ports and species; industrial fish landings and ex-vessel prices; imports; cold-storage stocks of fishery products in New England warehouses; fishery landings and ex-vessel prices for ports in Massachusetts (Boston, Gloucester, New Bedford, and Provincetown), Maine (Portland and Rockland), Rhode Island (Point Judith), and Connecticut (Stonington); frozen fishery products prices to primary wholesalers at Boston, Gloucester, and New Bedford; and Boston Fish Pier and Atlantic Avenue fishery landings and ex-vessel prices by species; for the month indicated.

Receipts of Fresh and Frozen Fishery Products, New York City's Wholesale Fulton Fish Market, by Transport Method, 1938-1964, 4 pp., 1965. (Market News Service, U. S. Fish and Wildlife Service, 346 Broadway, New York, N. Y. 10013.)

Research Leads to Improved Harvesting-Processing-Marketing of Commercial Farm Pond Fish, Newsletter to Industry, 15 pp., illus., processed, Aug. 16, 1965. (Regional Office, U. S. Bureau of Commercial Fisheries, 5 Research Dr., Ann Arbor, Mich. 48103.) Discusses in detail results of research projects to assist farm pond fish producers: (1) final testing of a method for seining such fish as buffalofish and catfish from ponds up to 2,000 feet wide filled with water up to 8 feet deep; (2) successful handling of live catfish with a mechanical conveyor; (3) additional storage testing of buffalofish and catfish products; (4) a unique method for making a marketable product out of processing wastes and rough fish; (5) continuation of consumer education and market development activ-

ities such as fish cookery demonstrations and distribution of fish recipes to food editors; and (6) compilation of a list of live-fish dealers and consumers.

Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, August 1965, 9 pp. (Market News Service, U. S. Fish and Wildlife Service, 706 Federal Bldg., 909 First Ave., Seattle, Wash. 98104.) Includes Seattle's landings by the halibut and salmon fleets reported through the exchanges; landings of halibut reported by the International Pacific Halibut Commission; landings of otter-trawl vessels reported by the Fishermen's Marketing Association of Washington; local landings by independent vessels; coastwise shipments from Alaska by scheduled and non-scheduled shipping lines and airways; imports from British Columbia via rail, motor truck, shipping lines, and ex-vessel landings; and imports from other countries through Washington customs district; for the month indicated.

Selected Species of Fresh-Water Fish of the Chicago Market, compiled and edited by C. E. Cope, 12 pp., illus., Sept. 1965. (Fishery Market News Service, U. S. Bureau of Commercial Fisheries, 610 S. Canal St., Chicago, Ill. 60607.)

THE FOLLOWING SERVICE PUBLICATIONS ARE FOR SALE AND ARE AVAILABLE ONLY FROM THE SUPERINTENDENT OF DOCUMENTS, U. S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C. 20402.

Bibliography on Reservoir Fishery Biology in North America, by Robert M. Jenkins, Research Report 68, 61 pp., printed, 1965, 40 cents.

Bulrushes and Bulrushlike Plants of Eastern North America, by Neil Hotchkiss, Circular 221, 21 pp., illus., processed, May 1965, 20 cents.

Distribution of Alaskan Mammals, by Richard H. Manville and Stanley P. Young, Circular 211, 77 pp., illus., printed, 1965, 50 cents. Among the mammals described and in some cases, illustrated (including maps showing their range) are cetaceans--whales and porpoises; pinnipeds--sea lions and several species of seals; and the river and sea otters.

MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM. CORRESPONDENCE REGARDING PUBLICATIONS THAT FOLLOW SHOULD BE ADDRESSED TO THE RESPECTIVE ORGANIZATION OR PUBLISHER MENTIONED. DATA ON PRICES, IF READILY AVAILABLE, ARE SHOWN.

ABALONE:

"El abulón Californiano" (The California abalone), by Keith W. Cox, article, Pesca y Marina, vol. 17, no. 4, Aug.-Sept. 1965, pp. 4, 6-11, illus., printed in Spanish. Fernando Flores Limitada, 705 N. Windsor Blvd., Los Angeles 38, Calif.

AFRICA:

Market Profiles for Africa, OBR 65-43, 40 pp., printed, June 1965, 15 cents. Bureau of International Com-

merce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

ANCHOVIES:

"Izmenenie razmerov ikry khamsy (*Engraulis encrasicolus ponticus* Alex.) v techenie nerestovogo sezona" (Variation in size of eggs of Black Sea anchovies, *Engraulis encrasicolus ponticus* Alex., during the spawning season), by T. V. Lugovaya, article, Trudy Sevastopol'skoi Biol. Sta. Akad. Nauk Ukr. SSR, vol. 16, 1963, pp. 364-388, printed in Russian. Trudy Sevastopol'skaia Biologicheskaiia Stautsiia, Akademiia Nauk SSSR, Leningrad, U.S.S.R.

ANTARCTIC:

Antarctic Research Series, Volume 1--Biology of the Antarctic Seas, edited by Milton O. Lee, Publication No. 1190, 196 pp., illus., printed, 1964, \$10. American Geophysical Union, Suite 506, 1145 19th St. NW., Washington, D. C. 20036. The first volume in the Antarctic Series deals with a number of marine studies. (Papers included in this series are original contributions too lengthy or otherwise unsuitable for publication in standard scientific journals. The material will be directed not only to scientists actively engaged in research work but to graduate students and scientists in closely related fields as well. The books in the series will serve both as references for the specialist and as sources of information for anyone acquainted with the biological and physical sciences.) This volume contains papers on: "Primary organic production in the Drake Passage and Bransfield Strait," by Sayed Z. El-Sayed, Enrique F. Mandelli, and Yukio Sugimura; "Primary productivity under sea ice in Antarctic waters. 1--Concentrations and photosynthetic activities of microalgae in the waters of McMurdo Sound, Antarctica; 2--Influence of light and other factors on photosynthetic activities of Antarctic marine microalgae," by J. S. Bunt; and "Respiratory metabolism and ecological characteristics of some fishes in McMurdo Sound, Antarctica," by Donald E. Wohlschlag. Also included are: "Temperature responses and tissue respiration in Antarctic crustacea with particular reference to the krill *Euphausia superba*," by M. A. McWhinnie; "Antarctic foraminiferal zonation," by Orville L. Bandy and Ronald J. Echols; and "Improved techniques for benthic trawling at depths greater than 2,000 meters," by Robert J. Menzies. An appendix consists of a catalogue and bibliography of Antarctic and Sub-Antarctic benthic marine algae.

ARCTIC:

"Arctic Biological Station," by Mark Ronayne, article, Trade News, vol. 18, no. 1, July 1965, pp. 22-24, illus., processed. Information and Consumer Service, Department of Fisheries, Ottawa, Canada.

ARGENTINA:

Following are from the series Contribucion del Instituto de Biologia Marina, printed in Spanish. Instituto de Biologia Marina, Mar del Plata, Argentina.

Algunos Datos sobre la Biologia de la Anchoita del Sector Bonacrense (Resultados Preliminares) (Some Data on the Biology of the Anchovy of the Bonacrense Area--Preliminary Results), by Maria Luisa Fuster de Plaza, No. 22, 1964.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

Los Recursos Pesqueros en America Latina (Sumario) (The Fishery Resources in Latin America--Summary), No. 23, 1964.

Resultados Preliminares de las Campanas de Pesca Exploratoria de Langostines y Camarones en Rawson, 1962-1963 (Preliminary Results of the Exploratory Fishing Cruises for "Langostines" and Shrimp at Rawson, 1962-63), by Enrique Beschi, No. 21, 1964.

Variaciones Estacionales de la Fauna Ictica del Area de Pesca de Mar del Plata (Seasonal Variations in the Marine Fauna of the Fishing Area of Mar del Plata), by Alberto Nani, No. 24, 1964.

ASIA:

Market Profiles for the Near East and South Asia, OBR 65-37, 20 pp., printed, June 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

AUSTRALIA:

Australian Journal of Marine and Freshwater Research, vol. 16, no. 2, July 1965, 126 pp., illus., printed, single copy 10s. (about US\$1.40). Editorial and Publications Section, CSIRO, Sixth Floor, 372 Albert St., East Melbourne C2, Australia. A few of the articles are: "Studies on the physiology of a shrimp *Metapenaeus* sp. (Crustacea: Decapoda: Penaeidae). IV--Carbohydrate metabolism; V--Calcium metabolism," by W. Dall; and "The ecology of six species of littoral gastropod molluscs. II--Seasonal variations in the six populations," by A. K. O'Gower and G. R. Meyer.

Australian Seafoods Buyer's Guide, 1965, 16 pp., illus., printed, 1965. Trade Publicity Branch, Department of Trade and Industry, Melbourne, Australia. An outstandingly attractive booklet designed for overseas importers of Australian spiny lobster, shrimp, abalone, oysters, scallops, and tuna. A full-color illustration of each species, together with a short explanation of landings, seasonal supplies, grading and packaging, and export requirements, is provided. Information on Australian export control regulations, current export markets, and worldwide Australian trade commissioner posts is also included.

AUSTRIA:

Market Factors in Austria, by John A. Cantwell and Elroy B. Thiel, OBR 65-51, 12 pp., printed, July 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

BIOLOGIST:

Fishery Biologist and Wildlife Biologist, Announcement No. 285B, 12 pp., printed, revised April 1964. Board of Civil Service Examiners, Fish and Wildlife Service, U. S. Department of the Interior, Washington, D. C. 20240. A brochure on positions for fishery and wildlife biologists in the U. S. Fish and Wildlife Service. Covers location of positions, description of work, minimum education requirements, special provisions for satisfying basic educational

requirement, combination of superior academic achievement and subsequent professional experience, general and special requirements, general information, and how to apply for a position.

BLACK SEA:

Ryby Chernogo Morya (Fishes of the Black Sea), by A. N. Svetovidov, 551 pp., illus., printed in Russian, 1964, 3 Rubles, 30 Kop. (about US\$3.65). Nauka, Moscow, U.S.S.R.

BOTULISM:

Botulism and Fishery Products, by J. M. Shewan and D. C. Cann, Torry Advisory Note No. 22, 7 pp., printed, May 1965. Torry Research Station, 135 Aberdeen Rd., Aberdeen, Scotland.

BRAZIL:

Pesca, Estrutura e Producao, 1963 (Fishing Industry, Composition and Production, 1963), 37 pp., processed in Portuguese, March 1965. Servico de Estatistica da Producao, Departamento Economico, Ministerio da Agricultura, Rio de Janeiro, Brazil. Contains statistical tables showing number of fishermen, fishery products landings by type of gear, quantity and value of fish landings by class, and other data for 1962/63.

Revista Nacional da Pesca, vol. 6, no. 42, May-June 1965, 32 pp., illus., printed in Portuguese. Revista Nacional da Pesca, Av. Ipiranga, 890, 8º Andar, Sao Paulo, Brazil. Two of the articles are: "Panorama da pesca em Santa Catarina" (View of the fishery in Santa Catarina), by E. Tremel; and "Petróleo no conteúdo estomacal da sardinha" (Petroleum in the stomach contents of the sardine), by M. Nino de Moraes.

SUDENE--Boletim de Estudos de Pesca, vol. 4, no. 2, March-April 1964, 16 pp., printed in Portuguese. Grupo Coordenador do Desenvolvimento da Pesca (GCDP), SUDENE, Edif. Entrepotado Federal de Pesca, Cais de Santa Rita, 8º Andar, Recife, Pernambuco, Brazil. Two of the articles are: "Artesanato de pesca no Nordeste" (Technique of fishery in the Northeast); and "A pesca em Pernambuco, Parte I" (The fishery in Pernambuco, Part I), by Osiris Lira

CANADA:

Journal of the Fisheries Research Board of Canada, vol. 22, no. 4, July 1965, 232 pp., illus., printed, single copy C\$2.25. Queen's Printer, Ottawa, Canada. "Ketone bodies in the blood of salmonoid fishes," by R. E. E. Jonas and E. Bilinski; "Sedimentation in a salmon stream," by S. Philip Shapley and Daniel M. Bishop; "Rancidity in lean fish muscle. IV--Effect of sodium chloride and other salts," by C.H. Castell, Jill MacLean, and Barbara Moore; "Estimates of the theoretical biomass of juvenile winter flounder, *Pseudopleuronectes americanus* (Walbaum), required for a fishery in Rhode Island," by Saul B. Saila, Donald B. Horton, and Richard J. Berry; "Partial freezing as a means of preserving Pacific salmon intended for canning," by N. Tomlinson and others; "Records of mollusca from the Northwest Atlantic obtained by Canadian fishery research vessels, 1946-61," by J. A. Allen; "Movements of hatchery-reared lake trout in Lake Superior," by Richard L. Pycha, William R. Dryer, and George R. King; "Time-lapse photography of an ASDIC echo-sounder PPI-scope as a technique for recording fish movements during migration," by

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

C. Groot and W. L. Wiley; "The role of behavior in the ecology and interaction of underyearling coho salmon (*Oncorhynchus kisutch*) and steelhead trout (*Salmo gairdneri*)," by G. F. Hartman; "Preliminary results on the seasonal size distribution of *Mytilicola orientalis* and the effect of this parasite on the condition of the Pacific oyster, *Crassostrea gigas*," by K. K. Chew, A. K. Sparks, and S. C. Katkansky; and "Predation on Lobsters (*Homarus americanus*) by *Anonyx* sp. (Crustacea, Amphipoda)," by D. J. Scarratt.

CASPIAN SEA:

"Vosproizvodstvo rybnikh zasposv Kaspiya v svyazi s gidrostroitel'stvom" (Propagation of the fish stocks in the Caspian, in connection with hydroelectric construction), by N. I. Kozhin, article, *Trudy Okeanog. Komiss Akad. Nauk SSSR*, vol. 5, 1959 pp. 251-256, printed in Russian. *Trudy Okeanograficheskoi Komissii, Akademiia Nauk SSSR, Moscow, U.S.S.R.*

CATFISH:

"Age and growth studies of channel catfish in western Lake Erie," by Gerard C. De Roth, article, *The Journal of Wildlife Management*, vol. 29, no. 2, 1964, pp. 280-386, printed. *Wildlife Society, 2000 P St. N.W., Washington, D. C.*

CAVIAR:

"Crisis in the caviare trade," article, *Australian Fisheries Newsletter*, vol. 24, no. 8, Aug. 1965, p. 31, printed. *Fisheries Branch, Department of Primary Industry, Canberra A.C.T., Australia.* Describes some of the problems of Soviet caviar producers--poor quality and declining production. Faced with an ever-growing shortage of this gourmet food, the Russians have resorted to sturgeon farming, particularly at Sevruga. There, in enclosed lagoons on the Caspian Sea, the fish farmers are planting the fertilized sturgeon eggs and rearing the fry to considerable size before they are liberated into the Sea. The operation has resulted in stabilizing production from year to year.

