

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. 20240. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

- CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES.
MNL - REPRINTS OF REPORTS ON FOREIGN FISHERIES.
SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.
SL - STATISTICAL LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.

- | Number | Title |
|---|---|
| CFS-3228 | - Massachusetts Landings, by Ports, 1962 Annual Summary, 12 pp. |
| CFS-3236 | - Florida Landings, 1962 Annual Summary, 13 pp. |
| CFS-3240 | - Frozen Fishery Products, June 1963, 8 pp. |
| CFS-3243 | - Wisconsin Landings, May 1963, 2 pp. |
| CFS-3246 | - Louisiana Landings, May 1963, 2 pp. |
| CFS-3247 | - Shrimp Landings, 1962 Annual Summary, 43 pp. |
| CFS-3248 | - New York Landings, May 1963, 4 pp. |
| CFS-3249 | - Maryland Landings, May 1963, 3 pp. |
| CFS-3250 | - Fish Sticks and Fish Portions, April-June 1963, 2 pp. |
| CFS-3251 | - New Jersey Landings, June 1963, 4 pp. |
| CFS-3252 | - Maine Landings, May 1963, 4 pp. |
| CFS-3253 | - Mississippi Landings, May 1963, 3 pp. |
| CFS-3254 | - California Landings, May 1963, 4 pp. |
| CFS-3255 | - Rhode Island Landings, May 1963, 3 pp. |
| CFS-3265 | - Fish Meal and Oil, June 1963, 2 pp. |
| CFS-3266 | - Florida Landings, June 1963, 8 pp. |
| <u>Wholesale Dealers in Fishery Products, 1962 (Revised):</u> | |
| SL- 3 | - Massachusetts, 12 pp. |
| SL-46 | - Texas (Mississippi River and Tributaries), 2 pp. |
| Sep. No. 685 | - New Whiting Products Tested at University of Massachusetts Annual School-Lunch Conference. |
| Sep. No. 686 | - Length-Weight Relationship and Stomach Contents of the Swellfish (<i>Spheroides maculatus</i>) in the York River. |
| Sep. No. 687 | - Equipment Note No. 14--A Light Box for Photographing Fish and Invertebrates at Sea. |
| Sep. No. 688 | - Foreign Fisheries Briefs. |

"Effect of Cooking Methods on the Sodium Content of Halibut, Haddock, and Flounder," by Bernard I. Sohn and Maynard A. Steinberg, 7 pp., illus. (Reprinted from *Fishery Industrial Research*, vol. 2, no. 1, September 1962, pp. 7-13.)

"Mechanically Deicing and Weighing Groundfish at the Dock in New England," by John A. Peters, Joseph W. Slavin, and Arvey H. Linda, 8 pp., illus. (Reprinted from *Fishery Industrial Research*, vol. 2, no. 1, September 1962, pp. 23-30.)

"Methods for Separation of Fatty Acids from Fish Oils with Emphasis on Industrial Applications," by Edward H. Gruger, Jr., 10 pp., illus. (Reprinted from *Fishery Industrial Research*, vol. 2, no. 1, September 1962, pp. 31-40.)

"New-Type Multiple Debreader," by Melvin E. Waters and D. J. Bond, 9 pp., illus. (Reprinted from *Fishery Industrial Research*, vol. 2 no. 1, September 1962, pp. 49-57.)

Pesticide-Wildlife Studies: A Review of Fish and Wildlife Service Investigations During 1961 and 1962, Circular 167, 127 pp., processed. Presents sections on commercial fisheries investigations; sport fishery investigations; wildlife studies, Denver Wildlife Research Center; wildlife studies, Patuxent Wildlife Research Center; pesticide-wildlife studies by state, provincial, or university personnel, and by the Co-operative Wildlife Research Units; and recommendations for minimizing dangers of pest control and pesticides to fish and wildlife.

Progress in Sport Fishery Research, 1962, Circular 160, 124 pp., illus., processed, March 1963. This report of sport fishery research for the calendar year 1962 covers the progress made in studies of fish diseases and nutrition of fish, fish-farming experiments, fish-pesticide research, and reservoir investigations. Also includes a list of publications and special reports issued during the year.

"Proximate Composition Changes in Sockeye Salmon (*ONCORHYNCHUS NERKA*) During Spawning Migration," by Claude E. Thurston and H. William Newman, 8 pp., illus. (Reprinted from *Fishery Industrial Research*, vol. 2, no. 1, September 1962, pp. 15-22.)

"Storage of Fish in Refrigerated Sea Water. 1--Quality Changes in Ocean Perch as Determined by Organo-

leptic and Chemical Analyses," by Edward H. Cohen and John A. Peters, 7 pp., illus. (Reprinted from Fishery Industrial Research, vol. 2, no. 1, September 1962, pp. 41-47.)

THE FOLLOWING MARKET NEWS LEAFLETS ARE AVAILABLE FROM THE FISHERY MARKET NEWS SERVICE, U. S. BUREAU OF COMMERCIAL FISHERIES, SUITE 611, WYATT BLDG., 777 14TH STREET NW., WASHINGTON, D. C. 20005.

Number	Title
MNL-8	Portugal's Fishing Industry, 1962, 22 pp.
MNL-11	Spain's Fishing Industry, 1962, 7 pp.
MNL-22	Fisheries: Republic of South Africa and Territory of South West Africa, 1962, 16 pp.
MNL-57	Fisheries in the Federal Republic of Germany--Annual Survey, 1962, 23 pp.
MNL-58	Republic of Korea's Fishing Industry, 1962, 8 pp.
MNL-81	Fisheries Industry of France, 1962, 14 pp.
MNL-82	Fisheries of Ecuador, 1961, 12 pp.

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

(Baltimore) Monthly Summary--Fishery Products, March 1963, 8 pp. (Market News Service, U. S. Fish and Wildlife Service, 103 S. Gay St., Baltimore 2, Md.) Receipts of fresh- and salt-water fish and shellfish at Baltimore by species and by states and provinces; total receipts by species and comparisons with previous periods; and wholesale prices for fresh fishery products on the Baltimore market; for the month indicated.

California Fishery Market News Monthly Summary, Part I - Fishery Products Production and Market Data, July 1963, 18 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) 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; for the month indicated.

California Fishery Market News Monthly Summary, Part II - Fishing Information, July 1963, 10 pp., illus. (U. S. Bureau of Commercial Fisheries, Biological Laboratory, P. O. Box 6121, Pt. Loma Station, San Diego 6, Calif.) Contains sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists, and thermocline effects on purse seining for tuna; for the month indicated.

Gulf of Mexico Monthly Landings, Production and Shipments of Fishery Products, June and July 1963, 8 pp. each. (Market News Service, U. S. Fish and Wildlife Service, Room 609, 600 South St., New Orleans 12, La.) 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; fishery imports at Port Isabel and Brownsville, Texas, from Mexico; sponge sales; and Gulf menhaden landings and production of meal, solubles, and oil; for the months indicated.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and

Maryland, May and June 1963, 4 pp. each. (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 months indicated.

New York City's Wholesale Fishery Trade--Monthly Summary--May and June 1963, 16 pp. each. (Market News Service, U. S. Fish and Wildlife Service, 155 John St., New York 38, N. Y.) Includes summaries and analyses of receipts and prices on wholesale Fulton Fish Market, including both the salt- and fresh-water sections; imports entered at New York customs district; primary wholesaler's selling prices for fresh, frozen, and selected canned fishery products; marketing trends; and landings at Fulton Fish Market docks and Stonington, Conn.; for the months indicated.

(Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, July 1963, 9 pp. (Market News Service, U. S. Fish and Wildlife Service, 706 Federal Office 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 as 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.

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.

ALGAE:

"A Comparison of Polysaccharides of *Hypnea musciformis* and *Chondrus crispus*," by R. D. Hamilton and J. J. Carroll, Contribution No. 423, 3 pp., printed (Reprinted from *Nature*, vol. 196 no. 4860, December 22, 1962, pp. 1200-1201.) The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

"Evaluation of Algae as a Food for Human Diets," article, *Nutrition Reviews*, vol. 21, January 1963, pp. 7-8, printed. The Nutrition Foundation Inc., 99 Park Ave., New York 16, N. Y.

ALGIN:

"Algin--Multi-Use Colloid," by F. X. McDermott, article, *Food Engineering*, vol. 34, May 1962, pp. 66-73, printed. Chilton Co., Chestnut and 56th Sts., Philadelphia 36, Pa.

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

ALMANAC:

The Nautical Almanac for the Year 1964, 29P, 311 pp., printed, \$2. U.S. Naval Observatory, Washington, D. C., 1962. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.) Provides data required for the practice of astronomical navigation at sea.

AMPHIBIANS:

Amphibians, by A. M. Nikol'skii, OTS 60-21813, 230 pp., illus., processed, \$2.25. (Translated from the Russian, *Fauna Rossii i Sopredel'nykh Stran*, 1918.) Office of Technical Service, U.S. Department of Commerce, Washington, D. C. 20230, 1962.

ANGOLA:

Preparing Shipments to Angola, OBR-63-85, 8 pp., printed, 15 cents. Bureau of International Commerce, U.S. Department of Commerce, Washington, D.C., April 1963. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington D. C. 20402.) The report discusses shipping documents; import and exchange licenses; sanitary and other special certificates; labeling, marking, and packing; and related subjects.

ARCTIC MARINE FISH:

Selected Taxonomic Papers on Northern Marine Fishes, by A. P. Andriyashev, OTS 61-31030, 59 pp., illus., processed, 50 cents. (Translated from Russian.) Office of Technical Services, U.S. Department of Commerce, Washington, D. C. 20230, 1963.

ARGENTINA:

Basic Data on the Economy of Argentina, by Walter Haidar, OBR-63-84, 24 pp., illus., printed, 15 cents. Bureau of International Commerce, U.S. Department of Commerce, Washington, D. C., March 1963. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington D. C. 20402.) Discusses, among other items, the fishing industry. Describes the rich fishing zones of Argentina and gives some statistical data on the total catch of salt and fresh-water fish and shellfish.

