



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. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

- FS - CURRENT FISHERY STATISTICS OF THE UNITED STATES.
- FL - FISHERY LEAFLETS.
- FR - REPRINTS OF REPORTS ON FOREIGN FISHERIES.
- FP - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.
- FL - STATISTICAL LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.
- SR - FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).

- | Number | Title |
|---------|--|
| CO-1094 | - Massachusetts Landings, August 1962, 5 pp. |
| CO-1099 | - Alabama Landings, November 1962, 3 pp. |
| CO-1100 | - Frozen Fishery Products, January 1963, 8 pp. |
| CO-1105 | - New Jersey Landings, December 1962, 4 pp. |
| CO-1106 | - New York Landings, December 1962, 4 pp. |
| CO-1107 | - California Landings, November 1962, 4 pp. |
| CO-1111 | - Michigan Landings, November 1962, 3 pp. |
| CO-1112 | - Ohio Landings, December 1962, 2 pp. |
| CO-1113 | - Wisconsin Landings, December 1962, 2 pp. |
| CO-1115 | - North Carolina Landings, December 1962, 4 pp. |
| CO-1117 | - Alabama Landings, December 1962, 3 pp. |
| CO-1118 | - Massachusetts Landings, September 1962, 5 pp. |
| CO-1119 | - Mississippi Landings, December 1962, 3 pp. |
| CO-1120 | - Rhode Island Landings, December 1962, 3 pp. |
| CO-1121 | - Massachusetts Landings, October 1962, 6 pp. |
| CO-1122 | - Pacific Coast Fisheries, 1961 Annual Summary, 10 pp. |
| CO-1123 | - Texas Landings, November 1962, 3 pp. |
| CO-1124 | - Fish Sticks and Fish Portions, Annual Summary, 3 pp. |
| CO-1125 | - Texas Landings, December 1962, 3 pp. |
| CO-1126 | - Maine Landings, December 1962, 4 pp. |
| CO-1127 | - Maryland Landings, January 1963, 3 pp. |
| CO-1128 | - Hawaii Fisheries, 1961 Annual Summary, 4 pp. |
| CO-1129 | - Florida Landings, January 1963, 8 pp. |
| CO-1131 | - Georgia Landings, January 1963, 2 pp. |
| CO-1133 | - Michigan Landings, December 1962, 3 pp. |
| CO-1135 | - South Carolina Landings, January 1963, 2 pp. |
| CO-1146 | - Maine Landings, January 1963, 4 pp. |

EL-106 - White-Spot Disease of Fish Eggs and Fry, by Wolf, 3 pp., August 1962 (Revised).

EL-101 - Aquatic Biology and Oceanography, A Selected List of Books, by Paul T. Macy and Ida K. Johnson, 10 pp., January 1963.

FL-543 - List of Special Scientific Reports and Special Scientific Report--Fisheries of the U. S. Fish and Wildlife Service, by Lola T. Dees, 38 pp., August 1962.

FL-544 - Report on the 1961 Transportation Research and Service Activities of the Bureau of Commercial Fisheries, by Carl P. Hoffman Jr. and Donald S. Fitz-Gibbon, 7 pp., June 1962.

FL-545 - List of Fishery Cooperatives in the United States, by Leslie D. McMullin, 19 pp., August 1962 (Revised).

FL-546 - Glossary of Terms used in Fur Seal Research and Management, 10 pp., February 1963.

THE FOLLOWING MARKET NEWS LEAFLET IS AVAILABLE FROM THE FISHERY MARKET NEWS SERVICE, U. S. BUREAU OF COMMERCIAL FISHERIES, SUITE 611, WYATT BLDG., 777 14TH ST. NW., WASHINGTON 5, D. C.

Number	Title
MNL-22	- Fisheries: Republic of South Africa and Territory of South West Africa, 1961, 27 pp.

Sep. No. 672 - Storage Life of Individually Frozen Pacific Oyster Meats, Glazed with Plain Water or with Solutions of Ascorbic Acid or Corn Syrup Solids.

Sep. No. 673 - Fluctuations in Maine Shrimp Landings.

Sep. No. 674 - Review of the 1962 Seasonal Movement of Albacore Tuna off the Pacific Coast of the United States.

SL-28 - Wholesale Dealers in Fishery Products, Michigan (Great Lakes Area), 1962, 3 pp. (Revised).

SSR-Fish. No. 407 - Waterflow through a Salmon Spawning Riffle in Southeastern Alaska, by William L. Sheridan, 25 pp., illus., March 1962.