CLAMS:

"The economics of dredging quahogs in Rhode Island," by Andreas A. Holmsen, article, *Maritimes*, vol. 9, no. 3, Summer 1965, pp. 10-13, illus., printed. *Graduate School of Oceanography, University of Rhode Island, Kingston, R. I. 02881.*

COD:

"Artificial propagation of cod," by Gunnar Dannevig, article, *Fiskeridirektoratets Skrifter, Serie Havundersokelser*, vol. 13, no. 6, 1963, pp. 73-79, illus., printed in Norwegian. *Fiskeridirektoratet, Bergen, Norway.*

"Blood properties of aquatic vertebrates. I--Total blood volume of the Atlantic cod, *Gadus morhua* L.," by K. Ronald and others, article, *Canadian Journal of Zoology*, vol. 42, no. 6, 1964, pp. 1127-1132, printed. *Division of Administration, National Research Council, Sussex St., Ottawa 52, Canada.*

"Changes in the Southern Gulf of St. Lawrence cod fishery," by A. C. Kohler, article, *Trade News*, vol. 18, no. 1, July 1965, pp. 14-15, illus., processed. *Information and Consumer Service, Department of Fisheries, Ottawa, Canada.*

"Industria da pesca do bacalhau" (Cod fishing industry), article, *Jornal do Pescador*, vol. 27, no. 319, Aug. 1965, pp. 17-19, printed in Portuguese, single copy 5 escudos (about US\$0.20). *Casas dos Pescadores, R do S. Bento, 644, 2^o, Lisbon, Portugal.*

"Parasites of young cod in the Barents Sea" (O parazitofaune molodi treski v Barentsevom more.), by Yu. I. Polyanskii and I. V. Kulemina, article, *Biological Abstracts*, vol. 45, no. 11, 1964, Abstract No. 45261, printed. *Biological Abstracts, 3815 Walnut St., Philadelphia 4, Pa.*

"Protein denaturation in frozen fish. X--Changes in cod muscle in the unfrozen state, with some further observations on the principles underlying the cell fragility method," by R. M. Love and others, article, *Journal of the Science of Food and Agriculture*, vol. 16, May 1965, pp. 259-267, printed, single copy £1 17s. 6d. (about US\$5.25). *Society of Chemical Industry, 14 Belgrave Sq., London SW1, England.*

"Utkast av torsk fra tralfangster" (Rejection of cod from trawler landings), by Arvid Hylen, article, *Fiskets Gang*, vol. 51, no. 30, July 29, 1965, pp. 433-435, illus., printed in Norwegian with English abstract. *Fiskets Gang, Fiskeridirektoratet, Radstuplass 10, Bergen, Norway.*

Reprints from *Zeitschrift fur Fischerei und Deren Hilfswissenschaften*, vol. 11, 1962-63, printed in German with Russian and English summaries. *Neumann Verlag, 19 Dr. Schmincke Allee, Radebeul 1, Germany.*

"Beobachtungen an einer Kiemenbogengeschwulst, einer Leibeshohlencyste und Eingeweideverwachungen beim Ostseedorsch (*Gadus morhua* L.)" (Observations on a Gill-Arch Tumor, a Body Cavity Cyst, and Intestinal Growths of the Baltic Sea Cod), by Meinhild Berner, 8 pp., illus. (from no. 3/4, pp. 175-182).

"Ergebnisse der Markierungsexperimente am Ostseedorsch (*Gadus morhua* L.) in der Bornholm- und Arkonasee 1959" (Results of Marine Experiments on Baltic Sea Cod in the Bornholm and Arkona Seas 1959), by Meinhild Berner, 10 pp., illus. (from no. 5/6, pp. 453-462).

CONSERVATION:

Federal Aid in Fish and Wildlife Restoration (Annual Report on Dingell-Johnson and Pittman-Robertson Programs for the Fiscal Year Ending June 30, 1964), 92 pp., illus., printed, 1965. *Sport Fishing Institute, Bond Bldg., Washington, D. C. 20005.* Presents a short program review of expenditures and projects (including sport fish restoration) operated during FY 1964, and statistical tables on individual conservation projects, land purchases, hunting and fishing licenses issued by the states, and other related data.

CONSUMER EDUCATION:

Processed informative leaflets available from the *Agricultural Extension Service, Washington State University, Pullman, Wash. 99163.*

Washington Fresh Seafood Calendar, E.M. 2507, 1 p., Feb. 1965.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

When You Buy Food--the Meat Group (Meat, Poultry, Fish . . .), E.M. 2495, 2 pp., Feb. 1965.

When You Buy Seafood, E.M. 2510, 3 pp., illus., March 1965.

CUBA:

Las Pesquerias de Cuba y Algunas Recomendaciones para su Intensificación (The Fisheries of Cuba and Some Recommendations for Their Improvement), by Hermann Ritzhaupt, Contribucion No. 21, 110 pp., illus., printed in Spanish, Feb. 1965. Centro de Investigaciones Pesqueras, Instituto Nacional de la Pesca, Havana, Cuba.

CZECHOSLOVAKIA:

Buletin VUR Vodnany, vol. 1, no. 1, Jan.-March 1965, 39 pp., illus., printed in Czechoslovak with English table of contents and abstracts. Fisheries Research Institute, Vodnany, Czechoslovakia. The first issue of a new quarterly concerned with the fresh-water fisheries of Eastern Europe. Some of the articles are: "The tasks of Fisheries Research Institute Vodnany," by J. Tvrzicky; "The tasks of the State Fisheries in the coming years," by J. Tesarcik; "Prospects of the liquidation of the most important diseases of fish in fish-ponds under the conditions of Czechoslovakia," by M. Vejvoda; "A portable electric apparatus for the catching of fish," by V. Janecek and F. Reiser; "Report from the Symposium on Freshwater Fishery in Yugoslavia"; and "The latest completed research tasks of the Fisheries Research Institute Vodnany."

DENMARK:

Fiskeriberetning for Året 1964 (The Ministry of Fisheries Annual Report for 1964), 134 pp., illus., printed in Danish with English summary, August 1965, Kr. 7.50 (about US\$1.10). Fiskeriministeriet, 1 Kommission Hos, G.E.C. Gad, Copenhagen, Denmark. Contains reports and statistical tables on fishermen, fishing craft and gear; landings from marine-waters--including cost of supplies and gear; catch in lakes, rivers, and ponds--including fish culture data; processed fish--catch and export data for more than 30 food fish are given; and domestic consumption, exports, and imports of fishery products. Also includes information on organization of the Fisheries Ministry and on legislation pertaining to fisheries.

EAST AFRICA:

"Joint venture in fishing industry," article, Spear, vol. 7, no. 3, June 1965, pp. 62-64, illus., printed. East African Railways and Harbours, Nairobi, Kenya. An agreement signed in April 1965 in Dar es Salaam established for the first time a Tanzanian-Japanese commercial venture in the fishing industry. Its objective is the promotion and development of the hitherto nearly untouched fisheries and so increase the production of valuable protein foods for local consumption from Indian Ocean waters off the East African Coast. The company has a fleet of 9 vessels--a 50-ton refrigerated mothership-trawler, a 30-ton refrigerated stern trawler, two 5-ton stern trawlers, and five 21-foot open fishing boats. Two of the boats, are used for training African fishermen. With a capital investment of £100,000 (about US\$279,000), the new joint venture company plans to convert the facilities of a sister company into a modern fish-

processing plant. Also projected is the establishment of a tuna base with the construction of a pier capable of handling oceangoing vessels. An adjacent cold-storage plant will have a capacity of 2,000 tons of fish.

EEL:

"Quest for the true breeding area of the American eel (*Anguilla rostrata* LeSueur)," by Vadim D. Vladykov, article, Journal of the Fisheries Research Board of Canada, vol. 21, no. 6, 1964, pp. 1523-1530, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

ELECTRICAL FISHING:

"Fish better - electrically," by Murray G. Johnson, article, Ontario Fish & Wildlife Review, vol. 3, no. 1964, pp. 9-12, printed. Department of Lands and Forests, Parliament Bldg., Toronto 5, Canada.

"K voprosu 'vidovoi' chuvstvitel'nosti ryb k elektricheskomu toku" ("Specific" sensitivity of fish to electric current), by N. V. Bodrova and B. V. Kryaukhin, article, Byul. Inst. Biol. Vodokhran. Akad. Nauk SSSR, vol. 5, 1959, pp. 26-31, printed in Russian. Akademiia Nauk SSSR, Moscow, U.S.S.R.

ESTUARINE FISH:

"Some effects of a synthetic detergent on estuarine fishes," by Ronald Eisler, article, Transactions of the American Fisheries Society, vol. 94, no. 1, 1965, pp. 26-31, printed. American Fisheries Society, 1404 New York Ave. NW., Washington, D. C. 20005.

FISH BEHAVIOR:

"A study of fish behavior in an electric field" (Issledovanie povedeniya ryby v elektricheskom pole), by L. M. Nusenbaum and T. I. Faleeva, article, Biological Abstracts, vol. 45, no. 13, 1964, Abstract No. 54199, printed. Biological Abstracts, 3815 Walnut St., Philadelphia 4, Pa.

FISH DISEASES:

"Studies on the diseases of marine-culture fishes. I--General description and preliminary discussion of fish diseases at Mie Prefecture; II--Pharmacodynamic effects of nitrofurazone for fish diseases (1)," by Saburoh S. Kubota and others, articles, Journal of the Faculty of Fisheries, vol. 6, no. 1, 1963, pp. 107-144, illus., printed. Journal of the Faculty of Fisheries, Prefectural University of Mie, Tsu, Japan.

FISHERIES RESEARCH:

Research in Fisheries, 1964, Contribution no. 184, 73 pp., printed, 1965. University of Washington, Fisheries Research Institute, Seattle, Wash. 98105.

FISHERY AGREEMENT:

Japan-Republic of South Korea Fisheries Agreement, 62 pp., printed in Japanese, 1965. Government of Japan, Tokyo, Japan.

FISH FINDER:

"Fish finding by automatic unmanned devices," article, World Fishing, vol. 14, no. 8, Aug. 1965, pp. 39-40, printed, single copy 3s. 6d. (about US\$0.55). Gramplan Press Ltd., The Tower, 229-243 Shepherd's Bush Rd., Hammersmith, London W6, England.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

FISHING WITH LIGHTS:

"Results of the study of pelagic fish fauna in the Pacific and Indian Oceans by using electric lights to attract fishes," by N. V. Parin, article, Trudy Instituta Okeanologii, vol. 62, 1963, pp. 128-144, printed in Russian. Trudy Instituta Okeanologii Akademii Nauk SSSR, Izdatel'stvo Akademii Nauk SSSR, Moscow, U.S.S.R.

FISH MEAL:

"Feed value of fish meals," by Kuman Saruya and others, article, Chemical Abstracts, vol. 61, Sept. 14, 1964, Abstract No. 7622d, printed. The American Chemical Society, 1155 16th St. NW., Washington, D.C. 20005.

FISH OIL:

"Studies on the fish oils (from fish) caught in the Inland Sea of Japan. I--On the oils from Harengula zunasi, Saurida and halfbeak," by Seiichi Ueno and Shigero Hamada, article, Journal of Japan Oil Chemists' Society, vol. 11, no. 10, 1963, pp. 526-532, printed. Japan Oil Chemists' Society, Department of Applied Chemistry, Faculty of Engineering, University of Tokyo, Motofujicho, Bunkyo-ku, Tokyo, Japan.

Available from The American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006:

"Neutralization of technical fish oil by anion-exchange resin EDE-10P and its regeneration," by K. M. Ol'shanova and G. V. Frolova, article, Chemical Abstracts, vol. 61, Aug. 17, 1964, Abstract No. 4603d, printed.

"Volatile acids from menhaden oil," by J. R. Chipault and E. McMeans, article, Journal of Agricultural and Food Chemistry, vol. 13, 1965, pp. 15-17, printed.

FISH POPULATIONS:

"Some further remarks on the methods of estimating fish populations" (Jeste k metode odhadu velikosti rybi osadky), by Ota Oliva, article, Biological Abstracts, vol. 45, no. 13, 1964, Abstract No. 54348, printed. Biological Abstracts, 3815 Walnut St., Philadelphia 4, Pa.

FISH PROTEIN CONCENTRATE:

"Shark meat flour," by Haq S. Abdul and S. Mahdihasan, article, Pakistan Journal of Scientific and Industrial Research, vol. 3, 1960, pp. 213-215, printed. Pakistan Council of Scientific and Industrial Research, 3/4/D/VI, Nazimabad, Karachi, Pakistan.

FISH STOCKS:

Contributions to Symposium, 1963, on the Measurement of Abundance of Fish Stocks, edited by J. A. Gulland, Rapports et Proces-Verbaux des Reunions, vol. 155, 223 pp., printed, 1964. International Council for the Exploration of the Sea (ICES), Charlottenlund-Slot, Denmark.

FOOD AND AGRICULTURE ORGANIZATION:

The Food and Agriculture Organization has published reports describing that Agency's activities under the Expanded Program for Technical Assistance for developing the fisheries of many countries. These

reports have been processed only for limited distribution to governments, libraries, and universities. Food and Agriculture Organization of the United Nations, via delle Terme di Caracalla, Rome, Italy.

Report to the Government of Nigeria on Investigations of Brackish-Water Fish Culture in the Niger Delta, by T. V. R. Pillay, FAO/EPTA Report No. 1973, 41 pp., processed, 1965.

Report of the FAO/IPFC Training Centre on Mackerel and Tuna Research, Cronulla, November 2-27, 1964, FAO/EPTA Report No. 1977, 11 pp., processed, 1965.

Report to the Government of Ghana on Biological Investigation of Fisheries Resources, by Miroslav Zei, FAO/EPTA Report No. 2001, 34 pp., processed, 1965.

FOOD CONSUMPTION:

U. S. Food Consumption, Sources of Data and Trends, 1909-63, Statistical Bulletin No. 364, 198 pp., illus., processed, June 1965. Economic Research Service, U. S. Department of Agriculture, Washington, D. C. 20250. Contains, among data on many other foods, statistical tables and explanations on per capita consumption (edible weight) of fishery products, 1909-63; and supply and utilization of commercial fishery products (edible weight), 1929-63.

FOOD PRESERVATION:

Food Preservation (Except by Irradiation), SB 412, Supp. 2, 15 pp., printed, Feb. 1965, Federal Clearinghouse for Federal Scientific and Technical Information, U. S. Department of Commerce, Braddock and Port Royal Sts., Springfield, Va. 22151.

FOOD PROCESSING:

Canned and Cured Seafood, SIC Code 2031, Industry Series, Preliminary Report, 1963 Census of Manufactures, 4 pp., processed, 10 cents. Bureau of the Census, U. S. Department of Commerce, Washington, D. C. 20233. Presents data on canned and cured seafood plants, employees, value added by manufacture, value of production, and general statistics. During 1963, processors of canned and cured seafoods produced products valued at \$452 million, an increase of 16 percent over 1958, according to preliminary results of the 1963 Census of Manufactures. Average employment in the industry showed an increase of 1 percent from 1958 to a total of 17,300 employees in 1963. Value added by manufacture amounted to \$175 million in 1963, an increase of 34 percent over 1958. The industry includes processors engaged in cooking and canning fish, shrimp, oysters, clams, crabs, and other fish and shellfish; and in smoking, salting, drying, and otherwise curing fishery products.

Food Processing Operations--Their Management, Machines, Materials, and Methods, Vol. 3, by Maynard A. Joslyn and J. L. Heid, 565 pp., illus., printed, 1964, domestic \$19.75, foreign \$20.75. The Avi Publishing Co., Inc., P. O. Box 388, Westport, Conn. The third and final volume of this series on food processing offers technical information on procurement, special ingredients, processing techniques, pumping, package engineering, and waste utilization and disposal. Some of the processing techniques featured are grinding, freezing, freeze-drying, vacuum concentration, and frying. Engineering aspects of heat transfer, freeze

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

dehydration, and packaging are discussed in detail. The chapter on preservation by freezing discusses the handling of fish, among other foods, fish and shrimp--freezing methods and equipment; packaging; chemical changes in frozen foods; and the future of the frozen food industry. The chapter on processing aspects of freeze dehydration covers raw materials, preparation for freezing, effects of freezing conditions on freeze-dried products, effects of dehydration conditions on product quality, packaging of freeze-dried foods, storage, rehydration, and marketing. A short chapter on plant location and design reviews the dominant locative factors--raw materials and supplies, markets, transportation, labor, site environment, power and fuel, capital, and taxes; and considerations in plant design--site, buildings, and equipment. The final chapter points out what is needed for a food processing industry to succeed, among which are cooperation and teamwork in making best possible use of available resources. "Survival and growth depend upon the alertness, flexibility, judgment and actions of management in relation to changing conditions in raw materials, processes, products, markets, and competition," states the author. Each chapter has a complete bibliography, and the index for the book is quite adequate. Food technologists, food processors, or handlers of all types of food products will find this, as well as the first two volumes, to be a valuable handbook. (For reviews of vols. 1 and 2 see *Commercial Fisheries Review*, August 1963 p. 135; and May 1964 p.91.)