Import Tariff System of Argentina, OBR-63-49, 4 pp., printed, 15 cents. Bureau of International Commerce, U.S. Department of Commerce, Washington, D. C., March 1963. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.) Presents information on units of currency, weights, and measures; method of payment of duty; sales, excise, and other taxes; shipping documents; trade restrictions; and related subjects.

AUSTRALIA:

Southern Pelagic Project Two-Monthly Report, No. 13, March 1963, 9 pp., processed. Southern Pelagic Project Laboratory, Camberwell, Victoria, Australia.

BACTERIOLOGY:

"Coliform Bacteria in Sea Water and Shellfish. I--Lactose Fermentation at 35.5° and 44° C.," by A. D. Tennant and J. E. Reid, article, *Canadian Journal of Microbiology*, vol. 7, 1961, pp. 725-731, printed. National Research Council, Ottawa, Canada.

BONITO:

"Zakonomernosti Raspredeleniya Pelamidy v Chernom More" (Mechanisms Governing the Distribution of Bonito in the Black Sea), by T. G. Lyubimova, article, *Rybnoe Khoziaistvo*, vol. 8, 1961, pp. 10-13, printed in Russian. V. Krasnosel'skaia 17, B-140, Moscow, U.S.S.R.

BRITISH GUIANA:

The Trawl Survey Carried Out by the R/V CAPE ST. MARY off British Guiana, 1957-59, by W. G. Mitchell and R. H. McConnell, Bulletin No. 2, 53 pp., illus., printed. Fisheries Division, Georgetown, British Guiana.

CALIFORNIA:

The California Marine Fish Catch for 1961, Fish Bulletin No. 121, 54 pp., illus., printed. Department of Fish and Game, Printing Division, Documents Section, Sacramento 14, California, 1963. A summary of the 1961 landings of fish, mollusks, and crustaceans in California by commercial fishing vessels or shipped into the State for processing. Statistical data cover annual landings and shipments, 1916-1961; landings and shipments of leading species by weight and value; number of fishing vessels by length; origin of shipments; origin of commercial fish landings; and monthly landings and shipments, statewide and by areas. Also included are data on value and quantity of annual landings by areas; value of landings by ports and areas; sport fish catch, 1936-1940 and 1947-1961; and live bait catch. Also includes an article, "Catch Localities for Dover Sole, *Microstomus pacificus* (Lockington), Landed in California, 1950 through 1959," by E. A. Best.

Statistical Report of Fresh, Canned, Cured and Manufactured Fishery Products for 1962, Circular No. 37 15 pp., printed. California Department of Fish and Game, Printing Division, Documents Section, No. Seventh St. at Richards Blvd., Sacramento 14, Calif. This report, the latest in a series of annual reports on commercial fishery production in California, includes statistical tables on landings by species and areas, imports of tuna, and pack of canned fish. Data also cover volume of other types of processed fish, sardine meal and oil production, and the annual pack of sardines, anchovies, tuna, and bonito and yellow-tail.

CANADA:

Fisheries Statistics of British Columbia, 1962 (Preliminary), 13 pp., processed. Canadian Department of Fisheries, Pacific Area, Economics Branch, 1155 Robson St., Vancouver 5, B. C., Canada, April 1963. Discusses the total value of fish and fish products produced in 1962 with an analysis of the increase in market value over the previous year; marketing by species, landed and market value, 1950-62, canned pack, and production and utilization of salmon; landings and value of herring and byproducts, halibut, soles, crab and shrimp, and other species; fishing vessels; gear and equipment; and number of licensed fishermen. Includes statistical tables on landings and values by species and by years; landings and manufactured products; salmon pack, 1962; and other similar data.

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

CANARY ISLANDS:

"La pesca en las Islas Canarias" (Fisheries of the Canary Islands), article, Boletín de Información del Sindicato Nacional de la Pesca, no. 52, January 1963, pp. 12-15, printed in Spanish. Sindicato Nacional de la Pesca, 18-20 Paseo del Prado, Madrid, Spain.

CHOLESTEROL:

"Cholesterolemia and Cardiovascular Sudanophilia in Rats Fed Sardine Mixtures," by S. A. Miller, H. A. Dymysza, and S. A. Goldblith, article, Journal of Nutrition, vol. 77, August 1962, pp. 397-402, printed. American Institute of Nutrition, 36th St. at Spruce, Philadelphia 4, Pa.

CLAMS:

"Clam Poison. III--Paper Electrophoresis of Clam Poison," by R. A. B. Bannard and A. A. Casselman, article, Canadian Journal of Chemistry, vol. 40, August 1962, pp. 1649-1655, printed. National Research Council, Ottawa, Canada.

COALFISH:

"On The Growth and Food of O-Group Coalfish, Pollachius virens L., in Norwegian Waters," by Ulf Lie (Institute of Marine Research, Bergen, Norway), article, Biological Abstracts, vol. 39, no. 6, Part 1, 1962, Abstract No. 21815, printed. University of Pennsylvania, 3815 Walnut St., Philadelphia 4, Pa.

COD:

"The Bacteriology of Distant Water Cod Landed at Hull," by R. Spencer, article, Journal of Applied Bacteriology, vol. 24, no. 1, 1961, pp. 4-11, printed. Wallace and Tierman Ltd., Power Rd., London W4, England.

COD LIVERS:

"Sterilization of Cod Livers Aboard and the Production of Cod Liver Preserves," by K. A. Mrochov, article, Trudy Tekhnologiya Rybnykh Productov, vol. 60, 1959, pp. 38-45, printed in Russian. Four Continent Book Corp., 156 5th Ave., New York 10, N. Y.

COMPOSITION:

"L-Threonine Ethanolamine Phosphate: A Compound Newly Isolated from Fish," by H. Rosenberg and others, article, Biochemical Journal, vol. 84, September 1962, pp. 536-541, printed. Cambridge University Press, Bentley House, 200 Euston Rd., London NW1, England.

CONTAINERS:

"American Marine Refrigerated Cargo Containers," by L. L. Westling, article, Bulletin of the International Institute of Refrigeration, vol. XLIII, no. 1, 1963, pp. 26-35, illus., printed. Institut International du Froid, 177, Boulevard, Malesherbes, Paris 17e, France.

"Plastics for the Packaging of Foodstuffs with a View to International Coordination," by L. Robinson-Gornhardt, article, Kunststoffe, vol. 52, no. 2, 1962, pp. 67-71, printed. Carl Hanser, Zeitschriftenverlag, GmbH, Kolbergerstr, 22, Munich 27, Germany.

CRABS:

"Claw Deformities in the Blue Crab," by Carl N. Shuster, Jr., David H. B. Ulmer, Jr., and Willard A. Van Engel, article, Estuarine Bulletin, vol. 7,

nos. 2 & 3, June 1963, pp. 15-23, illus., printed. University of Delaware, Department of Biological Sciences, Newark, Del. Covers the external structure of crab claws, normal regeneration of appendages, and types of claw deformities.

"Size Relations of Two Instars of the Blue Crab, Callinectes sapidus," by Albert V. Tyler and David G. Cargo, Contribution No. 227, article, Chesapeake Science, vol. 4, no. 1, March 1963, pp. 52-54, illus., printed, single copy 75 cents. Natural Resources Institute, University of Maryland, Chesapeake Biological Laboratory, Solomons, Md.

CRUSTACEA:

The East American Species of Gnathophyllum (Decapoda, Caridea), with the Description of a New Species, by Raymond B. Manning, Contribution No. 384, 17 pp., illus., printed. (Reprinted from Crustaceana vol. 5, part 1, pp. 47-63. Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Miami, Fla.

CUTTLEFISH:

"The Proteolytic Enzyme in the Liver of a Cuttlefish I--Partial Purification and Some Enzymic Properties," by Sakari Nara (Hokkaido Gakugei University Hakodate, Japan), article, Chemical Abstracts, vol. 55, October 2, 1961, 202395, printed. The American Chemical Society, 1155 16th St. NW., Washington, D. C.

DANISH SEINING:

"Danish Seining Pays off in Nova Scotia," by Frank Miller, article, Canadian Fishermen, vol. 50, January 1963, pp. 15, 17, printed. National Business Publications Ltd., Gardenvale, Que., Canada.

DECOMPOSITION:

"Chemical Indexes of Decomposition in Haddock Stored in Natural Ice and in Chlortetracycline (CTC) Ice," by Fred Hillig and others, article, Journal of the Association of Official Agricultural Chemists, vol. 45, November 1962, pp. 951-978, printed. Association of Official Agricultural Chemists, P. O. Box 540, Benjamin Franklin Station, Washington 4, D. C.

"Chemical Indexes of Decomposition in Perch Stored in Natural Ice and in Chlortetracycline (CTC) Ice," by Fred Hillig and others, article, Journal of the Association of Official Agricultural Chemists, vol. 45, November 1962, pp. 922-951, printed. Association of Official Agricultural Chemists, P. O. Box 540, Benjamin Franklin Station, Washington 4, D. C.

"Inhibition and Promotion of Post-Mortem Lipid Hydrolysis in the Flesh of Fish," by J. A. Lovern and June Olley, article, Journal of Food Science, vol. 2, November-December 1962, pp. 551-559, printed. Institute of Food Technologists, 510-522 North Hickory Street, Champaign, Ill.

"Post-Mortem Change of Fish Myosins. I--Some Physicochemical Changes with Special Reference to Species and Lethal Conditions of Fish," by Taneko Suzu and Masao Migita, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, January 1962, pp. 61-72, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-Ku, Tokyo, Japan

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

"Summary of Chemical Data on Progressive Decomposition Studies of Cod, Haddock, and Perch," by Fred Hillig, L. R. Shelton Jr., and J. H. Loughrey, article, Journal of the Association of Official Agricultural Chemists, vol. 45, August 1962, pp. 724-731, printed. Association of Official Agricultural Chemists, P. O. Box 540, Benjamin Franklin Station, Washington 4, D. C.

EAST AFRICA:

Preparing Shipments to East Africa, OBR-63-13, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., January 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) A report giving information on preparation of shipments to Kenya, Tanganyika, Uganda, and Zanzibar (formerly comprising British East Africa). Covers the preparation of shipping documents; information on labeling, marking, and packing; customs procedures; and related subjects.