SSR-Fish. No. 421 - Annual Fish Passage Report Rock Island Dam Columbia River, Washington, 1961, by Paul D. Zimmer and John H. Broughton, 26 pp., illus., April 1962.

SSR-Fish. No. 423 - The Composition, Abundance, and Depth Distribution of the 1957 Summer Net Zooplankton of Bare Lake, Alaska, after Fertilization, by Robert F. Raleigh, 17 pp., illus., 1963.

SSR-Fish. No. 428 - An Evaluation of Fyke Trapping as a Means of Indexing Salmon Escapements in Turbid Streams, by Howard D. Tait, Jerry L. Hout, and Fredrik V. Thorsteinson, 21 pp., illus., June 1962.

SSR-Fish. No. 433 - The Preparation of Marine Phytoplankton for Microscopic Examination and Enumeration on Molecular Filters, by Robert W. Holmes, 9 pp., June 1962.

SSR-Fish. No. 437 - Fall Chinook Salmon Returns to Hatcheries in the Bonneville Dam Pool Area, 1945-60, by Eugene M. Maltzoff and Paul D. Zimmer, 16 pp., illus., 1963.

SSR-Fish. No. 441 - The Bathykymograph, A Depth-Time Recorder, Frank J. Hester, Donald C. Aasted, and Robert W. Gilkey, 8 pp., illus., 1963.

Operations of the Bureau of Commercial Fisheries under the Saltonstall-Kennedy Act, Fiscal Year 1961, 100 pp., illus., processed. The seventh annual report to the Congress of the activities of the U.S. Bureau of Commercial Fisheries during the fiscal year ending June 30, 1961, under the provisions of the Saltonstall-Kennedy Act of July 1, 1954. This publication discusses commercial fishery progress by geographic areas including nationwide programs such as technological projects, economic studies, statistical programs, Market News services, and marketing programs. Among the important accomplishments during fiscal year 1961: (1) the Bond Award of the American Oil Chemists' Society was given a Bureau scientist and a contractor scientist for their outstanding co-authored publications on the development of thin-layer chromatography as adapted to fish oil research; (2) two Bureau films, "Salmon--Catch to Can," and "Sponge--Treasure from the Sea," received awards from the Edinburgh International Film Festival and the American Film Festival, respectively; (3) in New England, growth rates for sea scallops were established--they were found to enter the commercial fishery at 4 years of age; (4) it was concluded that storage of groundfish in refrigerated sea water offers promise in extending keeping quality and in reducing handling costs; (5) observations in the research program in Delaware Bay on oyster mortalities indicated a decrease in mortality among survivors of recent years, and their offspring, due possibly to resistance to MSX; (6) results of a 3-year study on striped bass in the Potomac River showed the population size ranged between 2 and 3 million pounds annually and the commercial fishery harvested about 40 percent of available fish; (7) collections of young menhaden in the Gulf of Mexico confirmed the theory that all major estuaries on both the Atlantic and Gulf coasts are nurseries for menhaden; (8) results of radiation studies on marine organisms showed that when fertilized fish eggs are irradiated at low levels, the number of developmental abnormalities increased; (9) in the Gulf of Mexico, observations proved that populations of the 3 major shrimp species produce 2 definable broods each year; (10) in the Great Lakes area, preliminary studies conducted on breaded chub fillets created interest in the commercial possibilities of this product; (11) the presence of 2 genetically distinct stocks of Pacific sardines within the area of the fishery was substantiated on the basis of blood type frequencies; (12) in the North Pacific Ocean, more than 11,000 salmon were tagged, of which nearly half were red salmon. Results of the study indicated that Bristol Bay red salmon are distributed throughout the Aleutian Island area; (13) it was found that the survival of eggs from pink salmon spawning in intertidal areas in Alaska may be very significant in determining the survival for each brood year; and (14) in Hawaii, results of a study on the use of gill nets for catching

skipjack tuna showed a striking difference in the catches made with multifiber sections and with monofilament sections. Of a total of 324 skipjack caught 319 were taken on the monofilament section and only 5 on the dyed multifiber sections.

Report of the Bureau of Commercial Fisheries for the Calendar Year 1958, 68 pp., printed, 1962. An account of the activities of the Bureau of Commercial Fisheries during 1958 together with a record of administrative actions. The Bureau activities are aimed towards encouraging a strong, prosperous, and thriving commercial fishery industry based on well-utilized resources. To accomplish the objectives, programs of research, development, and services were carried out with increasing intensity during 1958. The report discusses the condition and trends of the fisheries, developments in the domestic fisheries, Federal legislation, and international developments. Principal accomplishments of the Bureau and new programs are also covered.