FRANCE:

"La pêche Française en Méditerranée" (The French fishery in the Mediterranean), by Claude Morin, article, *France Pêche*, no. 97, July-Aug. 1965, pp. 25-26, illus., printed in French, single copy 2.5 F. (about US\$0.50). *France Pêche*, Boite Postale 179, Lorient, France.

Articles from *La Pêche Maritime*, vol. 44, no. 1048, July 1965, printed in French, single copy 14 F. (about US\$2.85). *Les Editions Maritimes*, 190, Blvd. Haussmann, Paris, France:

"Conjoncture plutôt mauvaise au cours du premier semestre" (Rather bad situation during the first half-year), by L. Plouas, pp. 527, 529, 530.

"La production et la commercialisation des produits surgelés en 1964" (The production and marketing of frozen fishery products in 1964), pp. 555, 556.

FREEZE-DRYING:

"Freeze drying 12-fold increase by 1970," by Kermit Bird, article, *Food Processing*, vol. 26, March 1965, pp. 75-77, 92, printed. Putnam Publishing Company, 111 E. Delaware Pl., Chicago 11, Ill.

FREEZING ON BOARD:

"North American experience in chilling and freezing fish on board vessels," by Joseph W. Slavin and W. A. MacCallum, article, *Proceedings of the XI International Congress of Refrigeration*, vol. II, 1964, pp. 931-940, printed. International Institute of Refrigeration, 177 blvd. Malesherbes, Paris (17^e), France.

GERMAN FEDERAL REPUBLIC:

Baubeschreibung des Fischerei-Forschungsschiffes WALTHER HERWIG Erbaut bei der A. G. WESER,

Werk Seebeck (Construction Description of the Fishery Research Vessel Walther Herwig), 139 pp., processed in German, 1965. Der Bundesminister der Ernährung, Landwirtschaft und Forsten, Unterabteilung Fischwirtschaft, 2 Hamburg-Altona 1, Federal Republic of Germany.

"Det tyske fiskeri in 1964" (The German fishery in 1964), by Vagn Korsboek, article, *Fiskeribladet*, vol. 57, no. 5, Aug. 1965, pp. 73, 75, printed in Danish. W. Bamberger, Kobenhavns Fisketorv, Copenhagen V, Denmark.

EAST GERMANY:

Deutsche Fischerei-Zeitung, vol. 12, no. 7, July 1965, 32 pp., illus., printed in German. Deutsche Fischerei-Zeitung, Muggelseedamm 310, Berlin-Friedrichshagen, German Democratic Republic. Some of the articles are: "Methoden der steigerung der teichfischproduktion in Israel" (Methods of increasing pond fish production in Israel), by F. Wolny; and "Neuerungen in der Zugnetzfischerei" (Innovations in the drag-net fishery), by E. Schlieker.

GREAT LAKES:

Fishes of the Great Lakes Region, by Carl L. Hubbs and Karl F. Lagler, 272 pp., illus., printed, revised edition 1964, \$6.95. The University of Michigan Press, Ann Arbor, Mich. Originally published in 1947, this book is a reprint of the 1958 edition with some corrections in the text and new material in the preface for 1964. The new preface includes revisions of some technical names of fishes and additions to the fish fauna of the Great Lakes through discovery and through intentional and inadvertent introduction. The opening sections discuss the waters of the Great Lakes region and their fish associations; zoogeography of the region; postglacial dispersal of fish; field study and the collecting of fish; their preservation for study; and identification of fish--anatomical features, and terms and methods of counting and measuring, and key to the families of Great Lakes fish. Most of the text is devoted to descriptions of the 29 families of Great Lakes fish, with keys to species and subspecies. Forty-four full-color plates and 251 black and white sketches add interest and clarity. A complete bibliography and an adequate index are included. This book will be useful to both sport and commercial fishermen, as well as to students of aquatic biology.

HAWAII:

A Proposed Program for Hawaiian Fisheries, by Vernon E. Brock, 18 pp., Technical Report Series No. 6, processed, 1965. Hawaii Marine Laboratory, University of Hawaii, Honolulu, Hawaii. Discusses the problem of the Hawaiian fisheries--a decline in the number of fishermen from 2,500 in the postwar period to fewer than 1,000 in 1960--caused by increases in operating costs, rises in incomes from competing occupations, and stabilization of fish prices. The solution of the dilemma must be found in a substantial reduction in the cost of catching fish, states the author. He then outlines the nature of the Hawaiian fishery resources: the oceanic fish--sharks, marlin, flyingfish, and tuna; minor fishery resources--inshore and bottomfish fisheries; and other possible fishery resources--culture of oysters, clams, and shrimp. The final section offers suggestions on what needs to be done by the Federal or State government to improve the Hawaiian fisheries.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

HERRING:

Reprints from Zeitschrift für Fischerei und Deren Hilfswissenschaften, vol. 11, 1962-63, printed in German with Russian and English summaries. Neumann Verlag, 19 Dr. Schmincke Allee, Radebeul 1, Germany.

Die Fruchtbarkeit der Frühjahrs- und Herbstheringe aus den Gewässern um Rugen (The Fecundity of the Spring and Fall Herring from the Waters around Rugen Island), by Karl Anwand, 11 pp., illus. (from no. 5/6, pp. 463-473).

Vergleichende Untersuchungen an Frühjahrs- und Herbstheringen aus den Gewässern um Rugen (Comparative Investigations on Spring and Fall Herring from the Waters around Rugen Island), by Karl Anwand, 39 pp., illus. (from no. 3/4, pp. 211-249).

Das Wachstum der Frühjahrs- und Herbstheringe aus den Gewässern um Rugen (The Growth of Spring and Fall Herring from the Waters around Rugen Island), by K. Anwand, 9 pp., illus. (from no. 3/4, pp. 201-209).

ICELAND:

Articles from Iceland Review, vol. 3, no. 2, 1965, single copy Kr. 65 (about US\$1.50). Iceland Review, P.O.B. 1238, Reykjavik, Iceland;

"Atlantic Fishing," pp. 59-60. Summarizes highlights of the Icelandic fisheries during 1964. Total Icelandic catch was 971,574 metric tons, an increase of 24 percent over 1963. The fishing fleet was expanded by 49 new vessels, bringing the gross tonnage total to 79,032, not including open motorboats. Cod landings totaled 273,607 tons, as compared with 206,281 tons the previous year. Total value of fishery products exports during 1964 was Kr. 4,384 million (about US\$102 million) compared with Kr. 3,727 million (about \$87 million) in 1963.

"Foreign fishing off Iceland," by David Olafsson, pp. 38-40. Describes the historical and current activities of foreign fishing vessels near Iceland. During the past 30 years, the British, Norwegian, and German vessels have predominated. Their combined catches have averaged more than 90 percent of the total landed by all foreign fishermen off Iceland.

ICHTHYOLOGY:

Fishes and Their Ways, by Clarence J. Hylander, 256 pp., illus., printed, 1964, \$4.95. The Macmillan Co., Front & Brown Sts., Riverside, N. J. This is the final volume in the author's Young Naturalist Series. It is a book about the fish found in the streams and lakes of the United States and in the seas bordering its shores. The introductory chapter defines a fish and describes attributes common to all. Considerable detail is provided on the body design and covering of a fish, how it swims, fins and their uses, the colors and size of fish, where they live, and how they are classified. There follows a chapter dealing with how fish live--their feeding habits, how they adjust to their surroundings, how they protect themselves, their family life and migration. Succeeding chapters are devoted to different groups of fish: the freshwater game fish such as salmon, catfish, pike, sunfish, and perch; other freshwater fish--minnows, sticklebacks, sturgeon, and gar; and the salt-water

game fish--the sea bass, drum, snapper, porgy, mackerel, mullet, jack, and many others. Commercial marine fish including herring, smelt, cod, and flounder are described; followed by chapters about colorful tropical fish--the butterflyfish, grunt, filefish, and moray eels; strange sea creatures--pufferfish, sea robin, flyingfish, and pipefish; and the cartilaginous fish--lamprey, many families of shark, the skate, the stingray, and the manta. Included are a short but adequate bibliography and an index to common and scientific names of fish. Although intended as a textbook for Junior and Senior High School students, this book will be a useful addition to any general or home library.

IMPORTS:

U. S. Imports for Consumption and General Imports, 1964 (Tariff Schedules Annotated by Country), 535 pp., processed, July 1965, \$2. Bureau of the Census, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Among all the other products are included quantity and value of fish and fishery products imported into the United States during calendar year 1964, by type and by country.

INDIA:

Establishing a Business in India, by Celia Herman, OBR 65-48, 20 pp., printed, July 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

INDUSTRIAL PRODUCTS:

"Production of fish oil and fish meal," by R. R. Brenner, article, Chemical Abstracts, vol. 60, Feb. 17, 1964, Abstract No. 4698e, printed. The American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.

INTERNATIONAL COMMISSIONS:

International Commission for the Northwest Atlantic Fisheries, Statistical Bulletin for the Year 1963, vol. 13, 87 pp., illus., printed, May 1965. International Commission for the Northwest Atlantic Fisheries, Bedford Institute of Oceanography, P. O. Box 638, Dartmouth, N. S., Canada. This bulletin is divided into two parts: Part 1 summarizes statistics on fishery landings from the Convention area, 1952-63; Part 2 includes statistical tables dealing with the fisheries in 1963. Included are data on landings by species, country, and geographical division; landings of principal species (cod, haddock, ocean perch, halibut, flounder, other groundfish, herring, and other pelagic fish) by month and division; landings by species and subarea; fishing effort and landings by division, month, gear, and country; and effort and landings by country, gear, and subarea. Member countries are Canada, Denmark, France, Germany, Iceland, Italy, Norway, Poland, Portugal, Spain, U.S.S.R., United Kingdom, and the United States.

North-East Atlantic Fisheries Commission, Report of the Third Meeting, May 1965, 47 pp., processed in French and English, 1965. North-East Atlantic Fisheries Commission, Rm. 617, East Block, Whitehall Pl., London SW1, England. Reports on the proceedings of the Third Meeting of the North-East Atlantic

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

Fisheries Commission, in Moscow, May 11-14, 1965. Delegations attended from 13 of the 14 European member Governments; the United States Government, the Food and Agriculture Organization of the United Nations, the International Council for the Exploration of the Sea, and the International Commission for the Northwest Atlantic Fisheries sent observers. The Special Committee on International Control, established at the 1964 meeting, reported on its findings; the Commission then resolved that Contracting States should (within the limits of their respective jurisdictions) inspect foreign vessels to find out whether they have been complying with the Commission's recommendations on mesh size and other items, and report results of inspection to the Flag States and the Commission. The Commission also agreed that the Committee should continue its work during the coming year to determine the feasibility of introducing a system of international inspection on the high seas effective Jan. 1, 1967. Other resolutions were taken concerning minimum mesh size and top-side chafers in various parts of the Convention Area.

JAPAN:

Bulletin of the Hokkaido Regional Fisheries Research Laboratory, no. 29, Nov. 1964, 130 pp., illus., printed in Japanese with English abstracts. Hokkaido Regional Fisheries Research Laboratory, Yoichi, Hokkaido, Japan. Some of the articles are: "On the gill-net mesh selectivity curve. II," by T. Ishida; "The fishing condition of the squids, *Ommastrephes sloani pacificus* (Steenstrup), in the coastal area off Cape of Esan of the Hokkaido in autumn," by M. Kawasaki; "Larvae of decapod crustacea of Hokkaido. 5--Paguridae (anomura); 6--Lithodidae (anomura); 7--Porcellanidae (anomura); 8--Dorippidae (brachyura)," by H. Kurata; "Food and feeding habit of Pacific salmon (Genus *Oncorhynchus*) in their oceanic life," by J. Ito; "Studies on methods to prevent oxidative deterioration in saury meals," by K. Miwa and T. Tokunaga; and "Studies on the development of dimethylamine and formaldehyde in Alaska pollock muscle during frozen storage," by T. Tokunaga.

Available from Hokkaido Fisheries Experimental Station, 238 Banchi, Hamanaka-cho, Yoichi, Hokkaido, Japan.

Hokusuishi Geppo (Hokkaido Fisheries Experimental Station Monthly), vol. 22, no. 6, June 1965, 48 pp., printed in Japanese.

_____, vol. 22, no. 7, July 1965, 46 pp., printed in Japanese.

Available from the Fisheries Agency, Ministry of Agriculture and Forestry, 2-1 Kasumigaseki, Chiyoda-ku, Tokyo, Japan.

Fisheries Agency's Budget Appropriation Requests by Items for Fiscal Year 1966 (April 1966-March 1967), 41 pp., printed in Japanese, July 1965.

Suisancho Shuho (Weekly Report of the Fisheries Agency), vol. 16, no. 11, July 1965, 109 pp., printed in Japanese.

Present State and Prospects of Agricultural and Fishery Products for Export, 1965 Annual, 347 pp.,

printed in Japanese, June 1965. JETRO, 1-banchi, 1-chome, Higashi Shinbashi, Minato-ku, Tokyo, Japan.

KOREA:

Annual Report for Fishery Products Inspection, 1964, 230 pp., illus., printed in Korean and English. Central Fisheries Inspection Station, Ministry of Agriculture and Forestry, 103 Wonnam-Dong, Chong-Ro, Seoul, Korea.

LAKE TROUT:

"The lake trout are back," by Walter R. Crowe, article, Michigan Conservation, July-Aug. 1965, vol. 34, no. 4, pp. 2-7, illus., printed. Michigan Conservation, Lansing, Mich. 48926. Explains how, with effective lamprey control, the lake trout populations in Lake Superior are being rehabilitated. Electrical barrier weirs and even more efficient lampriades applied to tributary streams have reduced the numbers of trout-destroying sea lampreys. In addition, starting in the late 1940's Michigan fisheries workers began collecting lake trout eggs for development as hatchery brood stock to accomplish eventual restocking of Lake Superior.

LATIN AMERICA:

Market Profiles for the American Republics, OBR 65-55, 24 pp., printed, July 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

Market Indicators for Latin American Republics, by Selina Calder and others, OBR 65-41, 28 pp., illus., printed, June 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

LOBSTER:

About Lobsters, by T.M. Prudden, 172 pp., illus., printed, 1962, \$5. The Bond Wheelwright Co., Porter's Landing, Freeport, Maine. In simple, non-technical language, the author reviews all that is known about the lobster. A brief portrait of a lobsterman is followed by the introductory chapter on the nature of lobsters, history of the industry, sources of lobsters, effect of fresh water, habitat, migration, effect of water temperature on the catch, direct relation between increase in fishing effort and total catch, the lobster's senses, molting, breeding habits, food, enemies, diseases, and measuring a lobster. Next is a chapter on means of catching lobsters, care of pots, plugs and bands, buoys, trawling, and British methods of lobster fishing. Succeeding chapters discuss use of artificial bait; techniques for maintaining artificial sea water in inland tanks, including charts showing symptoms and probable causes of death of lobsters in recirculated holding systems, and the DO's and DO NOT's of profitable operation; tidal pounds; shipping of lobsters; preservation of lobster meat; and Pacific Coast transplanting and artificial rearing in hatcheries. The final chapters include information on marketing of lobsters; biological and gear research; and preparing and cooking. A short bibliography completes this book which will interest commercial and sport fishermen, dealers, processors, retailers, as well as the general reader.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

PE Triples Life of Lobster Traps, 2 pp., illus., printed. (Reprinted from Modern Plastics, Dec. 1964.) McGraw-Hill, Inc., 770 Lexington Ave., New York, N.Y. 10021. The switch from wooden cages to molded polyethylene "igloos" may help move Canada's East Coast lobster fisheries out of the marginal industry class.