ENZYMES:

"Enzymatic Studies on the Muscle of Aquatic Animals. IV--Limiting Step in Aerobic Fructose 1 Glycolysis and the Formation of a Glycerophosphate in Fish and Mollusk Muscle," by Takeshi Shibata and Katsuji Yoshimura, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, May 1962, pp. 514-518, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-Ku, Tokyo, Japan.

FATTY ACIDS:

"The Free Fatty Acids of Cod Oil. 1--Anomalous Composition by Fatty Acid Chain Length," by R. G. Ackman, R. D. Burgher, and M. L. Hughes, article, Journal of the Fisheries Research Board of Canada, vol. 19, November 1962, pp. 1081-1084, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

FISH CULTURE:

"Phosphates Boost Yield in Malayan Fish Ponds," article, New Scientist, vol. 16, November 1, 1962, p. 246, printed. Harrison, Raison and Co. Ltd., Cromwell House, Fulwood Pl., High Holborn, London WC1, England.

FISHERY STOCKS:

"K Metodike Issledovaniya Rannikh Stadii Promyslovykh Ryb" (A Method for Studying the Early Stages of Commercially Valuable Fishes), by A. S. Baranenkova, article, Biological Abstracts, vol. 40, no. 1, 1962, Abstract No. 390, printed. University of Pennsylvania, 3815 Walnut St., Philadelphia 4, Pa.

FISH MEAL:

"Devons-Nous Prevoir la Fabrication de Farine de Poisson a Bord de Nos Futurs Chalutiers?" (Must We Anticipate the Manufacture of Fish Meal Aboard Our Future Trawlers?), by R. Lenier, article, France Peche, no. 71, March 1963, pp. 15-17, printed in French. France Peche, Boite Postale 179, Lorient, France.

"Supplemental Value of Fish Meal Protein in Relation to Other Sources of Protein in the Test Diet," by H. N. Waterhouse and H. M. Scott, article, Poultry Sci-

ence, vol. 41, November 1962, pp. 1936-1939, printed. Poultry Science Association, Ohio State University, Columbus 10, Ohio.

FISH METABOLISM:

"The Tricarboxylic Acid Cycle in Fish," by M. Gumbmann and A. L. Tappel, article, Archives of Biochemistry and Biophysics, vol. 98, August 1962, pp. 262-270, printed. Academic Press Inc., 111 5th Ave., New York 3, N. Y.

FISH POPULATIONS:

"O Prichinakh Flyuktuatsii Chislennosti Ryb.," (The Cause of Fluctuations in the Size of Fish Populations), by G. V. Nikol'skii, article, Voprosy Ikhtiologii, vol. 1, no. 4, 1961, pp. 659-665, printed in Russian. Akademia Nauk, SSSR., Ikhtiologicheskaya Komissiya, Moscow, U.S.S.R.

FISH PROTEIN CONCENTRATE:

"An Improved Method for the Preparation of Fish Protein Concentrate from Cod," by H. E. Power, article, Journal of the Fisheries Research Board of Canada, vol. 19, November 1962, pp. 1039-1045, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

"Performance of Rats Fed Fish Flour (Fish Protein Concentrate) or Casein as the Sole Source of Dietary Protein through Four Generations," by Harold E. Schendel and B. Connor Johnson, article, Journal of Nutrition, vol. 78, December 1962, pp. 457-460, printed. American Institute of Nutrition, 36th St. at Spruce, Philadelphia 4, Pa.

FISH SCHOOLS:

"Vliyaniye Vnutrennikh Prilivnykh Volna na Sutochnye Vertikal'nye Migratsii Morskikh Promyslovykh Ryb" (The Effect of Internal Tidal Waves on The Daily Vertical Migration of Commercial Fish), by V. R. Fuks, article, Biological Abstracts, vol. 39, no. 6, part 1, 1962, Abstract No. 21803, printed. University of Pennsylvania, 3815 Walnut St., Philadelphia 4, Pa.

FLORIDA:

(Florida State Board of Conservation, Division of Salt Water Fisheries) Fifteenth Biennial Report, 1961-1962, 17 pp., illus., printed. Division of Salt Water Fisheries, Florida State Board of Conservation, Tallahassee, Fla. Discusses fisheries problems arising from the population increase in Florida during 1961-1962 and measures used by the Division of Salt Water Fisheries to solve these problems. Outlines work done to improve the perennial problem of declining demand and consumption of mullet; reorganization of enforcement group; organization of the Florida Boating Safety Council; developments in the oyster industry; and changes in the shrimp industry. Summarizes research work conducted on spiny lobsters, canning of mullet (lisa), offshore fish parasites of shrimp, vitamin B12 in sea water (presumed precursor of red tide pollutions), ecology of Florida Bay and shrimp biology. Includes statements of expenditures, reports of arrests and disposition, records of permits issued, and other related data.

Summary of Florida Commercial Marine Landings, 1962, by Albert Rosen and Richard K. Robinson, 63-2, 19 pp., printed. The Marine Laboratory, Institute of

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

Marine Science, University of Miami, 1 Rickenbacker Causeway, Virginia Key, Miami 49, Fla., April 1963. First of two parts. Contains tables of landings and values of fish and shellfish landed in Florida. Data are presented for each county in the State and summarized for the East Coast, West Coast and combined totals.

A Survey of Offshore Fishing in Florida, by Martin A. Moe, Jr., Professional Papers Series Number Four (also Florida State Board of Conservation, Marine Laboratory Contribution No. 72), 117 pp., illus., printed. Florida State Board of Conservation, Marine Laboratory, Maritime Base, Bayboro Harbor, St. Petersburg, Fla., January 1963. The purpose of this survey was to obtain data on the major offshore fishing activity in Florida waters. These data included: information on the offshore boat population; identification and determination of the seasonality and extent of development of the offshore fisheries of each coastal county; determination of the degree of exploitation of the major commercially valuable offshore fishes by sport and commercial fishing vessels throughout the State; and reports of various local conditions that affect the offshore fishing of each coastal county. This survey provides extensive background information that will be very useful in future research on the offshore reef fishes.

FOOD AND AGRICULTURE ORGANIZATION:

FAO Catalogue of Fisheries Publications and Documents, Supplement May 1962-February 1963 (Provisional edition), 8 pp., processed in English, French, and Spanish. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1963.

Fisheries, by Klaus Sunnana, (Commission Paper WFC/63/CP/IC/2a, World Food Congress, Washington, D. C., June 4-18, 1963), 4 pp., processed. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy. A paper, presented before the World Food Congress, which discusses a number of world-wide fishery economics problems. The fisheries may be of very great help in order to improve the food situation if the fisheries problems of all kinds are handled in the right way as a global problem in the future, states the author. The matter of conservation of marine resources in both the North Atlantic and North Pacific is of great concern to countries which fish in these areas. There is need for marine research and exploratory fishing in those areas as well as in tropical and Southern Hemisphere waters. The development of the fisheries in many newly-emerging countries should be based on fostering fish trades in the local markets as well as in foreign commerce. Introduction of cold storage and refrigerated transport facilities and the use of mechanized vessels and modern gear are also of great importance.

Increasing Food Production through Education, Research, and Extension, Freedom from Hunger Campaign Basic Study No. 9, 86 pp., illus., printed, \$1. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1963. (For sale in United States by Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.)

Marketing--Its Role in Increasing Productivity, Freedom from Hunger Campaign Basic Study No. 4, 127 pp., illus., printed, \$1.50. Food and Agriculture Organization, Viale delle Terme di Caracalla, Rome, Italy, 1962. (For sale in United States by Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.)

Nutrition and Working Efficiency, Freedom from Hunger Campaign Basic Study No. 5, 56 pp., illus., printed, 50 cents. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1962. (For sale in United States by Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.)

Third World Food Survey, Freedom from Hunger Campaign Basic Study No. 11, 111 pp., printed, \$1.50. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1963. (For sale in United States by Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.) Presents a comprehensive picture of the present and past world food situation. Based on food balance sheet data for over 80 countries covering 95 percent of the world's population. Also draws upon the food consumption and dietary surveys conducted in various parts of the world and introduces new statistical techniques in the study of food supplies and needs. Covers developments in the world food situation; levels, patterns, and trends of food consumption; and hunger and malnutrition. Also discusses nutritional targets, food supply targets, the size of future food needs, and the possibilities of producing the required food.

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 not been published on a sales basis, but have been processed only for limited distribution to governments, libraries, and universities. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy.

Rapport Definitif au Gouvernement d'Haiti sur les Pêches Maritimes en Haïti (Report to the Government of Haiti on the Marine Fisheries), by M. H. Routh, FAO Report No. 1290, 83 pp., illus., processed in French, 1961. A detailed report covering the economic and sociological importance of the fishery; present organization of the fishing industry; growth during the three previous years; Government aid to the fisheries; and recommendations for future development.

(Tunisia) La Préparation de Produits a Base de Sardinelle (Tunisia--the Preparation of Products from the Sardinella), by M. R. Vesterhus, FAO Report 133 processed in French, 1961.

(Nicaragua) El Desarrollo de un Proyecto de Pesquerias Continentales en Dicho País (Nicaragua--the Development of an Inland Fishery Project in this Country), by S. Y. Lin, FAO Report No. 1347, processed in Spanish.

Experimental Fish Culture Project in Uganda, by A. C. Wurtz, FAO Report No. 1387, processed, 1961.

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

(India) Survey of the Fishery Resources of the Bay of Bengal, by V. M. Naumov, FAO Report No. 1393, processed, 1961.

Development of Marine Fisheries Research in Southern Brazil, by I. D. Richardson, FAO Report 1402, processed, 1961.

Les Essais de Chalutage au Large des Cotes Tunisiennes (Experimental Large Trawler Fishing on the Tunisian Coast), by F. Bourgois and L. Farina, FAO Report No. 1410, processed in French, 1961.

Los Recursos Camaroneros Panamenos (The Panamanian Shrimp Resources), by L. K. Boerema, FAO Report No. 1423, processed in Spanish, 1961.

(Yugoslavia) L'Ostreiculture et la Mytiliculture (Deuxieme Mission) (Oyster Culture and Mussel Culture - Second Mission), by P. E. Lubet, FAO Report No. 1425, processed in French, 1961.

(Peru) Produccion y Comercio de la Harina de Pescado (Peru--Fish Flour Production and Trade), by P. Petersen, FAO Report No. 1440, processed in Spanish, 1962.

Second Report on Fish Marketing in Ghana, by J. L. Dibbs, FAO Report No. 1446, processed, 1962.

Experimental and Exploratory Fishing in the Bay of Bengal, by N. I. Borisov, FAO Report No. 1466, FIt/EPTA/1, processed, 1962.

Report to the Government of Puerto Rico on the Resource Appraisal Project for the Possible Expansion of Local Fisheries, by Erling O. Oswald, FAO Report No. 1482, FIt/EPTA 2, 25 pp., illus., processed, 1962. This report is the outcome of a ten-week project in Puerto Rico to appraise commercial possibilities of pelagic fishing in the northwestern zone of Puerto Rico and of demersal fishing north of Culebra Island and the Virgin Islands.

Sudanese Shell Industry and Red Sea Fisheries, by W. Reed, FAO Report No. 1489, FIt/EPTA/3, processed, 1962.

Improvement of Fish Utilization in India, by S. A. Beatty, FAO Report No. 1508, FIt/EPTA/8, processed, 1962.

First Report to the Government of Ceylon on Fishing Boat Engineering, by E. R. Kvaran, FAO Report No. 1518 FIt/EPTA/7, 48 pp., illus., 1962.

La Construction Navale pour les Peches (Vessel Construction for the Fisheries), by P. Gurtner, FAO Report No. 1522, FIt/EPTA 9, processed, 1962.

Rapport au Gouvernement de Republique de Niger sur la Situation et Evolution de la Peche (Report to the Government of the Republic of Niger on the Position and Development of the Fishery), by J. M. A. Daget, FAO Report No. 1525 FIt/EPTA/13, 53 pp., 1962.

Report to the Government of Ceylon on a Project of Inland Fisheries Development in Ceylon 1955-1959, by S. W. Ling, FAO Report No. 1527 FIt/EPTA/12, 43 pp., 1962.

Informe al Gobierno de la Republica de Chile sobre Requisitos Necesarios para el Desarrollo de la Industria Pesquera (Report to the Government of Chile on Necessary Requirements for the Development of the Fishery Industry), by C. J. Molteno, FAO Report No. 1530 FIt/EPTA/14, 51 pp., illus., 1962.

Informe al Gobierno de la Republica de Ecuador sobre la Biologia del Camaron (Report to the Government of the Republic of Ecuador on the Biology of the Shrimp), by R. W. Ellis, FAO Report No. 1537 FIt/EPTA/11, 45 pp., illus., 1962.

Second Report to the Government of India on Fishing Harbors, by B. W. Johnson, FAO Report No. 1538 FIt/EPTA/16, 99 pp., illus., 1962.

Informe al Gobierno de la Republica de Chile sobre la Reconstruccion de la Flota Pesquera despues del Terremoto de 1960 (Report to the Government of Chile on the Reconstruction of the Fishing Fleet After the Earthquake of 1960), by Erik Estlander and U. F. Costaguta, FAO Report No. 1548 FIt/EPTA/18, 6 pp., 1962.

Rapport au Gouvernement de la Republique de Togo sur les Ports de Peche (Report to the Government of Togo on the Fishery Ports), by C. Ragnar Bjuke, FAO Report No. 1569, FIt/EPTA/21, 10 pp., 1962.

Report to the Government of India on Experimental Trawling in the Bay of Bengal, by M. P. Poliakov, FAO Report No. 1573 FIt/EPTA/23, 31 pp., illus., 1962.

Report to the Government of Ghana on Possibilities of Fish Culture in Lagoons, by T. V. R. Pillay, FAO Report No. 1581 FIt/EPTA/24, 5 pp., 1962.

Rapport au Gouvernement de la Republique de Senegal sur les Ports de Peche (Report to the Government of Senegal on the Fishing Ports), by C. Ragnar Bjuke, FAO Report No. 1600 FIt/EPTA/25, 10 pp., 1962.

Rapport au Gouvernement de la Republique de Mauritanie sur Enquete Generale sur la Peche Pratquee sur les Cotes de la Mauritanie (Report to the Government of Mauritania on a General Investigation of the Traditional Fishery on the Coasts of Mauritania), by G. R. Valran, FAO Report No. 1605 FIt/EPTA/26, 1963.

FOOD INDUSTRIES:

Food Industries Manual (19th Edition), 1077 pp., illus., printed, 84 s. (about US\$11.80). Leonard Hill Ltd. Publishers, The Tower, Brook Green Rd., Hammer-smith, London W6, England, 1962. A technical and commercial compendium on the manufacture, preserving, packing, and storage of all food products. Alphabetically arranged to facilitate use, it gives data, tables, descriptions, recipes, and illustrations useful to the food industry. Contains, among others, a section on fish processing.

FOREIGN TRADE:

Implementing the Trade Expansion Act, Department of State Publication No. 7554, 16 pp., printed, 10 cents. Office of Media Services, Bureau of Public Affairs, U. S. Department of State, Washington, D. C., June 1963. (For sale by the Superintendent of Docu-

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

ments, U. S. Government Printing Office, Washington, D. C. 20402.) Includes excerpts from an address, "Readjusting United States Foreign Trade," by Leonard Weiss; excerpts from an address, "To the Detriment of None," by Christian A. Herter; and "Summary of the Trade Expansion Act of 1962."

FREEZE-DRYING:

"Army Hopes to Boost Soldier Combat Morale with Freeze-Dried Meals behind Lines," article, Quick Frozen Foods, vol. 25, November 1962, pp. 101-102, printed. E. W. Williams Publications Inc., 82 Wall St., New York 5, N. Y.

"Vacuum Freeze-Dried Foods are Off to Promising Start in the Market Place," by John F. Maguire, article, National Provisioner, vol. 147, October 6, 1962, pp. 141-144, printed. National Provisioner Inc. 15 W. Huron St., Chicago 10, Ill.

FREEZING:

"Entirely New Quick-Freezing Machine," article, Frosted Food Field, July 1962, pp. 16-17, illus., printed. Frosted Food Field, 321 Broadway, New York 7, N. Y.

"The Freezing Processes," by Donald K. Tressler, article, Quick Frozen Foods, vol. XXV, no. 11, June 1963, pp. 34-37, 144, illus., printed. Quick Frozen Foods, 1776 Broadway, New York 19, N. Y. The various methods of freezing and their limitations are outlined in popular language, enabling the processor to select the type best suited to his needs. This basic guide serves as a valuable reference to salesmen in speaking intelligently about advantages of freezing and the nature of the process employed at his plant.

FROZEN FISH:

"Modified Equipment for Measuring Changes in Frozen Fish by Love's Cell Fragility Method," by Leonard M. Coris and others, article, Nature, vol. 196, October 13, 1962, pp. 144-145, printed. St. Martin's Press Inc., 175 Fifth Ave., New York 10, N. Y.

"Protein Denaturation in Frozen Fish. VII--Effect of the Onset and Resolution of Rigor Mortis on Denaturation," by R. M. Love, article, Journal of the Science of Food and Agriculture, vol. 13, October 1962, pp. 534-545, printed. The Society of Chemical Industry, 14 Belgrave Sq., London SW1, England.

GADIFORMES:

Gadiformes, by A. N. Svetovidov, OTS 63-11071, 313 pp., illus., processed, \$3. (Translated from the Russian, Fauna SSSR, vol. IX, no. 4, 1948.) Office of Technical Services, U. S. Department of Commerce, Washington D. C. 20230., 1962. Cods and closely related forms.

GERMANY:

"The Elbe as a Fishing Water," by M. L. Albrecht, article, Water Pollution Abstracts, vol. 35, no. 10, 1962, Abstract No. 2057, printed. H. M. Stationery Office, Atlantic House, Holborn Viaduct, London EC4, England.

HALIBUT:

Regulation and Investigation of the Pacific Halibut Fishery in 1961, Report of the International Pacific

Halibut Commission No. 32, 22 pp., illus., printed. International Pacific Halibut Commission, University of Washington, Fisheries Hall #2, Seattle 5, Wash., 1962. A brief report of the accomplishments of the Commission during 1961 covering its historical background, activities during the year, 1961 regulations, statistics of the fishery, and length of fishing seasons. Also covers composition of the catches, growth studies, tagging experiments, studies of halibut below commercial size, and trawl survey of demersal species off the southern coast of central and western Alaska.

HAWAII:

Freshwater Fishing in Hawaii, 20 pp., illus., processed. Division of Fish and Game, Department of Land and Natural Resources, 400 S. Beretania St., Honolulu 13, Hawaii.

HERRING:

"An Army in the Sea," by Bernard L. Gordon, 10 pp., illus., printed. (Reprinted from Sea Frontiers, vol. 9, no. 3, July 1963, pp. 136-145.) International Oceanographic Foundation, University of Miami, The Marine Laboratory, 1 Rickenbacker Causeway, Miami 49, Fla.

HONG KONG:

Preparing Shipments to Hong Kong, by Emily Elizabeth Lloyd, OBR-63-55, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., March 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Covers the preparation of shipping documents; information on labeling, marking, and packing; customs procedures; and related subjects.

INDIA:

Pisciculture, 64 pp., illus., printed in Rastra Bhasha Hindlo, Institute of Fisheries (Inland), Jaipur, Rajasthan, India, 1955.

INTERNATIONAL COMMISSIONS:

(International Pacific Salmon Fisheries Commission) Annual Report, 1962, 46 pp., illus., printed. International Pacific Salmon Fisheries Commission, P. O. Box 1120, New Westminster, B. C., Canada, 1963. Discusses economic benefits derived from research and measures for rehabilitation of salmon stocks; commission meetings held during 1962; 1962 regulations and emergency amendments governing salmon fisheries in the United States and Canada; fishery, escapement, and rehabilitation of sockeye salmon; status of the fishery, research, and rehabilitation of pink salmon; and watershed protection. Includes statistical data on sockeye salmon catch by gear; cyclic landings and packs of sockeye from convention waters; daily catches of sockeye and pinks from United States and Canadian convention waters; Indian catches of sockeye; and escapement of sockeye and pinks to the Fraser River spawning areas.