MANATEE:

"El manati Africano" (The African manatee), by Aurelio Basilio, article, Iberica, vol. 43, no. 37-38, July-Aug. 1965, pp. 258-260, illus., printed in Spanish, single copy 30 ptas. (about US\$0.50). Iberica, Palau, 3, Apartado 759, Barcelona-2, Spain.

MARINE BIOLOGY:

The Biological Bulletin, vol. 129, no. 1, Aug. 1965, 216 pp., illus., printed, single copy \$3.75. The Biological Bulletin, Marine Biological Laboratory, Woods Hole, Mass. Two of the articles are: "Chromosomes of two species of quahog clams and their hybrids," by R. Winston Menzel and Margaret Y. Menzel; and "Growth and survival of postlarval Penaeus aztecus under controlled conditions of temperature and salinity," by Zoula P. Zein-Eldin and David V. Aldrich.

MARINE FARMING:

"Five acres of fish," by Ruth Halliday, article, New Scientist, vol. 27, no. 455, Aug. 5, 1965, pp. 330-331, illus., printed, single copy 1s. 3d. (about US\$0.20). Cromwell House, Fulwood Pl., High Holborn, London WC1, England. Explains how a small bay in western Argyllshire, Scotland, is now being converted into Britain's first experimental marine fish farm. A small inlet was enclosed by a dam and the first fish stocked in August 1965. The 5-acre pond could lead the way to great changes in the British marine fisheries if results of experimental work being done there under supervision of the White Fish Authority are encouraging. Operation of a farm will provide an opportunity to collect data on behavior and reaction of plaice, and to measure growth under different feeding regimes. The plaice is marketable when it reaches a length of about 25 cm. (about 9.8 inches), which takes 4-5 years in the sea. But with suitable feeding, temperature control, and breeding this length may be achieved in only 2 years in ponds.

MARKETING:

Comparative Costs to Consumers of Convenience Foods and Home-Prepared Foods, by Harry H. Harp and Denis F. Dunham, Marketing Research Report No. 609, 94 pp., illus., processed, June 1963. Marketing Economics Division, Economic Research Service, U. S. Department of Agriculture, Washington, D. C. 20250. This comprehensive report contains cost and yield data for 247 food forms. Aside from factors such as comparative eating quality, the yield and cost data developed in this study make available for the first time to consumers and researchers a basis for making accurate cost comparisons on a large number of foods in various market forms. Among many other foods compared for cost per serving, different market forms of fish and shellfish were compared using yield data and standard home recipes supplied by the National Home Economics Research Center, U. S. Bureau of Commercial Fisheries. Quarterly prices were collected for the calculation of the cost per serving. The size of

serving of each market form was based on the weight of ready-to-serve foods. The convenience forms of fish studied were frozen fried codfish sticks, frozen haddock fish sticks, canned Alaska red sockeye salmon, frozen haddock fish dinner, and canned fish flakes. The convenience forms of frozen crab cakes, canned crab meat, frozen deviled crab, frozen shrimp creole, frozen raw peeled deveined shrimp, canned shrimp, frozen raw breaded shrimp, and prefried breaded frozen shrimp were studied.

MARYLAND:

Maryland Board of Natural Resources, Twentieth Annual Report, 1963, 204 pp., printed. Board of Natural Resources, State Office Bldg., Annapolis, Md. Some of the work of the Board of Natural Resources during 1963 included functions of the Departments of Tidewater Fisheries and Game and Inland Fish, and the Water Pollution Control Commission. The report discusses research and management conducted by those agencies and others; new legislation introduced in the Maryland General Assembly, including that pertaining to commercial fisheries; and the conservation budget, 1962/63.

MOTION PICTURES:

Strictly Stripers, 16 mm. film, running time 19 minutes, color, sound, on loan, or for sale at \$105. Natural Resources Institute, University of Maryland, College Park, Md. 20742. This film tells the life story of striped bass (Roccus saxatilis) from the time that large females deposit millions of eggs in the muddy waters of estuaries such as that of the Patuxent River to the climatic moment when that succulent fish is placed on a dinner table. It highlights the economic and recreational importance of striped bass which are eagerly sought by sport and commercial fishermen, fish markets, and consumers alike. Moreover it presents a cross-section of the estuarine and biological research done by the Laboratory to ensure the future of the striped bass and other fish and shellfish in Chesapeake Bay.

MUSSELS:

"Bacteriological control of mussels in the growing and in the fully grown stage," by A. M. Wedard, article, Rivista Italiana d'Igiene, vol. 23, no. 3, 1963, pp. 157-168, printed in Italian. Nistri Lischi, Piazza del Castellette, No. 7, Pisa, Italy.

NETS:

"On the mechanical characters of the sweeping trammel net. I," by Ko Matuda, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 29, Feb. 1963, pp. 135-138, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minatoku, Tokyo, Japan.

NEW ENGLAND:

"The New England fishing industry: Part I--A new technology," by Frederick W. Bell, article, New England Business Review, Aug. 1965, pp. 2-9, printed. Federal Reserve Bank of Boston, Boston, Mass. Discusses the impact of the introduction of stern trawling on the declining New England fishing industry. Widely used for several years in Europe, Canada, and the Far East, stern trawlers are only now coming into use in the United States. Supporters maintain that those vessels overcome many of the side trawlers' disadvantages, save time, and reduce dan-

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

ger to the crews. Profitability of the Narragansett, first stern trawler operated out of a New England port, has been high, with increased construction costs somewhat balanced by larger catches per unit of effort. Stern trawling should be the technique of the future, asserts the author. Its adoption, however, will depend on its ability to attract capital.

NEW ZEALAND:

Report of the Marine Department for the Year Ended 31 March 1965, 54 pp., printed, 1965, 2s. (about US\$0.30). R. E. Owen, Government Printer, Wellington, New Zealand. Much of this report is concerned with the commercial fisheries of New Zealand during the Fiscal Year 1965. Included is information on total quantity and value of fishery products marketed in calendar year 1964, spiny lobster fishery, fishing vessels and personnel, landings by species, methods of capture, landings by ports, foreign trade in fishery products, sport fishing, fish-liver oil production, and whaling. Also discusses the rock and dredged oyster fisheries, whitebait fishing, mussels, research and investigation, demonstrations of Japanese gear, Fishing Industry Advisory Council, Freshwater Fishery Advisory Council, Fishing Industry Board, and legislation pertaining to commercial fishing

NORTH ATLANTIC:

"North Atlantic co-operation," by G. J. Gillespie, article, Trade News, vol. 18, no. 1, July 1965, pp. 3-5, illus., processed. Information and Consumer Service, Department of Fisheries, Ottawa, Canada. Although no specific conservation recommendations were made, the 15th annual meeting of the International Commission for the Northwest Atlantic Fisheries in Halifax in June conveyed the idea that conservation studies have high priority in its future programming. The week-long meeting of the 13-nation fisheries body was opened by the Canadian Minister of Fisheries. He stated that protection of northwest Atlantic seal herds was of particular interest to Canada. One of the more important decisions made at the meeting provided for a joint environmental survey of Georges Bank and a 5-nation research program in the Atlantic salmon fisheries. The subject of Atlantic salmon came to the fore through Canada's concern in the sudden increase in the salmon catch by Greenland fishermen. The meeting also recorded progress toward eventual establishment of international enforcement of fishing regulations in the northwest Atlantic with the exchange of inspection visits by enforcement officers of Canada, the U. S., and the U.S.S.R.

NORWAY:

Fishing Gear and Processing Plant from Norway, 1965 (a special edition of Norway Exports), 64 pp., illus., printed. The Export Council of Norway, Drammensveien 40, Oslo 2, Norway. Presents descriptions of fishing gear, vessels, and processing equipment on display at the International Fishing Exhibition, Trondheim, Aug. 19-29, 1965, and the Norwegian Design Center, Oslo, July-Sept. 1965.

"La Norvege a produit l'annee derniere 128,000 t de poisson surgelé" (Norway produced 128,000 metric tons of frozen fish last year), article, La Peche Maritime, vol. 44, no. 1048, July 1965, pp. 553-555, illus., printed in French, single copy 14 F. (about

US\$2.85). Les Editions Maritime, 190, Blvd. Haussmann, Paris, France.

Selling in Norway, by Grant Olson and Ann C. Holmes, OBR 65-61, 8 pp., printed, Aug. 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

NUTRITION:

Meat, Fish, Poultry, and Cheese: Home Preparation Time, Yield, and Composition of Various Market Forms, by Gladys L. Gilpin, Home Economics Research Report No. 30, 71 pp., illus., printed, Aug. 1965, 45 cents. Human Nutrition Research Division Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Reports on a comprehensive cooperative investigation undertaken to obtain information on some of the basic factors that contribute to the convenience and satisfaction derived from different forms of food. Preparation time, yield, composition, and other quality characteristics for meat, fish, poultry, and cheese items were investigated in home-prepared and commercially prepared market forms. Thirty-six different kinds of foods in various forms to make a total of 95 food items were included. Proximate composition determinations were made on 31 kinds and preparation forms of fish and shellfish products. Quantitative analysis was made of moisture content, fat, protein, ash, and total carbohydrate and energy value. The information gained will be useful in preparing guides for homemakers and others responsible for planning, selecting, and preparing economical and nutritious diets, as well as in developing standards for commercially-prepared foods.

OCEANOGRAPHY:

"Aportaciones españolas durante 1963 a la oceanografía pura y aplicada, nacional e internacional" (Spanish contributions during 1963 to pure and applied national and international oceanography), by Fernando Lozano, article, Boletín Real Sociedad Española de Historia Natural, vol. 62, no. 1, 1964, pp. 99-113, printed in Spanish. Real Sociedad Española de Historia Natural, Paseo de la Castellana, 84, Madrid, Spain.

Bibliography on Physical Oceanography of the Indian Ocean, by Parkash Samuel, Special Bibliographies on Oceanography Contribution No. 2, 137 pp., processed, June 1965. American Meteorological Society, Washington, D. C. The scope of this bibliography is limited to the different aspects of physical oceanography—temperature, density, salinity, chemical composition, waves, currents, circulation, methods of measurement, instruments, and related topics. Papers on bottom topography, geology, and biology have been excluded.

The Gulf Stream (A Physical and Dynamical Description), by Henry Stommel, 261 pp., illus., printed, Second Edition, April 1965, \$6. University of California Press, 2223 Fulton St., Berkeley, Calif. 94720. This is the second edition of an authoritative text on the oceanography of the Gulf Stream with an added chapter covering information acquired since 1958 and

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

recommendations based on that data. The opening chapter deals with the early explorations and ideas of the Gulf Stream, from its discovery by Ponce de Leon in 1513 until the early 20th Century. Succeeding chapters explain in technical language the methods of observation used in the Gulf Stream--the reversing bottle, reversing thermometers, bathythermograph, bathypitometer, propeller-type current meters, towed electrodes, air-borne radiation thermometer, and loran; the geostrophic relationship (balance of forces); large-scale features of the North Atlantic circulation; the hydrography of the Gulf Stream; and the wind system over the North Atlantic. Mathematical equations and oceanographic charts are used abundantly in the chapters on linear theories of the Gulf Stream (including the theory of wind-driven ocean currents); nonlinear theories of the Gulf Stream; meanders in the Stream; fluctuations in the currents (including seasonal and long-period fluctuations); and role of the thermohaline circulation (circulation pattern of water caused by changes in temperature and salinity). A chapter of general remarks contains observations on the nature of oceanographic research as well as on the dynamics of the Gulf Stream. "There is scarcely any more firmly rooted idea in the mind of the layman than the notion that the Gulf Stream keeps the European climate warm. So long as it was believed that the Gulf Stream was a river of warm water, this idea did make sense. It is no longer possible to be so certain of the direct climatological influence of the Gulf Stream, for it now seems that it is not so much the Stream itself that is important, as the position and temperature of the large mass of warm water on its right-hand flank," explains the author. Although intended primarily to explain what is known about the Gulf Stream in a way which will interest physical scientists, the book should be valuable to all oceanographers as well as to geographers. The book has an adequate index and a good bibliography.

"Man tests his limits in the ocean's depths," article, Business Week, no. 1880, Sept. 11, 1965, pp. 66-68, 70, illus., printed, single copy \$0.50. McGraw-Hill, Inc., 330 W. 42nd St., New York, N. Y. 10036. Presents highlights of the U. S. Navy's Sealab II project conducted by 3 groups of aquanauts in a stationary pressurized cylindrical tank 205 feet below the Pacific Ocean's surface off La Jolla, Calif., during September-October 1965. The 45 days of experiments, both in and out of the underwater laboratory, add up to the most extensive effort yet to measure man's capability to live and work for long periods under the sea. Though tied to shore, Sealab II is expected to open new worlds for marine biologists and geologists. By staying down for 15 days at a time, the aquanauts carried out research that, were they operating from the surface, would take years to complete. The project leader stated that the next steps in the Navy's deep submergence projects will be to try for greater depths, first to 400 feet with Sealab II, then to 600 feet, and then possibly to 1,000 feet.

"Marine science ship in Mombasa," article, Spear, vol. 7, no. 3, June 1965, pp. 54-57, illus., printed. East African Railways and Harbours, Nairobi, Kenya. Describes the West German Government's new oceanographic research vessel Meteor, which visited Mombasa, Kenya, in early 1965. West Germany

has now joined the 20 nations which will have sent 47 research ships to take part in the International Indian Ocean Expedition when it completes its 6-year program at the end of 1965. The 2,740-ton vessel, which began her tropical service late in 1964 in the Red Sea, has accommodations for 24 scientists in 12 laboratories, is fitted with equipment for making extensive hydrographic and meteorological observations, and has the capacity for great maneuverability provided by a propeller-activated rudder.

"Oceanographic observations from the Eastern Pacific Ocean collected by the R/V Shoyo Maru, October 1963-March 1964," by Eric D. Forsbergh and William W. Broenkow, article, Inter-American Tropical Tuna Commission Bulletin, vol. 10, no. 2, 1965, printed. Inter-American Tropical Tuna Commission, La Jolla, Calif. 92038.

Oceanography of the Grand Banks Region and the Labrador Sea in 1964, by Ronald C. Kollmeier and others, Oceanographic Report No. 10, CG 373-10, 291 pp., illus., printed, June 1965. United States Coast Guard, Washington, D. C.

"Standardizing oceanographic instrumentation is practical," by James L. Verber, article, Under Sea Technology, vol. 6, no. 8, Aug. 1965, pp. 20-21, printed, single copy \$1. Compass Publications Inc., 617 Lynn Bldg., 1111 N. 19th St., Arlington, Va. 22209.

Articles in Geo Marine Technology, vol. 1, no. 8, Aug. 1965. INTEL, Inc., 1075 National Press Bldg., Washington, D. C. 20004:

"Alvin"; "Aluminaut," pp. 16-18, illus.

"Sealab II," by Ralph G. Platt, pp. 7-13, illus. The United States' most ambitious attempt to date to learn how life can be sustained in a marine environment was carried out in fall 1965. Sealab II, an underwater vehicle, rested 205 feet deep on the Pacific Ocean bed, a half-mile off La Jolla, Calif., and in it 3 teams of 10 aquanauts each lived, worked, and were subjected to many physiological and psychological tests. The results of the 45-day program may be as important to the future of mankind as the forays made to date into "outer space," says the author. Sealab II was the second phase of the Navy's "Man-in-the-Sea" program, and was conducted by the Office of Naval Research in collaboration with the Navy's Special Projects Office, as part of the Deep Submergence Systems Program. Sealab I was conducted in 1964, 30 miles off Bermuda, when 4 Navy divers lived and worked successfully at a depth of 193 feet for 11 days. The article includes details of Sealab's construction, operation, and objectives, and the day-by-day aquanaut schedule.

"Vision-ingenuity-sweat," by E. W. Seabrook Hull, pp. 20-24, illus. Tells the story of Bears Bluff Laboratory, Wadmaw Island, S. C.

OYSTERS:

El Ostion Antillano, CRASSOSTREA RHIZOPHORAE Guilding, y su Cultivo Experimental en Cuba (The Antilles Oyster and its Experimental Culture in Cuba), by Braulio A. Saenz, Nota Sobre Investigaciones No. 6, 34 pp., illus., printed in Spanish with English abstract, April 1965. Centro de Investigaciones Pesqueras, Instituto Nacional de la Pesca, Havana, Cuba.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

PERU:

La Pesca Peruana en 1963 (The Peruvian Fishery in 1963), by Lizandro Bedoya Esponda, Serie de Divulgacion Cientifica 24, 41 pp., illus., printed in Spanish. As in previous years, the Peruvian annual fisheries report for 1963 consists largely of statistical tables showing quantity and value of industrial products production; utilization of fish landed in Peru; domestic consumption of fishery products; processed fishery products; investment in the fishing and fish-processing industries; production of frozen and canned fishery products; production and export of fish meal and oil; marine production of fish and shellfish by ports and by species; quantity and value of fishery products consumed in Greater Lima; landings of marine fish and their utilization; foreign trade in fishery products; and whale landings by months.

Politica Economica de la Pesqueria del Peru (Economic Policy of the Peruvian Fishery), by Javier Iparraguirre Cortez, Informe No. 18, 168 pp., processed in Spanish. Servicio de Pesqueria, Ministerio de Agricultura, Lima, Peru. Covers in detail the early history of the Peruvian fishery and its present position among the world's fishing nations; environmental aspects of the fishery, including marine ecology, currents, marine plants and animals, features of the seacoast, and port facilities; and human resources in the fishery, including types of fishermen, their training and specialization, wages, social conditions, and cooperatives and syndicates. Also contains particulars on the economic structure of the fishery, including docks and railroads, processing plants, capital assets of the industry, fishing fleet and gear, and warehouses; financial situation--public and private investment, fishery banks, and foreign investment; private fishery organizations, production and distribution, domestic consumption of fishery products, handling and distribution, foreign trade, and byproducts industries; and policy considerations in regard to conservation, nutrition, socioeconomic conditions, legal regulation, administration, and long-range planning. Included are several statistical tables showing production of industrial products by zones and by species, 1962; utilization of landings, 1953-63; export of fishery products, 1962; and other data.

PHOSPHORUS:

"The presence of compounds with a carbon-phosphorus bond in some marine invertebrates," by Louis D. Quin, article, Biochemistry, vol. 4, Feb. 1965, pp. 324-330, printed, Society for Experimental Biology and Medicine, 139th St. & Convent Ave., New York, N.Y. 10031.

POLAND:

"Operating results of B-15 and B-23 trawlers in 1964," article, Polish Maritime News, vol. 8, no. 83/84, July-Aug. 1965, pp. 14-15, illus., printed. Polish Chamber of Foreign Trade, Maritime Branch, ul. Pulaskiego 6, Gdynia, Poland.

Roczniki Nauk Rolniczych (Polish Agricultural Annual), vol. 86, series B, no. 2, 1965, 283 pp., illus., printed in Polish with Russian and English summaries. Wydział Nauk Rolniczych i Lesnych, Polska Akademia Nauk, Pałac Kultury i Nauki, 21 Pietro,

Pokoj 2101, Warsaw, Poland. Some of the articles are: "The effect of increasing fish stock density in the feeding habits of young carp," and "The effect of artificial food on the feeding habits of young carp," by A. Gurzeda; "Changes in protein, fat, water, and dry weight contents in the body of two-year old carp in the period of growth," by P. Wolny, T. Wojno, and R. Trzebiatowski; "Results of feeding young carp on barley," by K. Migala; "The influence of some agencies on the results of young carp wintering," by T. Wojno, R. Trzebiatowski, and P. Wolny; and "The effect of water circulation in constant-flow winter ponds on the results of wintering of two-year old carp," by A. Wysokinski.

Available from Morskiego Instytutu Rybackiego, Wydawnictwo Morskie, Gdynia, Poland:

Prace Morskiego Instytutu Rybackiego, vol. 13, series B (Fishing Technique and Fishery Technology), 1964, 100 pp., printed in Polish. A few of the articles are: "Application of mathematical analysis of the study of the influence of physiological and ecological factors on the change of fat contents in the adult sprats of the Bay of Gdansk," by J. Elwertowski and J. Maciejczyk; "Technological and chemical characteristic of North Atlantic redfish," by K. Hryniewiecka; and "Bacterial flora of sea fish from West African fishing grounds. Part 1--Strains isolated from iced and frozen fish," by J. Kochanowski and M. Maciejowska.

, vol. 13, series C (Economics of Fisheries), 1964, 155 pp., printed in Polish. Some of the articles are: "Economic significance of Baltic sea-weed in Poland," by A. Ropekewski; "Fluctuations of fish landed at fishing ports," by Z. Polanski; "Frozen fish as raw material for fish processing industry (on the basis of 1959 data)," by K. Zukowski; "Analysis of the development of sea-fish consumption in Poland," by B. Kowalewski; "The consumption of fish in the light of household budgets in the period 1957-1960," by S. Laszczynski; and "Statistics of Polish fisheries 1961," by K. Kazmierski, S. Laszczynski, and M. Daszkowska.

PORTUGAL:

"Relatorio do Gremio dos Industriais de Conservas de Peixe de Setúbal" (Report of the Society of Fish Cannery of Setúbal), article, Conservas de Peixe, vol. 20, no. 232, July 1965, pp. 17, 19-21, printed in Portuguese. Sociedade da Revista Conservas De Peixe, Lda., Regueirao dos Anjos, 68, Lisbon, Portugal.

POULTRY RATIONS:

"Level of fish meal in New England poultry feeds relatively high," article, Feedstuffs, vol. 37, March 6, 1965, p. 25, printed. Miller Publishing Co., 2501 Wayzata Blvd., Minneapolis, Minn.

PROCESSING MACHINERY:

"Fish processing machine," article, Food Manufacture, vol. 39, May 1964, p. 56, printed. Grampian Press, Ltd., The Tower, Shepherds Bush Rd., Hammersmith, London W6, England.

RADIATION:

Radionuclide Content of Oceanic Fish, Plankton, and Water in Vicinity of Christmas Island, Mar.-Aug.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

1962, by Arthur D. Welander and Ralph F. Palumbo, UWFL-88, 38 pp., illus., printed, Sept. 4, 1963, \$2. Clearinghouse for Federal Scientific and Technical Information, U. S. Department of Commerce, Braddock and Port Royal Rds., Springfield, Va. 22151.

RADIATION PRESERVATION:

Food Preservation by Irradiation, SB 403, Supp. 1, 17 pp., printed, revised Feb. 1965. Clearinghouse for Federal Scientific and Technical Information, U. S. Department of Commerce, Braddock and Port Royal Rds., Springfield, Va. 22151.

"Radiation preservation of meats and seafoods," by R. F. Cain and A. F. Anglemier, article, Journal of Animal Science, vol. 23, no. 2, 1964, pp. 572-576, printed. American Society of Animal Production, Colorado State University, Fort Collins, Colo.

REFRIGERATED SEA WATER:

"Refrigerated sea water as a storage medium for fish," by John A. Peters, Clarence J. Carlson, and Daniel W. Baker II, article, ASHRAE Journal, vol. 7, April 1965, pp. 64-67, printed. American Society of Heating, Refrigerating and Air-Conditioning Engineers, 62 Worth St., New York, N. Y. 10013.

REFRIGERATION:

Preservation of Fish Products by Refrigeration, by V. P. Zaitsev, TT 65-50099, 323 pp., illus., processed, 1965, \$7. (Translated from the Russian, Kholodil'noe Konservirovanie Rybnykh Produktov, Pishchepromizdat, Moscow, U.S.S.R., 1962.) Clearinghouse for Federal Scientific and Technical Information, U. S. Department of Commerce, Braddock and Port Royal Rds., Springfield, Va. 22151. A comprehensive handbook covering the theory and practice of fish preservation by refrigeration (chilling, freezing, storage) and of thawing and fish-fillet production. Advanced planning of shore refrigerating plants and of refrigerated vessels is explained, and problems of product quality control are discussed. Equipment and machinery used for fish refrigeration are described. The large number of schematic drawings, diagrams, and photos should contribute to the usefulness of this book to mechanical engineers and technologists in the fish-processing industry.

SALMON:

"Food and feeding habits of Pacific Salmon (Genus Oncorhynchus) in their oceanic life," by Jun Ito, article, Bulletin of the Hokkaido Regional Fisheries Research Laboratory, no. 29, 1964, pp. 85-97, printed. Hokkaido Regional Fisheries Research Laboratory, Yoichi, Hokkaido, Japan.

"Kokanee salmon for the Great Lakes," by F. P. Maher, article, Ontario Fish and Wildlife Review, vol. 4, no. 2, Summer 1965, pp. 2-5, illus., processed. Department of Lands and Forests, Parliament Bldgs., Toronto 5, Canada.

The Migration, Composition, Exploitation, and Abundance of Odd-Year Pink Salmon Runs in and Adjacent to the Fraser River Convention Area, by A. S. Hourston, E. H. Vernon, and G. A. Holland, Bulletin 17, 156 pp., illus., printed, 1965. International Pacific Salmon Fisheries Commission, New Westminster, B. C., Canada.

"Net production of juvenile coho salmon in three Oregon streams," by D. W. Chapman, article, Transactions of the American Fisheries Society, vol. 94, no. 1, 1965, pp. 40-52, printed. American Fisheries Society, 1404 New York Ave. NW., Washington, D. C. 20005.

Population Dynamics of Pacific Pink Salmon, ONCORHYNCHUS GORBUSCHA (Walbaum), by Yu. E. Lapin, JPRS 25993. (Translated from the Russian Voprosy Ikhtiologii, vol. 4, no. 2, 1964, pp. 233-242.) Clearinghouse for Federal Scientific and Technical Information, U. S. Department of Commerce, Port Royal and Braddock Rds., Springfield, Va. 22151.

"The relationship of age to length in Puget Sound resident chinook salmon," by J. E. Lasater and Frank Haw, article, Fisheries Research Papers, vol. 2, no. 3, 1964, pp. 44-50, printed. Washington Department of Fisheries, Rm. 115, General Administration Bldg., Olympia, Wash.

Salmon of the North Pacific Ocean, Part IX--Coho, Chinook and Masu Salmon in Offshore Waters, by Harold Godfrey, James E. Mason, and Shoichi Tanaka, Bulletin No. 16, 138 pp., illus., printed, 1965. International North Pacific Fisheries Commission, 6640 NW. Marine Dr., Vancouver 8, B.C., Canada. The Commission is publishing in its bulletin series a comprehensive report, "Salmon of the North Pacific Ocean." The purpose of this report is to present the results of research on salmon (Oncorhynchus spp.) conducted since 1955 under an extensive program designed by the Commission and executed by research organizations of the 3 countries which established the Commission--Canada, Japan, and the United States. The various parts are being published out of numerical order, each part being published as it is completed by the joint-reporting assigned to its preparation. Parts previously published were: Part I--Introduction and catch statistics for North Pacific salmon; Part II--Review of oceanography of the subarctic Pacific Region; and Part V--Offshore distribution of salmon. Part IX consists of reports on the life history and offshore distribution of coho, chinook and masu salmon on the high seas of the North Pacific Ocean.

Seal Damage to Salmon Fisheries, by B. B. Rae and William Shearer, Marine Research no. 2, 39 pp., printed, 1965. Department of Agriculture and Fisheries for Scotland, Edinburgh, Scotland.

"Steroid hormones in the plasma of spawned Atlantic salmon (Salmo salar) and a comparison of their determination by chemical and biological assay methods," by D. R. Idler, H. C. Freeman, and B. Truscott, article, Canadian Journal of Biochemistry, vol. 42, no. 2, 1964, pp. 211-218, printed. National Research Council, Ottawa, Canada.

Articles from Biological Abstracts, vol. 45, 1964. Biological Abstracts, 3815 Walnut St., Philadelphia 4, Pa.

"Age evaluation of the commercial categories of Atlantic salmon from the Pechora River" (Vozrastnaya otsenka sortovogo sostava semgi reki Pechory), by L.A. Shchetinina, no. 13, Abstract No. 54369.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

- "Character of the salmon spawning grounds in the Narva River" (Kharakter nerestilishch Lososya na r. Narve), by T. I. Privol'nev, no. 13, Abstract No. 54358.
- "Experimental acclimatization of pink and chum salmon in the Basin of the Barents and White Seas" (Opyt akklimatizatsii gorbushi i kety v basseine Barentsova i Belogo morei), by V. V. Azbelev and S. S. Surkov, no. 15, Abstract No. 63126.
- "Fat metabolism in Atlantic salmon (*Salmo salar*) in connection with biology of its reproduction (based on data of histological analysis of liver)" (Zhirovoi obmen semgi v svyazi s osobennostyami biologii razmnozheniya--Po dannym gistologicheskogo analiza pecheni), by K.A. Faktorovich, no. 15, Abstract No. 63610.
- "Feeding interrelationships between young autumn chum salmon and fresh-water salmonids in the reservoirs of the Teplov Fish Farm" (Pishchevye svyazi mal'kov osennei kety i presnovodnykh lososevykh v vyrastnykh vodoemakh teplovskogo rybovodnogo zavoda), by L. V. Kokhmenko, no. 14, Abstract No. 58505.
- "Sperm production in Pacific Ocean salmon of the genus *Oncorhynchus*" (Produktivirovanie spermy tikhokeanskimi lososyami roda *Oncorhynchus*), by A. I. Smirnov, no. 15, Abstract No. 63183.
- "Steps toward acclimatization of pink salmon (*Oncorhynchus gorbuscha*) in the Black Sea Basin" (K akklimatizatsii gorbushi v basseine chernogo morya), by R. S. Shaverdov and others, no. 13, Abstract No. 54368.
- Available from Department of Fish and Game, Subport Bldg., Juneau, Alaska 99801:
- Test Fishing in Bristol Bay, 1960-64, by Melvin C. Seibel, Informational Leaflet 67, 40 pp., illus., processed, Aug. 12, 1965.
- The Use of Scale Circuli Spacings as a Means of Separating Races of Prince William Sound Pink Salmon, by Asa T. Wright, Informational Leaflet 66, 27 pp., illus., processed, July 26, 1965.
- Articles from Oregon Fish Commission Research Briefs, vol. 10, no. 1, 1964. Fish Commission of Oregon, 307 State Office Bldg., 1400 SW. 5th Ave., Portland, Ore. 97201:
- "The effect of confinement on blood lactate levels in chinook and coho salmon," by Robert J. Ellis, pp. 28-34.
- "Fecundity of Columbia River chinook salmon," by James L. Galbreath and Richard L. Ridenhour, pp. 16-27.
- "A modified method of analyzing stomach contents with notes on the food habits of coho salmon in the coastal waters of Oregon and southern Washington," by Paul E. Reimers, pp. 46-56.
- "Ranking of wet ingredients for Oregon pellets," by John W. Westgate and Thomas B. McKee, pp. 35-40.

SALMON AND TROUT:

"Fish restoration on the Clearwater," by Robert J. Bell, article, *Idaho Wildlife Review*, vol. 18, no. 1, July-Aug. 1965, pp. 3-6, illus., printed. Idaho Fish and Game Commission, 518 Front St., Boise, Idaho. About 15 million salmon and steelhead eggs have been planted in Idaho streams since the fall of 1960. Primary purpose is to reestablish spring- and summer-run chinook in the Selway River Drainage and steelhead trout in the South Fork of the Clearwater and Lemhi River drainages, and to establish self-sustained runs of fall-run spawning chinook salmon in the Lochsa and Selway River systems. An attempt is also being made to set up runs of coho salmon in the South Fork of the Clearwater River. Results from man-made spawning and hatching channels have been very encouraging.

"Net economic value of the Oregon salmon-steelhead sport fishery," by William G. Brown, Ajmer Singh, and Emery N. Castle, article, *Journal of Wildlife Management*, vol. 29, no. 2, 1965, pp. 266-279, illus., printed. Wildlife Society, 2000 P St. NW., Washington, D. C.