IRRADIATION:

"USAEC Program on Radiation Preservation of Certain Fish and Fruits" and "Progress of Food Irradiation Work and Programmes in O.E.C.D. Member Countries," article, Food Irradiation, vol. 3, no. 3, January-March 1963, pp. A2-A4, A5-A15, processed. Interdepartmental Committee on Radiation Preserva-

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

tion of Food, U. S. Department of Commerce, Washington, D. C. 20230.

JAPAN:

Japanese Journal of Ichthyology, vol. IX, nos. 1-6, October 31, 1962, 172 pp., illus., printed in Japanese and English. Nippon Gyogaku Shinkokai, Tsukiji 5-chome, 1-banchi, Kyobashi, Tokyo, Japan. Includes, among others, articles on: "Studies Relevant to Mechanism Underlying the Fluctuation in the Catch of the Japanese Sardine, *Sardinops melanosticta* (Temminck and Schlegel)," by Z. Nakai; "Fishes of Egypt (U. A. R.)," by Y. Suyehiro; and "Seasonal Change in the Gonads of the Land-Locked Salmonoid Fish, Ko-Ayu, *Plecoglossus altivelis* Temminck and Schlegel," by Y. Honma and E. Tamura.

KUWAIT:

Establishing a Business in Kuwait, OBR-63-91, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., April 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Discusses the Government's policy on investment, business organizations, laws and regulations affecting employment, and other matters affecting the establishment and operation of business enterprises by non-Kuwait nationals.

LIBYA:

Licensing and Exchange Controls of Libya, OBR-63-88, 4 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., April 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Discusses the import and export controls of Libya, and United States import and export controls.

LIVER OIL:

"Variation of Biological Potency (Maleic Value) by the Difference of Extraction Methods of Fish Liver Oil," by Masamichi Toyomizu, Eijiro Saigusa, and Yukio Tomiyasu, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, March 1962, pp. 335-339, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-Ku, Tokyo, Japan.

LOBSTERS:

A Report to the Fishing Industry Regarding Lobster Disease (Gaffkaemia), by James E. Stewart and Joan F. MacDonald, New Series Circular No. 9, 2 pp., printed. Fisheries Research Board of Canada, Technological Station, Halifax, N. S., Canada, August 8, 1962.

MARINE BIOLOGY:

Advances in Marine Biology, Volume I, edited by F. S. Russell, 420 pp., printed, 84 s. (\$11.76 in U. S.). Academic Press, 111 Fifth Ave., New York, N. Y., April 1963. This is a new annual serial publication to help biologists keep abreast of knowledge in the different lines of research on the biology of marine organisms. Each annual volume is planned to contain comprehensive review articles summarizing the general position of our knowledge in individual fields. Attention will be given to recent advances in fisheries biology, the results of the research on

which are often published in periodicals which may not normally be available in the libraries of university biology departments. These investigations are, however, of very general interest since they usually concentrate on the biology and ecology of a few individual species in greater detail than for other marine organisms. When possible, shorter review articles may also be included giving new developments and points in marine biology. General articles on the biology of marine organisms will include information on the environment insofar as it is necessary for an understanding of their habits.

Although of value to biologists in general, this book will be even more valuable to those with a general interest in marine biology. It is becoming more difficult to obtain a general picture of the over-all advances being made in our knowledge of the many aspects of life in the sea. Expansion of marine research in recent years and increased specialization have resulted in a mass of published results scattered through many periodicals and publications. Thus the summary articles planned for this annual serial book should help all those interested in the sea to keep abreast of current research.

The first article of this book is concerned with the rearing of bivalve mollusks. Included in the discussion are equipment needed, conditioning for out-of-season spawning, cultivation of eggs and larvae, and rearing of different species. The other articles included are: "The Breeding of the North Atlantic Freshwater Eels;" "Some Aspects of Photoreception and Vision in Fishes;" "The Biology of Coral Reefs;" and "The Behaviour and Physiology of Herring and other Clupeids." The book also contains an author and subject index.

MARINE FUNGI:

"Degradation of Lignocellulose Material by Marine Fungi," by Samuel P. Meyers and Ernest S. Reynolds, Contribution No. 369, 14 pp., illus., printed. (Reprinted from Symposium on Marine Microbiology, pp. 315-328. The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

"Role of Marine Fungi in the Biochemistry of the Oceans. I--Establishment of Quantitative Technique for Cultivation, Growth Measurement and Production of Inocula," by Peter L. Sgueros, Samuel P. Meyers, and Jacqueline Simms, Contribution No. 422, 15 pp., illus., printed. (Reprinted from Mycologia, vol. LIV, no. 5, September-October 1962, pp. 521-535.) Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

MARINE MAMMALS:

Mammals of Eastern Europe and Northern Asia, Carnivora, Fissipedia, vol. II, OTS 60-21819, 612 pp.; Mammals of U.S.S.R. and Adjacent Countries, Carnivora, Fissipedia and Pinnipedia, vol. III, OTS 60-820, 664 pp., by S. I. Ognev, illus., processed, \$6.25 and \$6.75 respectively. (Translated from the Russian, Zveri Vostochnoi Evropy i Severnoi Azii, vol. II, 1931; Zveri SSSR i Prilezhshchikh Stran, vol. III, 1935.) Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20230, 1962. Included are such marine mammals as seals, sea otters, sea lions, and walruses.

MARLIN:

"Postlarvae of the Blue Marlin, *Makaira nigricans* from Off Jamaica," by David K. Caldwell (Los Angeles

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

County Museum, Los Angeles, Calif.), article, Biological Abstracts, vol. 39, no. 6, part 1, 1962, Abstract No. 25500, printed, University of Pennsylvania, 3815 Walnut St., Philadelphia 4, Pa.

"The Sport Fishery for Blue Marlin off Puerto Rico," by Donald S. Erdman, 3 pp., printed. (Reprinted from Transactions of the American Fisheries Society, vol. 91, no. 2, April 1962, pp. 225-227.) Division of Fisheries and Wildlife, Federal Aid Projects, Department of Agriculture, Commonwealth of Puerto Rico, San Juan, Puerto Rico.

MEETINGS AND PROCEEDINGS:

"Atlantic Fisheries Technologists Conference in Lunenburg," by Mike Gillis, article, Canadian Fisherman, vol. 50, January 1963, pp. 13-14, printed, National Business Publications Ltd., Gardenvale, Que., Canada.

MEXICO:

"Los Recursos Naturales de Mexico. III--Estado Actual de la Investigaciones de Hidrobiologia y Pesca" (Natural Resources of Mexico. III--Actual Status of Investigations in Hydrobiology and Fishing), by Jose Alvarez and others. (Instituto Mexicano de Recursos Naturales Renovables, Mexico, D. F.), article, Biological Abstracts, vol. 39, no. 6, part 1, 1962, Abstract No. 21340, printed, University of Pennsylvania, 3815 Walnut St., Philadelphia 4, Pa.

MOROCCO:

Preparing Shipments to Morocco, by Birney A. Stokes and A. Junod, OBR-63-45, 8 pp., printed, 15 cents. Bureau of International Commerce, U.S. Department of Commerce, Washington, D. C., February 1963. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402) Covers the preparation of shipping documents; information on labeling, marking, and packing; customs procedures; entry, transit, and warehousing; and related subjects.

NETS:

"The Distribution of Stress on a Fishing Net. III--A Study of Fishing Net with a Certain Bar Broken," by Yasushi Kondo, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 27, January 1961, pp. 17-21, printed, Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-Ku, Tokyo, Japan.

"The New Trends in Nets," article, Fishing Gazette, vol. 79, December 1962, pp. 14-15, 52, printed, Fishing Gazette Publishing Corp., 461 8th Ave., New York 1, N. Y.

NORWAY:

"Fresh from the Sea," by Tor Dahl, article, Norwegian Fishing and Maritime News, vol. 9, no. 3, 1962, pp. 10, 13, 21, printed, P. O. Box 740, Slottsgt. 3, Bergen, Norway.

OCEANOGRAPHY:

Deep-Sea Moorings--Design and Use with Unmanned Instrument Stations, by John D. Isaacs and others, 46 pp., illus., printed. (Reprinted from Bulletin of the Scripps Institution of Oceanography of the University of California, vol. 8, no. 3, March 14, 1963, pp. 271-312.) Scripps Institution of Oceanography

of the University of California, La Jolla, Calif. Describes methods that have been devised for mooring surface-instrument floats at fixed positions in the deep sea. The fundamental principles, the environmental factors, the design of equipment, and the overall systems, techniques, and procedures at sea are discussed. Although most of the experience described has been with taut-wire moorings, the principles and the methods are of general application. Sources of information on environmental conditions in the ocean are listed, and examples of calculations are given.

Employment Outlook for Oceanographers, by Howard V. Stambler, 4 pp., illus., processed. (Reprinted from Occupational Outlook Quarterly, vol. 7, no. 2, May 1963.) Bureau of Labor Statistics, U.S. Department of Labor, Washington, D. C. 20210. Discusses the nature of the work; organizations employing oceanographers; training, other qualifications, and advancement; outlook for future employment; and earnings and working conditions.

Journal of the Oceanographical Society of Japan, 20th Anniversary Volume, 741 pp., illus., printed in English, French, Japanese, and Russian, \$15. Oceanographical Society of Japan, c/o Japan Meteorological Agency, Otemachi, Chiyodaku, Tokyo, Japan, 1962. Includes, among many others, articles on: "Cyclic, Correlated Occurrence of World-Wide Anomalous Oceanographic Phenomena and Fisheries Conditions," by M. Uda; "On the Deviation from Knudsen's Formula of the Density of Sea Waters and Its Bearing on the Productivity of the Sea," by Y. Fukuo; "Organic Compounds in Sea Water," by T. Koyama; "Species Distribution in Marine Phytoplankton," by T. Braarud; "Distribution of Five Main Euphausiids in the Bering and the Northern Part of the North Pacific," by T. Nemoto; "On the Action Mechanism of the Osmotic Balance Regulated by the T-Cl Character in Water Masses upon the Movements of the Pelagic Fish School," by I. Sakamoto; "Tunas and Oceanic Conditions," by H. Yamanaka; "Some Considerations on Photosynthesis of Phytoplankton from the Point of View of Productivity Measurement," by Y. Saijo and S. Ichimura; and "Breeding of the 'Kuruma' Prawn (Penaeus japonicus Bate)," by M. Hudinaga and M. Miyamura.