SANITATION:

"Bacteriological survey of filleting processes in the Pacific Northwest. III--Bacterial and physical effects of pughing fish incorrectly," by Wayne I. Tretsven, article, *Journal of Milk and Food Technology*, vol. 28, Jan. 1964, pp. 13-17, printed. International Association of Milk and Food Sanitation, Box 437, Shelbyville, Ind.

SARDINES:

"La campagne sardiniere est desastreuse" (The sardine season is disastrous), article, *Le Marin*, vol. 19, no. 951, Aug. 27, 1965, p. 2, printed in French single copy 0.3 F. (about US\$0.10). *Le Marin*, 38, rue du Pre-Botté, Rennes, France.

"Rezultaty rabot Yuzhno-Atlanticheskoi Sardinnoi Ekspeditsii 1958-1959 g" (Results of the South Atlantic sardine expedition, 1958-1959), by V. A. Borodatov, article, *Rybnoe Khoziaistvo*, no. 9, 1959, pp. 10-16, printed in Russian. *Rybnoe Khoziaistvo*, V. Krasnosel'skaia 17, Moscow B-140, U.S.S.R.

SCALLOPS:

Escallop Survey Northumberland Coast, May/June 1965, Research & Development Bulletin No. 13, 2 pp., processed, Aug. 1965. White Fish Authority, 2/3 Cursitor St., London EC4, England.

"Port Phillip Bay scallop industry survey," by C. H. Davis, article, *Australian Fisheries Newsletter*, vol. 24, no. 8, Aug. 1965, pp. 11, 13, illus., printed. Fisheries Branch, Department of Primary Industry, Canberra A.C.T., Australia. Reports on the results of a survey of marketing prospects for Australian scallops overseas and at home. Production of scallops has increased spectacularly in the past two years--rising from about 6.5 million pounds in 1962/63 for all of Australia to more than 17 million pounds in 1964 for the Port Phillip Bay area alone. Experience during 1964/65 indicates that there is a growing market for scallops in Australia. Moreover, exports have increased tremendously and there are good long-term prospects for continuing and increasing sales in the United States, the United Kingdom, and Belgium.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

SEALS:

"Atlantic sealhunt 1965," by J. J. Quigley, article, *Trade News*, vol. 18, no. 1, July 1965, pp. 6-13, illus., processed. Information and Consumer Service, Department of Fisheries, Ottawa, Canada.

SEAPORTS:

United States Seaports, Gulf Coasts, Port Series, Part I, April 1965, 151 pp., printed, 1965, \$0.75. U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.)

SHRIMP:

Algumas Ovservacoes sobre a Pesca do Camarao no Estado de Santa Catarina, Brasil (1961-1963) (Some Observations on the Shrimp Fishery in the State of Santa Catarina, Brazil, 1961-63), by Ernesto Tremel and Michael N. Mistakidis, 9 pp., processed in Portuguese with English summary, Jan. 1965. Centro de Pesquisas de Pesca, Departamento Estadual de Caca e Pesca, Florianopolis, Santa Catarina, Brazil.

"Nephrops norvegicus, the Dublin Bay prawn, in Irish waters," by C. E. O'Riordan, article, *Scientific Proceedings of the Royal Dublin Society, Series B*, vol. 1, no. 13, 1964, pp. 131-157, illus., printed. Royal Dublin Society, Dublin, Ireland.

Economic Study of the Shrimp Industry in the Gulf and South Atlantic States, by Carter C. Osterbind and Robert A. Pantier, 180 pp., illus., processed, May 1965, \$4. Bureau of Economic and Business Research, College of Business Administration, University of Florida, Gainesville, Fla.

SMALL BUSINESS MANAGEMENT:

Pleasing Your Boss, the Customer, by Dwayne Laws, Small Marketers Aid No. 114, 4 pp., processed, June 1965. Small Business Administration, Washington, D. C. 20416.

SOUTH AFRICA REPUBLIC:

Establishing a Business in the Republic of South Africa, by Joseph L. Dougherty and William E. Rau, OBR 65-38, 15 pp., printed, June 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

SPAIN:

"La flota pesquera congeladora Española" (The Spanish freezer fishing fleet), article, *Pesca y Marina*, vol. 17, no. 4, Aug.-Sept. 1965, pp. 14-15, printed in Spanish. Fernando Flores Limitada, 705 N. Windsor Blvd., Los Angeles 38, Calif.

"El sector de la exportacion de conservas de pescados" (The canned fish export sector), by Mareiro; "Vigo, Tradicion exportadora de conservas de pescados y mariscos" (Vigo, traditional exporter of fish and shellfish), by Cristobal Anton Miranda, articles, *Industria Conservera*, vol. 31, no. 311, May 1965, pp. 27-28; 131-132, printed in Spanish, single copy 25 ptas. (about US\$0.40). Union de Fabricantes de Conservas de Galicia, Calle Marques de Valladares, 41, Vigo, Spain.

SPINY LOBSTER:

Maintaining the Catch (The Western Australian Crayfish), 16 pp., illus., printed. Western Australian Department of Fisheries and Fauna, Perth, Australia. An informational fold-out chart for spiny lobster fishermen explaining the critical need to stabilize present catches and to find ways of increasing the stocks. Diagrams demonstrate the life cycle of the spiny lobster and biological and exploratory research being conducted on that species. The importance of fishermen supplying catch information to aid in research, as well as using pots constructed to provide escapement for undersized individuals, is also stressed.

STATISTICS:

Bulletin Statistique des Peches Maritimes, 1962 (Statistical Bulletin of Marine Fisheries, 1962), 54 pp., printed in French and English, 1965. Conseil Permanent International pour l'Exploration de la Mer, Charlottenlund Slot, Charlottenlund, Denmark.

SYRIAN ARAB REPUBLIC:

Foreign Trade Regulations of the Syrian Arab Republic, by Helen D. Grayson, OBR 65-52, 8 pp., printed, July 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

TEXAS:

Publications of the Institute of Marine Science, vol. 10, June 1965, illus., printed, single copy \$4.15. Institute of Marine Science, The University of Texas, Port Aransas, Tex. 78373. Includes, among others, articles on: "Distribution and growth of penaeid shrimp in Mobile Bay, Alabama," by Harold Loesch; "Vertical distribution of the planktonic stages of penaeid shrimp," by Robert F. Temple and Clarence C. Fischer; "Fish stocks from a helicopter-borne purse net sampling of Corpus Christi Bay, Texas, 1962-1963," by Robert S. Jones; "A trawl survey of the shallow Gulf fishes near Port Aransas, Texas," by John M. Miller; "Mollusks from the deeper waters of the northwestern Campeche Bank, Mexico," by Winne H. Rice and Louis S. Kornicker; and "An annotated checklist of the fishes of the Galveston Bay System, Texas," by Jack C. Parker.

THAILAND:

Bottom Fish Resources Investigation in the Gulf of Thailand and an Outlook on Further Possibilities to Develop the Marine Fisheries in South East Asia, by K. Tiews, 42 pp., illus., printed in English with German summary. (Reprinted from *Archiv fur Fischereiwissenschaft*, vol. 16, no. 1, July 1965, pp. 67-108.) Archiv fur Fischereiwissenschaft, Gustav Wenzel & Sohn, Braunschweig, Federal Republic of Germany.

The German Fisheries Mission to Thailand (2nd Project Phase, 1962-1964), by K. Tiews, *Veroffentlichungen des Instituts fur Kusten- und Binnenfischerei* No. 36, 32 pp., illus., processed, May 1965. Institut fur Kusten- und Binnenfischerei der Bundesforschungsanstalt fur Fischerei, Hamburg, Federal Republic of Germany.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

TIDES:

Tide Tables--High and Low Water Predictions 1966--Central and Western Pacific Ocean and Indian Ocean, 386 pp., printed, 1965, \$2. Coast and Geodetic Survey, U. S. Department of Commerce, Washington, D. C. 20230.

TRANSPORTING FISH:

"Necesidad, conveniencia económica y técnica del transporte por carretera de los productos de la pesca en regimen de frio" (Need, economic convenience, and technique of road transportation of refrigerated fishery products), by G. Ciani, article, Revista del Frio, vol. 9, no. 3, July-Sept. 1964, pp. 99-108, printed in Spanish with French and English abstracts. Centro Experimental del Frio, Serrano, 150, Madrid, Spain.

TRAWLING:

Le Chalut (The Trawl), by Claude Nedelec and Louis Libert, Revue des Travaux, vol. 28, no. 2, 190 pp., printed in French, 1964. Institut Scientific et Technique des Peche Maritime, 59 Avenue Raymond-Poincare, Paris 16, France.

"Chaluts selectifs--essais d'un nouveau type de chalut équipe d'un dispositif de sélectivité pour la pêche des crevettes" (Selective trawls--tests with a new type of trawl equipped with a selective device for shrimp fishing), by G. Kurc, L. Faure, and T. Laurent, article, France Pêche, no. 97, July-Aug. 1965, pp. 40-43, illus., printed in French, single copy 2.5 F. (about US\$0.50). France Peche, Boite Postale 179, Lorient, France.

Performance of a Japanese Trawl, Research Development Bulletin No. 12, 14 pp., printed, July 1965. The White Fish Authority, 2/3 Cursitor St., London EC4, England.

Translations available from the Secretary of State, Ottawa, Canada:

"Commercial tests of automatic trawl otter-boards," by V. Novofastovskij, V. F. Translations no. 181, 7 pp., printed, 1965. (Translated from the Russian Rybnoe Khoziaistvo, no. 7, pp. 30-33, 1964.)

"Trawl for catching shrimps," by V. S. Dolbish, V. P. Krylova, and V. F. Mytsul, V. F. Translations no. 162, 5 pp., printed, 1964. (Translated from the Russian Rybnoe Khoziaistvo, no. 2, pp. 51-53, 1964.)

Trawling Tests with Japanese Distant Water Stern Trawler, by Chikamasa Hamuro, V. F. Translations no. 175, 53 pp., printed. (Translated from the Japanese Technical Report of Fishing Boats, vol. 18, no. 8, 1964.)

TROUT:

California "Catchable" Trout Fisheries, by Robert L. Butler and David P. Borgeson, Fish Bulletin 127, 47 pp., illus., printed, 1965. Office of Procurement, Documents Section, P. O. Box 1612, Sacramento, Calif. 95807.

Growth, Mortality Rates, and Standing Crops of Trout in New York Farm Ponds, by Alfred W. Eipper, Agricultural Experiment Station Memoir 388, 67 pp., printed, 1964. Cornell University, Agricultural Experiment Station, Ithaca, N. Y.

"Trout capital of the East," by Don Carpenter, article, Virginia Wildlife, vol. 26, no. 9, Sept. 1965, pp. 16-18, illus., printed, single copy 20 cents. Commission of Game and Inland Fisheries, P. O. Box 1642, Richmond, Va. 23213. Describes activities of the Virginia Trout Company, Monterey, Virginia, in the mountainous Northwestern part of the State. This prosperous firm rears trout from Washington State rainbow trout eggs, sells fingerlings to farmers for their own ponds, provides trout fishing streams for the use of anglers at a moderate fee, and processes frozen trout for sale to hotels and supermarkets.

Articles from U. S. Trout News, vol. 10, no. 2, July-Aug. 1965. U. S. Trout Farmers Association, 67 West 9000 South, Sandy, Utah, 84070:

"Let's visit a trout farm," pp. 6-8, 10, 18, illus.

"The nutritive quality of cultured trout in the human diet!" by George Post, pp. 14-15, 20-21.

TUNA:

An Analysis of California's Albacore Fishery, by Harold B. Clemens and William L. Craig, Fish Bulletin 128, 308 pp., illus., printed, 1965. Documents Section, P. O. Box 1612, Sacramento, Calif. 95807. This report updates studies initiated in 1951 and sets forth results obtained from part of the albacore investigations conducted through 1961 by researchers at the California State Fisheries Laboratory. It is that State's contribution to a proposed international exchange of information on the Pacific albacore. Included are sections on the history of commercial fishing, both hook-and-line and purse-seine fisheries; the commercial fisheries for albacore during the years 1916-61; details of landings during the cold-water seasons (1951-56), the warm-water seasons (1957-59), and the cooling years (1960-61); catch analysis, using catch reports and logbook data; the sport fishery for albacore; and condition of the resource. A large number of statistical tables, graphs, and charts are used. A few of them give data on: landings of albacore in Northeastern Pacific ports by commercial fishermen, 1936-61; calculated lengths and weights for albacore age groups; and annual average of monthly sea-surface temperatures collected at La Jolla, 1916-61.

"Muscle glycogen and blood lactate in yellowfin tuna, Thunnus albacares, and skipjack, Katsuwonus pelamis, following capture and tagging," by Izadore Barrett and Anne Robertson Connor, article, Inter-American Tropical Tuna Commission Bulletin, vol. 9, no. 4, 1964, pp. 219-268, printed. Inter-American Tropical Tuna Commission, La Jolla, Calif.

1964 Proceedings of the Japan Investigative Conference of Tuna, 284 pp., illus., printed in Japanese, March 1965. Nankai Regional Fisheries Research Laboratory, Fisheries Agency, Sanbashi-dori, Kochi, Kochi Prefecture, Japan.

"La peche de l'albacore dans la zone orientale de l'Atlantique intertropical" (The albacore fishery in the eastern zone of the tropical Atlantic), by J. C. Le Guen, F. Poincard, and J. P. Troadeck, article, La Peche Maritime, vol. 44, no. 1048, July 1965, pp. 536-540, 541, illus., printed in French, single copy 14 F. (about US\$2.85). Les Editions Maritimes, 190, Blvd. Haussmann, Paris, France.

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

"La pesqueria de tunidos en España" (The fishery for tuna in Spain), by Mareiro, article, Industria Conservera, vol. 31, no. 310, April 1965, pp. 95-96, printed in Spanish, single copy 25 ptas. (about US\$0.30). Union de Fabricantes de Conservas de Galicia, 41 Marques de Valladares, Vigo, Spain.

Tuna Fishing, no. 36, July 1965, 48 pp., illus., printed in Japanese. All Japan Investigative Conference of Tuna, 2-7, Hirakawa-cho, Chiyoda-ku, Tokyo, Japan.

TUNISIA:

Foreign Trade Regulations of Tunisia, by William J. Bushwaller, OBR 65-56, 8 pp., printed, July 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

TURKEY:

Balık ve Balıkçılık, vol. 13, no. 7, July 1965, 32 pp., illus., printed in Turkish with English table of contents. Et ve Balık Kurumu G. M., Balıkçılık Mudurlugu, Besiktas, Istanbul, Turkey. Two of the articles are: "One boat and two boats system trawl (Part II)," by Tekin Mengi; and "The role of fish in animal feeding and nutritional contribution of fish products (Part V)," by Macide Akgunes.

UNITED KINGDOM:

Fish Stock Record, 1964, 50 pp., illus., processed, 1965. Fisheries Laboratory, Ministry of Agriculture, Fisheries and Food, Lowestoft, Suffolk, England. Discusses in detail the production, year-classes, and length and age composition of species landed in the demersal fisheries in near, middle, and distant waters; and catch and effort in the pelagic fisheries for herring and sprats. Includes statistical tables and graphs showing total catches of selected species from demersal fisheries of Great Britain, 1963-64; the English herring fisheries, catch and effort; distribution of haddock catches by English and Scottish trawlers at Faroe Islands; length composition of English sprat landings, 1964/65; and other related data.

"Fishery Limits Act, 1964" (An Act to extend the British fishery limits and amend the definition of "sea-fishing" in the Sea Fisheries Act, 1883), 31 July 1964, Statutes for 1964, Chapter 72, Food and Agricultural Legislation, vol. XIII, no. 4, June 1965, SVI/2, 3 pp., printed, single copy \$1. International Documents Service, Columbia University Press, 2960 Broadway, New York, N. Y. 10027.

Ministry of Technology Publications Currently Available from the Torry Research Station and the Humber Laboratory, 1937-April 1965, 33 pp., processed, 1965. Torry Research Station, 135 Abbey Rd., Aberdeen, Scotland.

Scottish Fisheries Bulletin, no. 23, June 1965, 32 pp., illus., printed. Marine Laboratory, Department of Agriculture and Fisheries for Scotland, Victoria Rd., P. O. Box 101, Torry, Aberdeen, Scotland. Some of the articles are: "Overfishing and conservation," by B. B. Rae; "Forecast for Scottish North Sea and west coast herring fisheries in 1965," by B. B. Parrish and A. Saville; "The wing-trawl on larger ships," by William Dickson; "Underwater observations on a patch of herring spawn," by C. C. Hemmings; "Her-

ring trawling off the west coast of Scotland," by I. G. Baxter; and "Fat in herring," by N. P. Wilkins.

Scottish Sea Fisheries Statistical Tables, 1964, 50 pp., printed, 1965. Department of Agriculture and Fisheries for Scotland, Edinburgh, Scotland.

Torry Research Station Annual Report, 1964, on the Handling and Preservation of Fish and Fish Products, 57 pp., illus., printed, 1965, 5s. (about US\$0.70). Ministry of Technology, Millbank Tower, Millbank, London SW1, England. (For sale by Sales Section, British Information Services, 845 Third Ave., New York, N. Y. 10022.) Covers briefly some of the Station's research projects of current interest--objective measurement of the freshness of wet fish, superchilling to 0° C., packaging of wet fish, boxing at sea, assessment of frozen fish quality, freezing fillets at sea, thawing of frozen fish, and retail quality of frozen fish. Describes in detail principal accomplishments during 1964 in the fields of improvement in handling, treatment, and quality of wet fish; freezing and cold storage; smoke-curing; canning; drying; and industrial products. Explains programs in food hygiene, bacteriological examination of shellfish, collections of marine and industrial bacteria, protein reactions during cold storage of cod, autoxidation in white fish, semiconductivity in frozen cod muscle, and industrial liaison and education. Also contains a list of reports and papers published by Torry personnel during 1964 on the handling and preservation of fish and fishery products.

Available from Grampian Press Ltd., The Tower, 229-243 Shepherds Bush Rd., Hammersmith, London W6, England:

"Conservation is main theme of British industry reports," article, World Fishing, vol. 14, no. 8, Aug. 1965, pp. 6-9, illus., printed, 3s. 6d. (about US\$0.55). The 1964 annual reports of some of the major organizations serving the British fishing industry are summarized. The organizations are the White Fish Authority, The British Trawlers' Federation, The Scottish Home Department, Herring Industry Board, and Torry Research Station. One industry leader poses this question: "Should we not look to the seas, which occupy 70 percent (of the Earth's surface) and at present supply only about one percent of human food and 12 percent of the protein component of the world human diet and which . . . could provide enough protein to meet the needs of 10 times the present world population?"

World Fishing, vol. 14, no. 9, Sept. 1965, 106 pp., illus., printed. This issue, devoted almost entirely to the Scottish fisheries, contains articles on: "The 20-year-old objective"; "Ring-netting most important catching method"; "Which net do I need?"; "First of three"; "Germany switches to midwater trawl"; "Norway North Sea catch doubles"; "Herring industry at bay"; "Fishermen's views wanted"; "Will purse seine ruin stocks?"; "Norwegians in action"; "Manpower and purse seining"; "Improving seiner stability"; "Ring netters have doubts"; "How much power does a Scottish M.F.V. need?"; "Some recent completions by Scottish yards"; "Scotland's frozen scallops"; "Shellfish catch reaches record level"; "Aberdeen owners reorganize fleet"; and "Where do we go from here?"

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

UNITED STATES GOVERNMENT:

Federal Statistical Directory, 1965, 195 pp., printed, Twentieth Edition 1965, 70 cents. Office of Statistical Standards, Bureau of the Budget, Executive Office of the President, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) The principal purpose of this directory is to serve as a guide to easier direct communication among the various offices of the Federal Government working on statistical programs. Contains names, titles, phone numbers, and addresses of individuals engaged in statistical planning and services in the Executive Office of the President; Departments of Agriculture, Commerce, Defense, Health, Education, and Welfare, Interior, Justice, Labor, State; the Post Office Department; Treasury Department; independent agencies such as the Atomic Energy Commission, Federal Aviation Agency, and National Labor Relations Board; and agencies outside the Executive Branch including U. S. Courts and offices associated with the Congress.

UNITED STATES NAVY:

The Ships and Aircraft of the U. S. Fleet, compiled and edited by James C. Fahey, 64 pp., illus., printed, eighth edition 1965, \$3.50. U. S. Naval Institute, Annapolis, Md. 21402.

U.S.S.R.:

Opredelitel' Promyslovykh Ryb SSSR. Uchebn. Posobie Dlya Ikhtologich. Spetsial'nostei Vyssh. Uchebn. Zavedenii. 4-e Pererabot. i dop. izd (Key for the Identification of U.S.S.R. Commercial Fishes. A Textbook for Students of Ichthyology in Colleges and Universities. Fourth Revised and Enlarged Edition), 318 pp., illus., printed in Russian. 1964, 70 Kop. (about US\$0.80). Pishchepromizdat, Mruzooskii, Propekt No. 1, Moscow, U.S.S.R.

Translations from the Russian available from the Clearinghouse for Federal Scientific and Technical Information, U. S. Department of Commerce, Port Royal and Braddock Rds., Springfield, Va. 22151:

Freshwater Fishes of the U.S.S.R. and Adjacent Countries, by Leo S. Berg, vol. II, OTS 63-11056, 496 pp., and vol. III, OTS 63-11057, 510 pp., printed, 1964 and 1965.

Key to Parasites of Freshwater Fish of the U.S.S.R., by Bykhovskaya Pavloskaya and others, OTS TT 64-11040, 919 pp., printed, 1964.

Articles from Rybnoe Khoziaistvo, vol. 40, no. 8, August 1964, printed in Russian, single copy 50 Kopecks (about 56 U. S. cents). Rybnoe Khoziaistvo, V. Krasnosel'skaia 17, Moscow B-140, U.S.S.R.:

"Use of a hydraulic system on a stern trawler," by A. M. Chukhontsev, pp. 87-89; and "New system of payment for the fishermen," pp. 93-94.

_____, vol. 40, no. 9, September 1964: "Some results of acclimatizing pink salmon in North Europe," by V. V. Azbelev and M. Lazarev, pp. 7-8; "There will be more salmonid fishes," p. 30; "Selection of an optimum load and speed of freeze trawlers during fishing cruises," by S. I. Logachev, pp. 36-39 (continuation of article in no. 8, pp. 47-

49). "Catamarans, a possible type of vessel for the fishing fleet," by Yu. M. Rizanov, pp. 40-41; "Bathythermograph for fishing vessels," by A. Ovsyannikov, pp. 41-42; "Mechanization of roe salting," p. 49; "Present work of vessels of the BMRT type (freezer trawlers) and of side trawlers," by L. N. Pechenik, pp. 51-53; "Shark fishery in the Atlantic Ocean," by Yu. A. Torpin, pp. 54-57; "Prospects for using ice with biomycin for preserving fresh, cooled fish," by G. B. Dubrova and Yu. A. Ravich-Shcherbo, pp. 60-61; "Variation in the total effort in cutting tunny with a knife with a straight edge (blade)," by M. A. Yakubov, pp. 62-65; "Machine for breeding fish in an electric field with corona discharge," by N. I. Tikhonov, pp. 65-69; "The Economic efficiency of mechanization and automation on fishing vessels," by E. I. Futter and M. M. Kantor, pp. 73-74; "A new, small-sized meal-and-oil plant for trawlers," by N. N. Ryndich, pp. 81-83; and "The first teaching manual on the economy of the fishing industry" (S. V. Mikhailov, 1962. The economy of the fishing industry of the U.S.S.R. Pishchepromizdat, Moscow), pp. 90-91.

_____, vol. 41, no. 3, 1965, 100 pp., printed in Russian. Some of the articles are: "Stock of individual schools of herring in the North Atlantic," by S. S. Fedorov; "Growth and maturation as main factors of the dynamics of fish stock," by M. A. Pavlov; "Apparatus for censusing young commercial fishes caught by fine-meshed nets," by R. A. Mailian; "Effect of predatory fishes on the extension of seaward migration of salmon," by E. L. Bakshtanskii; "Abundance and fisheries of crayfish in the bodies of water of Volgograd Province," by V. P. Negrobov; "Mooring of a BMRT to a floating base and loading and unloading works at sea from both sides," by I. F. Tolkodubov; "Trawling at great depths," by A. Ia. Maklakov; "Characteristics of fishing operations in the Central Atlantic," by L. N. Domanevskii and O. G. Riabikov; "First result of two-boat trawling," by G. G. Krylov; "Selection of light arrangement in electric fishing," by I. V. Nikonov; "Methods of electric fishing in the inland bodies of water," by M. R. Maizella; "Combined synthetic coatings for the preservation of fishery products," by M. N. Vakhrushcheva; "Content of carcinogenic substances in smoke and smoked products," by P. P. Dikun; "Methods of producing slightly salted caviar from the Pacific salmon," by E. A. Nasedkina; "Rapid method of agar extraction," by O. P. Lukachev; "New agar plant in the Maritime territory," by V. D. Koval; and "Some problems of whaling," by A. A. Sudakov.

_____, vol. 41, no. 4, 1965, 95 pp., printed in Russian. Some of the articles are: "Technological progress in the fishing industry in 1965," by E. G. Pavlov; "Forecasting relative yield of the Baltic cod and bank herring of the North Sea," by A. E. Antonov; "Considerations on ways of development of pond fish culture," by K. A. Sadlaev; "Some characteristics of the growth and wintering of young-of-the-year herbivorous fishes," by I. N. Biziaev; "Marking whales in the Far East," by V. A. Arsen'ev; "Determination of the form of the net part of a trawl by photogrammetry," by G. E. Bidenko; "Polystyrene floats for trawl fishing," by B. P. Zimin; "Methods of electric fishing in freshwater bodies," by M. R. Maizelis; "New process of cold bream and roach smoking," by L. E. Shavshaeva; "Use of a sardine dryer of continuous action for the production of 'herring in oil'

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

canned fish," by Z. T. Nechaeva; "Mathematical approach in the administration of fisheries," by V. Tishinskii; "Some problems of organizing paired expeditions by fishing boats," by N. Medushevskii; and "System of national control in observing fishing regulations in the North Atlantic," by A. D. Druzhinin.

Articles from *Rybovodstvo i Rybolovstvo*, 1959, printed in Russian. *Rybovodstvo i Rybolovstvo*, Orlikov Pereulok 1/11, Moscow I-139, U.S.S.R.:

"Sortirovochnyi ryboulovitel'" (Selective fishing gear), by G. Kondrat'ev, no. 4, pp. 16-17.

"Ovarnyi karp v nerestovo-vyrostnom" (Growing commercial carp in nursery pond farms), by G. Zhukovskii, no. 4, pp. 3-7.

"Vyrashchivanie ryboposadochnogo materiala v kolchoze" (Growing fish stock in a kolchoz--collective farm), by G. Polyakov, no. 3, pp. 5-8.

Articles from *Trudy, Atlanticheskii Nauchno-issledovatel'skii Institut Morskogo Rybnogo Khoziaistvo i Okeanografii, "AtlantNIRO"* (continues *Trudy BaltNIRO*), vol. 10, printed in Russian, 1964. Four Continent Book Corp., 156 - 5th Ave., New York, N. Y. 10010:

Spawning area of Atlantic herring at the western coasts of the Shetland, Orkney, and Hebrides Islands," by L. S. Shapiro, pp. 95-99; "Distribution of bottom fishes at Newfoundland and Labrador, and a possible forecasting of commercial concentrations," by B. E. Karasev and V. I. Sauskan, pp. 124-141; "Present state of the herring stock and the herring fishery in the North Sea," by G. P. Domashenko, pp. 142-149; "Composition of the stocks of ocean perch, cod, and haddock in the Newfoundland and Labrador regions," by A. S. Noskov and V. A. Rikhter, pp. 150-162; "Productivity of Atlanto-Scandian herrings," by A. S. Noskov, pp. 163-167; "Possibility of forecasting the time of spawning immigration to the Norwegian coast of Atlanto-Scandian herring," by K. M. Rudnev and T. A. Bernikova, pp. 168-170; "Forecast of long-term variations of relative abundance of cod, sprat, and herring in the southern Baltic for the years 1961-80," by A. E. Antonov, pp. 171-175; "Determination of the stock of commercial fish by using data from fishery and the stock," by I. G. Fridlyand and A. T. Erokhin, pp. 176-178; "Method of determining age and growth of Baltic cod," by G. I. Tokareva, pp. 179-191; "New fishing areas at northwestern Africa," by K. G. Kukhlorenko, pp. 205-208; "Method of estimating the fish-holding ability of stationary seine traps," by Yu. S. Sergeev, pp. 221-240; "Selection of optimum speed during bottom trawling or herring from large (BMRT) trawlers," by G. E. Bidenko, pp. 249-260; "Determining the influence of wind and currents on trawling," by G. E. Bidenko, pp. 261-265; "Calculating the depth of the net's edge for an occasional lowering of the net mass," by N. N. Andreev, pp. 283-291; "Calculating the suction depth of the fish pump by deep lowering of the suction hose," by M. M. Rozenshtein, pp. 292-302; "Freezing of sprat on fishing vessels," by L. S. Baidalina, pp. 319-320; "Opti-

mum thermal regime by cold smoking of herring," by V. N. Podsevalov and L. S. Baidalina, pp. 321-337; "Basis for sterilizing preserved fish in the light of Boll's theory," by S. A. Artyukhova, pp. 338-343; "Increasing the accuracy of the individual operation in the technological processing of sprat from frozen raw material," by M. S. Bidenko, pp. 344-357; and "A comparison of the efficiency in the use of BMRT trawlers from Murmansk and Kaliningrad in the Newfoundland area in 1960," by A. I. Kirillova, pp. 358-364.

Trudy Kaliningradskogo Tekhnicheskogo Institut Rybnoi Promyshlennosti i Khoziaistvo, no. 14, 1962, 170 pp., printed in Russian. Four Continent Book Corp., 156 Fifth Ave., New York, N. Y. 10010. Some of the articles are: "Study of the process of purse seining by the method of mechanical imitation," by N. N. Andreev; "Stability of the central wire of the leading wing of a stationary seine," and "Catching ability of a bottom seine," by V. A. Ionas; "Theoretical investigation of the use of a tuna fishing line," by L. I. Metelkin; "Storm resistance (stability) of stationary seines," by V. M. Pankov; "Catching ability of stationary salmon seines," and "Study of the efficiency of stationary salmon seines on the western coast of Kamchatka," by E. D. Karakotskii; "Use of the circulation-breaking theory of a rectangular wing of small length for determining the hydrodynamical characteristics of a trawl door," by A. L. Fonarev; "Preliminary results of the study of the resistance of a net," by E. Iu. Obolenskii; "Stocks, forecasts and real catches of fish in the Azov Sea," by N. T. Senin; and "Some problems in the experimental study of the catching ability of trawls," by V. P. Kondrat'ev.

_____, vol. 18, 1964. Some of the articles are: "Conditions for comparing fishing gear," by S. L. Fridman, pp. 181-199; "The shape of the opening of the bottom trawls," by V. P. Kondrat'ev, pp. 200-202; "Use of fish intestines for producing feed products rich in B vitamins," by P. I. Andrushenko, pp. 271-274; and "Rapid method for determining fat content in herring on board vessels," by I. N. Simonova and L. K. Davydova, pp. 275-279.