Oceanographical Observation in the Pacific Ocean in 1960, C.S.I.R.O. Aust. Oceanogr. Cruise Rep. No. 3, H.M.A.S. Diamantina, 372 pp.; C.S.I.R.O. Aust. Oceanogr. Cruise Rep. No. 5, H.M.A.S. Gascoyne, 291 pp.; C.S.I.R.O. Aust. Oceanogr. Cruise Rep. No. 6, H.M.A.S. Gascoyne, 129 pp., illus., processed. Division of Fisheries and Oceanography, Commonwealth Scientific and Industrial Research Organization, Melbourne, Australia, 1963.

Oceanography, edited by Mary Sears, Publication No. 67, 665 pp., illus., printed, \$14.75 regular, \$12.50 to A.A.A.S. members. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington 5, D. C., 1961. Lectures presented at the International Oceanographic Congress, New York, N. Y., August 31-September 12, 1959.

"WHOI--'Explores the Ocean in Detail'," by Thomas H. Lineaweaver, Ill, article, Sea Frontiers, vol. 9, no. 2, May 1963, pp. 92-105, illus., printed. The In-

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

ternational Oceanographic Foundation, Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Virginia Key, Miami 49, Fla.

OHIO RIVER:

"Aquatic-Life Resources of the Ohio River," article, Water Pollution Abstracts, vol. 35, no. 9, 1962, Abstract No. 1731, printed, H. M. Stationery Office, Atlantic House, Holborn Viaduct, London EC4, England.

OYSTERS:

"Glazing Extends Storage Life of IQF Pacific Oyster Meats," by Richard W. Nelson, article, Frosted Food Field, vol. 36, no. 6, June 1963, pp. 42-44, printed, single copy \$1. The Olsen Publishing Company, 1445 N. 5th St., Milwaukee 12, Wis.

PESTICIDES:

"The Toxic Effect of Pentachlorophenolate, a Herbicide, on Fishery Organisms in Coastal Waters, I--The Effect on Certain Fishes and Shrimp," by Tetuo Tomiyama and Katsumi Kawabe; "II--The Effect of PCP on *Conchocelis*," by Tetuo Tomiyama, Kunio Kobayashi, and Katsumi Kawabe, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, March 1962, pp. 379-386, printed, Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-Ku, Tokyo, Japan.

PHILIPPINES:

Preliminary Results of the Marine Fishery Biological Research Programme, Technical Bulletin No. 26, 14 pp., illus., printed, Agriculture Information Division, Department of Agriculture and Natural Resources, Manila, Philippines, 1959.

PHYSIOLOGY:

"Evidences for Fat Secretion in the Intestine of the Fish," by Nestor R. Bottino and R. R. Brenner, article, Journal of the American Oil Chemists' Society, vol. 39, December 1962, pp. 519-520, printed, American Oil Chemists' Society, 35 East Wacker Dr., Chicago 1, Ill.

POLLUTION:

"Fisheries Statistics in Evaluating Claims of Pollution," by R. Tollefson, article, Water Pollution Abstract, vol. 35, no. 5, 1962, Abstract No. 1003, printed, H. M. Stationery Office, Atlantic House, Holborn Viaduct, London EC4, England.

Pollution-Caused Fish Kills in 1962, Public Health Service Publication No. 847, 25 pp., printed, 20 cents. Basic Data Branch, Division of Water Supply and Pollution Control, Public Health Service, U. S. Department of Health, Education, and Welfare, Washington, D. C., 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

PRESERVATION:

"Fish Preservation Inquiries. II--Crayfish Handling Practices (2); _____ (3)," by A. R. Prater and W. A. Montgomery, articles, Fisheries Newsletter, vol. 21, November 1962, p. 25; vol. 21, December 1962, p. 21, respectively; printed, Commonwealth Fisheries Office, Department of Primary Industry, Canberra, Australia.

PROTEIN:

"Paper Electrophoresis of Structural Proteins of Fish Muscle," by M. Bistocchi, article, Chemical Abstracts, vol. 56, June 25, 1962, 15974g, printed, The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

"Specific Variations of the Linkage of Thyroxine with Proteins of the Plasma in Fish," by J. Leloup (French Museum, Paris, France), article, Chemical Abstracts, vol. 55, October 2, 1961, 20235f, printed, The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

PROTOZOA:

A Seasonal Ecological Study of Foraminifera from Timbalier Bay, Louisiana, by Robert P. Waldron, Gulf Research Reports, vol. 1, no. 4, February 1963, pp. 132-188, illus., printed, Gulf Coast Research Laboratory, Ocean Springs, Miss.

PURSE SEINING:

"Purse Seining with Lights from a Motorized Dory," by V. M. Kirillov, article, Rybnoe Khoziaistvo, vol. 37, no. 1, 1961, pp. 27-31, printed in Russian. VNIRO Glavniproekta pri Gosplanie SSSR, Moscow, U.S.S.R.

QUALITY:

"Eliminating the Human Element in Testing Fish," article, New Scientist, vol. 15, August 2, 1962, p. 238, printed, Harrison, Raison and Co. Ltd., Cromwell House, Fulwood Pl., High Holborn, London WC1, England.

"Quality of the Fish at the Port," article, Torry Research Station Annual Report, 1961, pp. 11-12, printed, Department of Scientific and Industrial Research, Edinburgh, Scotland, 1962.

RADIATION:

"Radiation Pasteurization with Cobalt 60 of Fresh Shrimp Prior to Freezing," by Arthur F. Novak, Joseph A. Liuzzo, and Lyle St. Amant, article, Quick Frozen Foods, vol. XXV, no. 11, June 1963, pp. 40-41, 140-142, 144, illus., printed, Quick Frozen Foods, 1776 Broadway, New York 19, N. Y. Describes the methods employed and results obtained in experiments conducted on the radiation pasteurization of shrimp. Fewer black spots, better taste and color resulted after three months' storage when shrimp were irradiated before freezing. According to the authors, "Low-dose radiation, pasteurization, does not produce a sterile product, but is capable of destroying approximately 90 percent of the microorganisms present in shrimp. The important factor is that few chemical changes occur, and the unaltered product is organoleptically acceptable after low dose radiation treatment." The authors point out that, "It must be emphasized that the procedures employed for obtaining fresh shrimp, the method of handling and storing, and the time of holding prior to irradiation are factors involved in ascertaining the keeping qualities after irradiation. Quality of shrimp is not improved by radiation pasteurization, and it should be understood that only products of high initial quality are likely to be preserved successfully."

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

RADIOACTIVE ISOTOPES:

Special Sources of Information on Isotopes, TID-4563 (3rd Rev.), 99 pp., illus., processed, U. S. Atomic Energy Commission, Division of Isotopes Development, Washington 25, D. C., April 1962. Contains, among others, a list of reports on radiation preservation of foods.

RAYS:

"South by South-West -- A Migration of Cownose Rays," by Paul W. Hess and Lee W. Miller, article, Estuarine Bulletin, vol. 7, nos. 2 & 3, June 1963, pp. 3-5, illus., printed, University of Delaware, Department of Biological Sciences, Newark, Del. A brief description of the migratory habits of some of the elasmobranch fish that enter the Delaware Bay, especially the cownose ray. The cownose ray is essentially a semitropical species, but during the summer it is found in many areas along the eastern coast of the United States, northward to Cape Cod.

REFRIGERATED SEA WATER:

"Developments in Refrigerated Sea-Water Fish-Holding," by M. Lorant, article, World Refrigeration, vol. 13, no. 7, July 1962, pp. 21-22, illus., printed, World Refrigeration and Air Conditioning, 1 Crane Ct., Fleet St., London EC4, England.

SALMON:

The Exploitation, Scientific Investigation and Management of Salmon (Genus ONCORHYNCHUS) Stocks on the Pacific Coast of Canada in Relation to the Abstinence Provisions of the North Pacific Fisheries Convention, Bulletin No. 9, 112 pp., illus., printed, International North Pacific Fisheries Commission, 6640 NW. Marine Dr., Vancouver, B. C., Canada, 1962.

"Impaired Pigmentation in Chinook Salmon Fed Diets Deficient in Essential Fatty Acids," by Nicholas Nicholaidas, article, Journal of Nutrition, vol. 78, December 1962, pp. 431-437, printed, American Institute of Nutrition, 36th St. at Spruce, Philadelphia 4, Pa.

"Muscle Proteins of Pacific Salmon Oncorhynchus. III - The Separation of Muscle Proteins Soluble in Low Ionic Strength Salt Solutions by Starch Gel Electrophoresis," by H. Tsuyuki, E. Roberts and R. E. A. Gadd, article, Canadian Journal of Biochemistry and Physiology, vol. 40, July 1962, pp. 929-936, printed, National Research Council, Ottawa, Canada.

Pink Salmon (ONCORHYNCHUS GORBUSCHA) in Northern Norway in the Year 1960 (Med et Norsk Resyme), by Magnús Berg, Scientia No. 17, 24 pp., illus., printed, Museum, Tromsø, Norway, 1961.

Red Salmon Spawning Ground Surveys in the Nushagak and Togiak Districts, Bristol Bay, 1960, by Wilbur Church, Informational Leaflet No. 29, 14 pp., illus., processed, Alaska Department of Fish and Game, Subport Bldg., Juneau, Alaska, June 18, 1963.

Red Salmon Spawning Ground Surveys in the Nushagak and Togiak Districts, Bristol Bay, Alaska, 1961, by Wilbur Church, Informational Leaflet No. 30, 23 pp., illus., processed, Alaska Department of Fish and Game, Subport Bldg., Juneau, Alaska, June 20, 1963.

Salute to the Sockeye, 24 pp., illus., printed, International Pacific Salmon Fisheries Commission, New Westminster, B. C., Canada, 1958.

"Testosterone, Conjugated and Free" in the Blood of Spawmed Fraser River Sockeye Salmon (Oncorhynchus nerka), by Dov Grajcer and D. R. Idler, article, Canadian Journal of Biochemistry and Physiology, vol. 39, October 1961, pp. 1585-1593, printed, National Research Council, Sussex Street, Ottawa, Canada.

"In Vivo Metabolism of Steroid Hormones by Sockeye Salmon. (A) Impaired Hormone Clearance in Mature and Spawmed Pacific Salmon (O. nerka); (B) Precursors of 11-Ketotestosterone," by D. R. Idler and B. Truscott, FRB No. 770, 13 pp., illus., printed, (Reprinted from Canadian Journal of Biochemistry and Physiology, vol. 41, 1963, pp. 875-887.) Canadian Journal of Biochemistry and Physiology, Division of Administration, The National Research Council, Sussex Street, Ottawa, Canada.

SCOTLAND:

Scottish Fisheries Bulletin, No. 19, June 1963, 27 pp., illus., printed, Department of Agriculture and Fisheries for Scotland, Edinburgh, Scotland. Includes, among others, the following articles: "Forecast for Scottish North Sea and West Coast Fisheries in 1963," by B. B. Parrish and A. Saville; "Measuring Seine Net Warp Tension," by W. Dickson and M. J. D. Mowat; "Decline in Scottish Turbot Landings," by Bennet B. Rae; "Fishing by 'Snella' (Hand-Reel)," by S. D. E. Devlin; "How to Distinguish Marketable from Non-Marketable Squid," by C. Davidson; "The Life History of Salmon," by K. A. Pyefinch; and "Pink-Fleshed Haddock," by B. B. Rae and R. Johnston.

SEA BASS:

"Status of the Cuban Serranid Fish, Paralabrax maculata," by C. Richard Robins and Walter A. Starck, II, Contribution No. 413, 1 p., printed. (Reprinted from Copeia, no. 4, December 31, 1962, p. 852.) The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

SEA FLOOR:

"Three Dimensions on the Sea Floor," by Edwin C. Buffington and Carl J. Shipek, article, Sea Frontiers, vol. 9, no. 2, May 1963, pp. 78-84, illus., printed, The International Oceanographic Foundation, Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Virginia Key, Miami 49, Fla.

SEALS:

"Isolation of Five Myoglobins From Seal," by Nevenka M. Rumen (Nobel Medical Institute, Stockholm, Sweden), article, Chemical Abstracts, vol. 56, April 2, 1962, 7669e, printed, The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

Seals of Arctic and Eastern Canada, by A. W. Mansfield, Bulletin No. 137, 36 pp., illus., printed, C\$1. Queen's Printer and Controller of Stationery, Ottawa, Canada, 1963. This bulletin is intended to provide a means of identifying the seals of arctic and eastern Canada, and a summary of the more important facts of their life histories. Most of the pinnipeds described have been actively exploited by man for many years. The harp and hooded seals, and the northern

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

fur seal, support multimillion dollar industries. Discusses additional names, characteristics, reproduction, feeding, and distribution of the harbour seal, grey seal, harp seal, hooded seal, ringed seal, bearded seal, walrus, and northern fur seal.

SEA TROUT:

"Irish Sea Trout," by Arthur E. J. Went, article, *Scientific Proceedings*, series B. vol. 1, no. 10, 1962, pp. 265-296, illus., printed. Royal Dublin Society, Dublin, Ireland.

SEA URCHINS:

"The Deoxyribonucleoproteins of Sea Urchin Sperm Extraction and Analyses," by Luigi Messineo, article, *Archives of Biochemistry and Biophysics*, vol. 96, March 1962, pp. 479-485, printed. Academic Press Inc., 111 5th Ave., New York 3, N. Y.

SENEGAL:

Licensing and Exchange Controls of the Republic of Senegal, by R. K. Sherwood and D. Taher, OBR-63-37, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., March 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Discusses Senegal's import licensing and administration of exchange controls, and United States import and export controls.

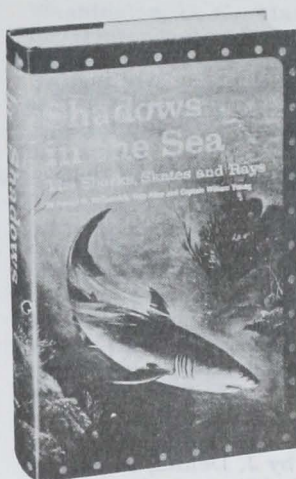
SERRANID FISH:

The Fishes of the Western Atlantic Serranoid Genus GRAMMA, by James E. Bohlke and John E. Randall, 20 pp., illus., printed. (Reprinted from *Proceedings of the Academy of Natural Sciences of Philadelphia*, vol. 115, no. 2, May 10, 1963, pp. 33-52.) Academy of Natural Sciences of Philadelphia, 19th St. and the Parkway, Philadelphia 3, Pa.

SHARKS:

"The Dogfish--Plentiful, Palatable Pest," by Bernard L. Gordon, 2 pp., illus., printed. (Reprinted from *Frontiers*, June 1963, pp. 152-153.) Academy of Natural Sciences of Philadelphia, 19th St. and the Parkway, Philadelphia 3, Pa.

Shadows in the Sea (The Sharks, Skates and Rays), by Harold W. McCormick and Tom Allen with Captain William E. Young, 428 pp., illus., printed, \$10. Chilton Books, 525 Locust St., Philadelphia 6, Pa., 1963. Man's fear of sharks and similar denizens of the sea goes back in time. In recent years, man's increased leisure time has resulted in the expansion of pleasure boating, aqualung diving, and increased marine research. But reports also have indicated an increase in frequency of shark attacks. However, this increase is believed to be based more on man's increased use of the sea rather than any increase in or a change in the habits of sharks. In turn, this has led to the asking of these questions: What sharks are dangerous? How dangerous? When, where, and under what conditions? How can man protect himself against them? These and many similar questions are answered by this new book. But covered in the book are more than just sharks--included are all of the Selachians (skates, sharks, sawfish--more than 600 known species). Shark meat is eaten by millions of people from England to Japan, but in general is not sought after by United States fisher-



men and rarely does it reach the American dinner table. Many species of sharks (and most skates and rays) are delicious if properly prepared and cooked. In addition to their use as food, almost every part of the shark's strange anatomy through the years has been used for some commercial, chemical, medical, or other purpose. Before the advent of synthetic vitamin A, the livers of certain sharks were the most important natural source of that vitamin. A chemical produced in the liver of the shark is being used by medical researchers in the study of cancer and heart disease.

The authors of the book have gathered material from all over the world and have included many little known facts about the sharks and their relatives. These animals are among the most adaptable and hardy forms of life on earth and have survived longer than most. Found all over the world from polar to equatorial seas, from shallow to deep waters, and from salt to fresh waters, their behavior toward man is unexplainable and still a mystery. In Part 1, the authors discuss shark against man. Part 2 concentrates on man against shark, and included is a chapter on attempted methods of preventing shark attacks, precautions advised, and official warnings. Part 3 is most fascinating--it discusses sharks and their relatives in mythology, legend, folklore, and crime; sharks as food for man; and commercial shark fishing and the products obtained from them. Part 4 concentrates on the origin of the sharks and their relatives, and includes chapters which describe many species with a list of the more common Selachians of North America. For those who would like to try shark meat as food, an appendix contains many recipes from shark chowder, shark patties, fried shark fillets, to shark a la newburg, fried skate, "the shark fin dish," shark fin soup, and others. Anyone interested in fishing, fisheries, the sea, and marine research will find the book invaluable, but it is also a book for the general reader because it is written in a readable style and is full of general information. Included is a good index and an adequate bibliography.

--Joseph Pileggi

SHELLFISH:

"The Prevention of Yellow Discoloration of Shellfish, Especially of Frozen Scallop Ligament," by Yasuhiko Tsuchiya and others (Tohoku University, Sendai, Japan), article, *Chemical Abstracts*, vol. 56, June 11, 1962, 14676f, printed. The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

SOUTH AFRICA REPUBLIC:

Licensing and Exchange Controls--Republic of South Africa, OBR-63-86, 12 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., March 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Contains information on the import and export control

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

systems of South Africa, and United States import and export controls.

SOUTH CAROLINA:

A Contribution to the Biology of the King Whittings, Genus MENTICIRRHUS, of South Carolina, by Charles M. Bearden, Contributions from Bears Bluff Laboratories No. 38, 25 pp., illus., printed. Bears Bluff Laboratories, Wadmaw Island, S. C., June 1963.

SPAIN:

"Estudio sobre la Flota Pesquera Espanola y el Personal Empleado en la Misma" (Study of the Spanish Fishery Fleet and the Personnel Employed in It), article, Boletin de Informacion del Sindicato Nacional de la Pesca, no. 54, March 1963, pp. 13-17, printed in Spanish. Sindicato Nacional de la Pesca, Paseo del Prado, 18-20, Madrid, Spain.

SPINY LOBSTER:

"The Freezing of Crustacea," by J. Deniel, article, Revue Generale du Froid, vol. 39, no. 1, January 1962, pp. 33-37, printed in French. Association Francaise du Froid, 29 Blvd. St. Germain, Paris 6^e, France.

SPOILAGE:

"Biochemical and Nutritional Studies on East Pakistan Fish. I--The Applicability of an Improved Iodine Absorption and Titratable Acidity Measurement to Investigate Fish Spoilage," by M. Qudrat-i-Khuda, H. N. De, and J. C. Debnath, article, Chemical Abstracts, vol. 55, June 12, 1961, 11696c, printed. The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

SQUID:

"Giant Squid," by H. J. Turner, article, Oceanus, vol. IX, no. 4, June 1963, pp. 22-24, illus., printed. Woods Hole Oceanographic Institution, Woods Hole, Mass.

ST. PIERRE AND MIQUELON:

"Saint-Pierre et Miquelon dans le Marche Francais des Produits Surgeles" (Saint Pierre and Miquelon in the French Market for Deep Frozen Products), by Henri Claireaux, article, France Peche, no. 71, March 1963, pp. 36-38, illus., printed in French. France Peche, Boite Postale 179, Lorient, France.

TAIWAN:

Study on the Fishes From Ma-Kung, Pescadores Islands (Penghu), Taiwan, by Wen-Kuang Liaw, Report No. 13, 26 pp., illus., printed in Chinese. Taiwan Fisheries Research Institute, Taipei, Taiwan, 1960.