Trudy Vsesoiuznyi Nauchno-Issledovatel'skii Institut Morskogo Rybnogo Khoziaistva i Okeanografii, vol. 49, 1964, 260 pp., printed in Russian. Four Continent Book Corp., 156 Fifth Ave., New York, N. Y. 10010. Some of the articles are: "Biology and fishery of the Kamchatka crab *Paralithodes camtschatica* (Tilesius) in the southeastern part of the Bering Sea," by N. G. Korolev; "Quantitative distribution of the bottom fauna in the Gulf of Alaska," by V. V. Shevtsov; "Some results of the study of the biology and distribution of shrimps in the Pribilof area of the Bering Sea," by B. G. Ivanov; "Feeding habits of ocean perch in the Bering Sea," by V. A. Skalkin; "Basic characteristics of the biology of the Pacific halibut (*Hippoglossus hippoglossus stenolepis* Schmidt) in the Bering Sea," by N. P. Novikov; "Materials on the biology of rock sole (*Lepidopsetta bilineata*)," by D. A. Shubnikov and L. A. Lisovenko; "Materials on the biology of some flounder species in the eastern part of the Bering Sea," by T. A. Mineava; "Herring in the eastern part of the Bering Sea," by Iu. I. Dudnik and E. A. Usol'tsev; "Intraspecific variation of the Pacific ocean perch (*Sebastes alutus* Gilbert)," by V. V. Barsukov; and "Chemical characteristics of

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

the yellowtail flounder, codfish and Alaska pollock in the southeastern part of the Bering Sea," by M. N. Krivobok and O. I. Tarkovskaia.

_____, vol. 50, 1964. Some of the articles are: "Methods of estimating relative abundance of populations of commercial stocks, and rate of exploitation by the fishery," by T. F. Dement'eva, pp. 7-38; "Method for studying the biological features in fish populations and their variations," by K. A. Zemskaya, pp. 39-44; "Problems associated with estimating a rational fishing intensity," by V. A. Abakumov, pp. 179-191; "Main stages in the development of the sturgeon fisheries in the Caspian water basin," by Z. S. Korobochkin, pp. 59-86; "Comparative characteristics of fishery and biology of Azov Sea sturgeons," by N. L. Chugunov and N. I. Chugunova, pp. 87-182; "Fishery and biology of the Caspian beluga (*Huso huso* Linne), by N. Ya. Babushkin, pp. 183-258; "Present state and forecasting of fluctuations in the stocks of *Acipenser stellatus* in the Caspian Sea by regulated river flow," by M. P. Borzenko, pp. 259-286; "Acipenseridae in the northwestern Black Sea," by A. I. Ambroz, pp. 287-347; and "Biology, breeding (artificial reproduction), and fishery for Acipenseridae; bibliography," by G. A. Potapova, pp. 348-409.

Articles from *Voprosy Ikhtiologii*, vol. 4, no. 1, 1964, printed in Russian. *Akademiia Nauk SSSR, Ikhtiologicheskaya Komissiya, Moscow, U.S.S.R.*:

"O kormovoi baze dlya pelagicheskikh promyslovykh ryb oz. Baikal" (The food supply of pelagic commercial fishes in Lake Baikal), by M. M. Kozhov, pp. 125-135.

_____, vol. 4, no. 2, 1964. "Sturgeons from the Samur River," by Yu. S. Saidov, N. A. Azizova, and N. A. Okolot, pp. 243-248; "Influence of water temperature on the fish supply available to Barents Sea trawling," by K. G. Konstantinov, pp. 255-269; and "Comparative characteristics of the river growth of salmon (*Salmo salar*) naturally spawned and artificially hatched," by L. A. Petrenko, pp. 342-347.

_____, vol. 4, no. 3, 1964. "Fish behavior and fishing technique," by D. V. Radakov and A. I. Treshchev, pp. 401-410; and "On the biology of the polar cod, *Boreogadus saida* (Lepechin)," by B. K. Moskalenko, pp. 433-442.

VENEZUELA:

Principal Manufacturing Industries in Venezuela, OBR 65-45, 32 pp., printed, July 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) A few paragraphs deal with fish and shellfish canning, and frozen shrimp.

"La zona marina de la isla Margarita" (The marine area of Margarita Island), by Ramon Margale, article, *Iberica*, vol. 43, no. 37-38, July-Aug. 1965, pp. 270-273, illus., printed in Spanish, single copy 30 ptas. (about US\$0.50). Iberica, Palau, 3, Apartado 759, Barcelona-2, Spain.

WEATHER CHARTS:

The following processed weather charts, 4 pp. each, are published by the Weather Bureau, U. S. Depart-

ment of Commerce, Washington, D. C. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, 10 cents each. Charts show stations displaying small craft, gale, whole gale, and hurricane (coastal charts only) warnings; explanations of warning displays; and schedules of AM and FM radio, TV, and radiophone stations that broadcast weather forecasts and warnings.

Coastal Warning Facilities Chart, Manasquan, N. J., to Cape Hatteras, N. C., and Chesapeake Bay, 1965, C 30.22/3:M 31/965.

Coastal Warning Facilities Chart, Montauk Point, N. Y. to Manasquan, N. J., 1965, C 30.22/3:M 76/965.

Small Craft, Gale and Whole Gale Warning Facilities Chart, Great Lakes: Huron, Erie, and Ontario, 1965

WEST AFRICA:

"La peche en Afrique occidentale en 1964" (The West African fishery in 1964), article, *La Pêche Maritime*, vol. 44, no. 1048, July 1965, pp. 564-567, illus., printed in French, single copy 14 F. (about US\$2.85). Les Editions Maritimes, 190, Blvd. Haussmann, Paris, France.

WESTERN EUROPE AND CANADA:

Market Profiles: Western Europe and Canada, OBR 65-34, 20 pp., printed, June 1965, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

WHALING:

International Commission on Whaling--Fifteenth Report of the Commission (Covering the Fifteenth Fiscal Year 1st June 1963 to 31st May 1964), 72 pp., illus., printed, 1965. International Commission on Whaling, Whitehall Place, London SW1, England. This report covers the Fifteenth Meeting of the Commission, held in London, July 1-5, 1963, and the meeting of the Scientific Committee at Sandefjord, June 15-19, 1964. Information is given on catch limitation and quotas for member countries; the 1963/64 catch by Antarctic pelagic expeditions, land stations, and factoryships; Antarctic pelagic whaling season for the various species; report of the Scientific Committee on the state of the Antarctic whale stocks; and recommended regulation of blue, fin, sei, and sperm whales. Also covered are blue and humpback whale stocks in the North Atlantic; North Pacific stocks; continuation of whale marking programs; scientific investigation of the whale stocks by a special committee; international observer program; Commission finances; permits to take whales for scientific purposes; and committee meetings. Among the appendixes are the agenda for the Fifteenth Meeting; note on the effects of various catch quotas; infractions reported during the 1963/64 season (Antarctic) and the 1963 season (outside the Antarctic); statistical data on the whale oil production, 1953/54-1963/64; and map of the world showing Antarctic areas and the regions closed to factoryships for taking and treating baleen whales.

"Of whales and whaling," by Noel Simon, article, *Science*, vol. 149, no. 3687, Aug. 27, 1965, pp. 943-946, printed, single copy US\$0.35. American Association

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM.

for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington, D. C. 20005. Reviews the history of whaling, efforts at catch restrictions by the International Whaling Commission, decline of the Antarctic whaling stocks, and recommendations for restoring the stocks. The author emphasizes that: "Rational utilization of this resource is perfectly legitimate, but exploitation to the point of extermination is as inexcusable as it is shortsighted. Quite apart from ethical considerations, total destruction of whale stocks does not make very good economic sense. . . . Adoption by the commission of the recommendations of its own scientific advisers . . . would provide a blueprint both for ensuring the continuance of whale stocks and for securing the whaling industry's own means of existence."

The world catch 1964," article, *Norsk Hvalfangst-Tidende* (The Norwegian Whaling Gazette), vol. 54, no. 7, July 1965, pp. 151-162, illus., printed in Norwegian and English. Hvalfangerforeningen, Sandefjord, Norway.

YEARBOOK:
Consumers All--The Yearbook of Agriculture 1965, 510 pp., illus., printed, Sept. 1965, \$2.75. U. S. Department of Agriculture, Washington, D. C. (For

sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) The 1965 edition of the Yearbook of Agriculture is devoted to furthering the art of being a thoughtful and discerning consumer. Chapters are grouped according to subject--houses, furnishings, equipment, finances, safeguards, plants, outdoors, recreational activities, clothing, and food. Although no chapters on fishery products are included, the general subject of food is given major attention--including diets for weight-watchers, savings in buying food, and suggestions for preparing meat, vegetables, dairy products, bread, beverages, and other products. Fish is mentioned incidentally when discussing calorie value, cooking, diet needs, and refrigeration.

CORRECTION

In the October 1965 issue, page 119, *Fish as Food*. Vol. III--Processing: Part 1, the address of the publisher was omitted. The publisher is Academic Press Inc., 111 Fifth Ave., New York, N. Y. 10003.



THIS CHRISTMAS TREE IS SHRIMPPLY DELICIOUS

In answer to many requests, the United States Department of the Interior's Bureau of Commercial Fisheries has once again released instructions for its Shrimp Christmas Tree for the most exciting holiday table in the neighborhood.

From a commanding position on a buffet table or as a colorful centerpiece for a well-appointed holiday dinner, this unusual tree is certain to capture compliments. Leafy green endive duplicates crisp holly while ever-popular shrimp add shape and color interest to this creative conversation piece.

This intriguing tree is elegant but deceptively simple. The materials are readily available at most local variety stores and supermarkets.

SHRIMP CHRISTMAS TREE

- 3 pounds shrimp, fresh or frozen
- 2 quarts water
- 1/2 cup salt
- 4 large bunches curly endive

- 1 styrofoam cone, 2 1/2 feet high
- 1 styrofoam square, 12 x 12 x 1 inch
- 1 small box round toothpicks
- Cocktail Sauce

Thaw frozen shrimp. Place shrimp in boiling salted water. Cover and simmer about 5 minutes or until shrimp are pink and tender. Drain. Peel shrimp, leaving the last section of the shell on. Remove sand veins and wash. Chill. Separate and wash endive. Chill.

Place cone in the center of the styrofoam square and draw a circle around the base of the cone. Cut out circle and insert cone. Cover base and cone with overlapping leaves of endive. Fasten endive to styrofoam with toothpick halves. Start at the outside edge of the base and work up. Cover fully with greens to resemble Christmas tree. Attach shrimp to tree with toothpicks. Provide Cocktail Sauce for dunking. Serves 12.

FISHERY EXPERTS NEEDED FOR TECHNICAL
ASSISTANCE IN MANY COUNTRIES

There are many technical assistance projects in nearly all of the developing countries of the world for which FAO is responsible. The following is a list of vacancies as of October 1, 1965, for which FAO is recruiting. Write (on a confidential basis if desired) to: Roy I. Jackson, Director, Fisheries Division, Food and Agriculture Organization of the United Nations, Viale delle terme di Caracalla, Rome, Italy.

The following list shows the country in which the vacancy exists, the types of fishery experts needed (in parentheses the duration of the assignment in months for the fiscal year 1965/66, with a possibility for extension):

Aden: Marine Biologist (24), Masterfisherman (32).

Argentina: Marine Biologist (60), Oceanographer (42), 2 Trawl & Purse Seine Technologists (60 & 36), Acoustics Technologist (24), Economist (54).

Brazil: Shrimp Biologist (12), Fishery Training Expert (24).

Central America: 2 Marine Biologists (48 & 33), Economist (48), Masterfisherman (47), 2 Fishing Gear & Methods Experts (47 & 48), 2 Fish Processing Technologists (30).

Ceylon: Masterfisherman (15), Fishing Gear Technologist (15).

Congo (Brazzaville): Marine Resources Survey Project Manager (36).

Cuba: Fishing Gear Technologist (9).

East Pakistan: Marine Biologist (60), Fish Processing Technologist (36), Marketing Economist (48), Statistician (36), Marine Engineering Technologist (12).

Ghana: Demersal Biologist (45), Gear Technologist (48), Masterfisherman (48), Fishery Training Expert (12).

India: Fish Processing Technologist (6), Reservoir Fishing Technologist (9), Fishing Harbor Survey Project Manager (36).

Iran: Inland Fisheries Biologist (6).

Jamaica: Masterfisherman (15).

Lake Kainji: Economic Development Project Manager (60).

Lake Kariba: Gear Technologist (42).

Lake Nasser: Economic Development Project Manager (60).

Lake Victoria: Statistician (24), Masterfisherman (36), Cost Economist (24).

Malaysia: Fishery Development Adviser (12).

Mexico: Fishery Development Adviser (12), Marketing Economist (12), Masterfisherman (18).

Nigeria: Masterfisherman (15), Marine Biologist (35).

Peru: Marine Resources Survey Project Manager (48).

Philippines: Fish Processing Technologist (24), 2 Marketing Economists (48), Naval Architect Technologist (30).

Senegal: Fishing Gear Technologist (9).

Sierra Leone: Marine Resources Survey Project Manager (60).

RAINBOW TROUT FINGERLINGS PLANTED IN WESTERN LAKE BY AIRPLANE

The rainbow trout population of Lake Powell in Arizona and Utah was increased by 4 million fish in May 1965 from hatcheries of the Bureau of Sport Fisheries and Wildlife, U. S. Department of the Interior. The rainbow trout fingerlings were air-dropped 200,000 at a time in one of the largest aerial stockings of fish ever undertaken.



Fig. 1 - Airplane planting of young fish in Lake Powell.



Fig. 2 - Another view of airplane dropping fingerlings in Lake Powell.

The fish drops began the morning of May 11, immediately north of Glen Canyon Dam and continued progressively upstream during a five-day period to provide wide dispersion of the trout. The fingerlings were dropped, along with water, from an altitude of 300 feet, with 4 drops made on each flight. They were supplied by National Fish Hatcheries of Interior's Bu-

reau of Sport Fisheries and Wildlife. The hatcheries are at Willow Beach, Alchesay, and Williams Creek, Ariz., and at Saratoga, Wyo.

Similar aerial fish stockings in 1963 and 1964 planted 7.6 million trout and 3 million black bass in the lake with only minor losses from impact on the lake surface.

Glen Canyon Dam, on the Colorado River at the Arizona-Utah border, was constructed by Interior's Bureau of Reclamation. The dam is 710 feet high and has a 1,550-foot-long crest. Its reservoir, Lake Powell, eventually will extend 186 miles upstream and will have a surface of 162,700 acres, with a shoreline that will extend almost 1,900 miles.

When the new stocking program is completed, a total of nearly 15 million fish from Federal fish hatcheries will have been planted in Lake Powell. That lake already ranks as one of the best fishing spots in the West.

FISHERY MARKET NEWS OFFICES

Boston, Massachusetts 02210	J. J. O'Brien, 10 Commonwealth Pier, TWX 617-451-3455	Liberty 2-6070
New York, New York 10013	T. J. Risoli, 346 Broadway, Rm. 1003 TWX 212-571-1718	264-8332
Baltimore, Maryland 21202	J. A. Coyne, 103 S. Gay Street TWX 301-955-0150	Plaza 2-8460 Ext. 2697
Hampton, Virginia 23369	W. N. Kelly, Post Office Box 447 TWX 703-722-2967	Park 3-3360
New Orleans, Louisiana 70130	E. J. Barry, Rm. 608, Federal Bldg. 600 South Street.	527-6151
San Pedro, California 90731	V. J. Samson, Rm. 208, Post Office Bldg. TWX 213-548-0920	831-9281 Ext. 271
Seattle, Washington 98104	C. M. Reardon, 706 Federal Office Bldg. 909 First Avenue, TWX 206-998-0211	Main 2-0740
Chicago, Illinois 60607	P. DiMarco, Rm. 704, U. S. Customs House, 610 Canal Street TWX 312-431-1488	828-5772

A PHOTOMONTAGE OF MANY OF THE REPORTS CURRENTLY RELEASED BY THE BRANCH OF MARKET NEWS, BUREAU OF COMMERCIAL FISHERIES