TARIFFS:

Tariff Schedules of the United States, Annotated, 1963, TC Publication 103, 622 pp., printed, \$5 (includes supplementary material for an indefinite period). United States Tariff Commission, Washington, D. C., August 1, 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402. Tariff Schedules of the United States, Annotated, 1963, will become effective on August 31. The new Schedules will simplify the determination and application of U. S. import duties. They will thus benefit domestic producers, who will have more dependable knowledge of the rates of duty applying to the types of products they sell and the

materials they buy. The Schedules will also benefit importers and consumers. Entry into force of the new Schedules has been approved by the Contracting Parties to the General Agreement on Tariffs and Trade (GATT) and by the countries with which the United States still maintains bilateral trade agreements. Include duties on fish and shellfish, other fishery products and byproducts, and products used by and of interest to the fishing industry.

TRADE LISTS:

The U. S. Department of Commerce has published the following trade lists. Copies may be obtained by firms in the United States from the Commercial Intelligence Division, Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. 20230, or from Department of Commerce field offices at \$1 each.

Canneries and Frozen Foods--Producers and Exporters--Venezuela, 9 pp., April 1963. It lists the names and addresses, size of firms, and types of products (including shrimp, sardines, tuna, and fish paste) handled by each firm.

Oils (Animal, Fish, and Vegetable)--Importers, Dealers, Producers, Refiners, Exporters--Morocco, 4 pp., April 1963. Lists the names and addresses, size of firms, and types of products handled by each firm. Includes firms dealing in fish and whale oils.

TRANSPORTATION:

"Present Status of Refrigeration Trucking in Japan," by M. Izawa, article, Bulletin of the International Institute of Refrigeration, vol. XLIII, no. 1, 1963, pp. 36-47, printed. Institut International du Froid, 177, Boulevard Malesherbes, Paris (17^e), France.

TUNA:

"Considerations Pratiques sur le Verdissement du Thon Tropical" (Practical Observations on Occurrence of Green Meat of Tropical Tuna), by J. F. Aldrin, article, Revue de la Conserve, vol. 17, no. 7, September-October 1962, pp. 147-151, illus., printed in French. Revue de la Conserve, 1 Rue de la Reale, Paris 1, France.

F.R.V. "Derwent Hunter," Report 33, 63 pp., illus., processed. Commonwealth Scientific and Industrial Research Organization, Division of Fisheries and Oceanography, Marine Biological Laboratory, Cronulla, Sydney, Australia, 1963. Discusses 9 cruises by this fishery research vessel during 1959 and 1960. These cruises were planned for tuna exploration in a wide area of southeast Australian waters. The objective was to determine any association that might exist between the distribution of southern bluefin tuna (*Thunnus maccoyii*) and the type of water in which they were caught. For these investigations a tuna long-line was designed and assembled. The details of this gear are given in the first section of this report. A short summary follows of the length frequency data of the southern bluefin caught on these cruises, and the relation between tuna and water conditions. In the final section the hydrology and tuna long-lining results of four of the cruises are given.

"Keeping Flesh Color of Tuna and Yellowtail," by Michinori Yamaga, Kazuma Morioka, and Takeo Kawakami (Taiyo Fishery Co., Shimonoseki, Japan),

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

article, Chemical Abstracts, vol. 56, April 2, 1962, 7758d, printed. The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

"New England Tuna--A Bright New Industry?" article, Fishing Gazette, vol. 79, December 1962, pp. 12-13, printed. Fishing Gazette Publishing Corp., 461 8th Ave., New York 1, N. Y.

"Packing Tuna in the U. S.," by R. Finch, article, Fishing News International, vol. 1, no. 4, July 1962, illus., printed. Arthur J. Heighway Publications, Ltd., Ludgate House, 110 Fleet St., London EC4, England.

TUNISIA:

"Hornet--1962 Tuna Seiner Prototype in Steel," article, Pacific Fisherman, vol. 60, December 1962, pp. 13-15, 17, 19, printed. Miller Freeman Publications, 71 Columbia St., Seattle 4, Wash.

TUNISIA:

Preparing Shipments to Tunisia, by M. E. Jeneid, OBR-63-83, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., April 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Presents information on shipping documents; labeling, marking, and packing; entry, transit, and warehousing; customs procedures; and related subjects.

TURKEY:

Balik ve Balıkcılık, vol. XI, nos. 5-6, May-June 1963, 32 pp., illus., printed in Turkish with English table of contents. Et ve Balik Kurumu G. M., Balıkcılık, Mudurlugu, Besiktas, Istanbul, Turkey. Includes, among others, these articles: "The Place of the Fisheries in the Five Year Development Plan," "Spiny Lobster," and "Cautions Delaying the Oxidation and the Rancidity of Fish Oil. Antioxidizable Elements and Their Use."

URUGUAY:

Revista del Instituto de Investigaciones Pesqueras (Journal of the Institute of Fisheries Research), vol. 1, no. 2, 1962, 115 pp., illus., printed in Spanish with summaries in French and English. Instituto de Investigaciones Pesqueras, Facultad de Veterinaria, Alberto Lasplacas, 1550, Montevideo, Uruguay.

UTAH:

Fishes of Utah, by William F. Sigler and Robert Rush Miller, 203 pp., illus., printed, paperback edition \$1.25, cloth-bound edition \$2.25. Utah State Department of Fish and Game, 1596 W. North Temple, Salt Lake City, Utah. Presents interestingly written chapters on sport fishing in Utah, the history of Utah fisheries, and the life histories of the fish species found in the State. Also contains an annotated checklist and keys to the fishes of Utah, a glossary of technical terms, aids to fish identification, artificial key to the families and subfamilies, keys to the species, a list of unsuccessful introductions of fishes into Utah waters, and a list of hybrids found in State waters. A nationally known artist has illustrated, in color, 19 game fish species. In addition each of the 49 fish species is illustrated in black and white.

VENEZUELA:

Licensing and Exchange Controls of Venezuela, OBR-63-80, 8 pp., printed, 15 cents. Bureau of Interna-

tional Commerce, U. S. Department of Commerce, Washington, D. C., March 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Discusses Venezuela's quantitative restrictions on imports, method of payment and receipt of foreign exchange, and United States import and export controls.

VESSELS:

"Fiberglass in Fishing Vessels," by Hugh McQuillan, article, Western Fisheries, vol. 65, November 1962, pp. 16-19, printed. Roy Wrigley Publications Ltd., 1104 Hornby St., Vancouver 1, B. C., Canada.

"New Trends in Construction of Polish Fishing Vessels," by J. Swiecicki and D. Bogucki, article, Fishing News International, vol. 1, no. 4, July 1962, pp. 51-56, illus., printed. Arthur J. Heighway Publications, Ltd., Ludgate House, 110 Fleet St., London EC4, England.

VITAMIN A:

"Extracting Vitamin A from Natural Oils," by Frank J. Servigne, article, Chemical Abstracts, vol. 57, July 23, 1962, 2345c, printed. The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

WHALES:

The Scientific Reports of the Whales Research Institute, no. 17, 206 pp., illus., printed. Whales Research Institute, Geirui Kenkyusho, 12-4 Tsukishima-Nishigashi-dori, Chuo-ku, Tokyo, Japan. Includes, among others, articles on: "Oceanography and Whaling Ground in the Subarctic Region of the Pacific Ocean," by K. Nasu; "Studies on the Oil of Black Right Whale in the Northern Pacific Ocean," by H. Tsuyuki and U. Naruse; and "A Preliminary Study on Method of Time Marking with Lead-Salt and Tetracycline on the Teeth of Northern Fur Seal," by T. Yagi, M. Nishiwaki, and M. Nakajima.

Whales (The Biology of the Cetaceans), by E. J. Slijper, translated by A. J. Pomerans, 475 pp., illus., printed, \$12.50. Basic Books, 404 Park Ave. S., New York 16, N. Y., 1962. Whales and whaling are not something that belong to the nineteenth century--they are just as active a subject today. About 40,000 of these useful mammals are being taken each year, mostly in the Antarctic. Whales, the giants of the animal kingdom, have been an interesting and romantic subject for centuries. The author, a Dutch anatomist and representative of the Netherlands at meetings of the International Whaling Commission and its scientific subcommittee, tells the whole remarkable story of whales. A revised translation of the author's Dutch Walvissen (1958), this book records the great advances in whale biology during the past 50 years. The development of modern whaling methods has posed problems of applied biology which could only be solved by international investigations.

The author in the preface points out that a keener interest by laymen (particularly coast-dwellers) in whales and dolphins will lead to more detailed study of these mammals because those people will be in a better position to study and observe than many an expert. In this book the author has concentrated on whale physiology, anatomy, and behavior. After an interesting historical introduction, the author describes the whales' evolution and external appearances; locomotion and locomotory organs; respira-

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

tion; heart, circulation, and blood; behavior; hearing; production of sounds; and the senses and central nervous system. Then the author discusses feeding, metabolism, and presents a challenging chapter on the future of whales and whaling. Classification of Cetacea, a bibliography, names of Cetaceans in different languages, and an index complete the book. It is not addressed to the expert alone, but aims to interest the widest possible circle of readers in the life of animals which through the centuries have captured the imagination of mankind.

-- Joseph Pileggi

"Why Do Whales Become Stranded?" by William M. Stephens, article, *Sea Frontiers*, vol. 9, no. 2, May 1963, pp. 69-76, illus., printed. The International Oceanographic Foundation, Institute of Marine Sci-

ence, University of Miami, 1 Rickenbacker Causeway, Virginia Key, Miami 49, Fla.

WHALING:

"Determination of the Time Required for Freezing Whalemeat," by K. Tanaka and J. Nishimoto, article *Journal of the Tokyo University of Fisheries*, vol. 47, no. 1, September 1960, pp. 81-92, printed. Tokyo University of Fisheries, Shiba-Kaigandori, 6-Chome Minato-Ku, Tokyo, Japan.

YEASTS:

"Yeasts in Marine Environments," by J. W. Fell and N. van Uden, Contribution No. 370, 12 pp., illus., printed. (Reprinted from *Symposium on Marine Microbiology*, pp. 329-340.) Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Virginia Key, Miami 49, Fla.