Report of the Bureau of Commercial Fisheries for the Calendar Year 1959, 81 pp., printed, 1962. The Bureau of Commercial Fisheries is responsible for carrying out the national fishery policy as outlined in the Fish and Wildlife Act of 1956: (1) to increase and maintain, for the people of the United States, a fishery resource capable of yielding the maximum annual product; (2) to strengthen and maintain a vigorous fishery industry by assuring full and fair access to its raw materials and to the American market; and (3) to do these things in partnership with States and in full accordance with international obligations. Programs have been developed to effect policy. Most of them involve biological, economic, and technological research. Others supply important services to the industry; such as promoting consumption of fish, collection and publication of fishery statistics and market news, inspection of fishery products, vessel safety promotion, and many others. The report discusses the condition and trends of the fisheries, developments in the domestic fisheries, Federal legislation, and international developments. Principal accomplishments of the Bureau and new programs are also covered.

Report of the Bureau of Commercial Fisheries for the Calendar Year 1960, 75 pp., printed, 1962. During the calendar year 1960, the Bureau of Commercial Fisheries continued its efforts to provide the resources and services that will assist the Nation to utilize fully and wisely its fishery resources. These efforts cover a wide spectrum of activities, from basic research in fields such as fishery biology or fish technology to such practical applications as school demonstrations of fish cookery or the dissemination of daily news of prices for fish landed in principal United States ports. The report touches briefly on phases of biological, economic, engineering, oceanographic, and technological research. It also discusses the many Bureau service programs, such as those involved in fishery products inspection, fish market promotion, market news reporting, statistics collection, vessel loans, vessel safety promotion, and others.

The Sea, Conservation Note 10, 8 pp., illus., processed December 1962. An educational leaflet covering oceanography, types of fish of commercial value, plant and animal resources of the sea, and the possibility of developing economical ways of converting salt water to fresh water.

Years of Sport Fish Restoration--The Dingell-Johnson Program, 28 pp., illus., printed.

THE FOLLOWING ENGLISH TRANSLATIONS OF FOREIGN LANGUAGE PUBLICATIONS ARE AVAILABLE ONLY FROM THE U. S. BUREAU OF COMMERCIAL FISHERIES, BIOLOGICAL LABORATORY, BOX 3830, HONOLULU, HAWAII.

Comparative Efficiency of Production of Some Products of the Land and Sea, by S. V. Mikhailov, 12 pp., processed, October 1962. (Translated from the Russian, *Okeanologia*, vol. 2, no. 3, 1962, pp. 385-392.)

Surface Zooplankton of the Indian Ocean, by N. Koronina, 20 pp., illus., processed, December 1962. (Translated from the Russian, *Biological Investigations of the Sea-Plankton, Academy of Sciences of the USSR, Works of the Institute of Oceanography*, vol. LVIII.)

THE FOLLOWING ENGLISH TRANSLATION OF A FOREIGN LANGUAGE PUBLICATION IS AVAILABLE ONLY FROM THE ICHTHYOLOGICAL LABORATORY, U. S. BUREAU OF COMMERCIAL FISHERIES, FISH AND WILDLIFE SERVICE, NATIONAL MUSEUM, WASHINGTON 25, D. C.

Numbers of Vertebrae and on a Few Other Morphological Characters of the Antarctic Fishes (by G. S. Sazonov), by Anatoly P. Andriashev, 7 pp., processed, December 1959. (Translated from the Russian, *Voprosy Ichthyologii*, vol. 12, 1959.)

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

Baltimore) Monthly Summary--Fishery Products, January 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 comparison with previous periods; and wholesale prices of fresh fishery products on the Baltimore market; for the month indicated.

California Fishery Market News Monthly Summary, February 1963, 14 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., Room 208, San Pedro, Calif.) California cannery receipts of tuna and tunalike fish and other species for canning; pack of canned tuna, tunalike fish, sardines, mackerel, and anchovies; market fish receipts at San Pedro, Santa Monica, and Eureka; 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, February 1963, 11 pp. (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; for the month indicated.

Chicago) Monthly Summary of Chicago's Wholesale Market Fresh and Frozen Fishery Products Receipts, Prices, and Trends, February 1963, 13 pp. (Market News Service, U. S. Fish and Wildlife Service, U. S. Customs House, 610 S. Canal St., Room 404, Chicago 7, Ill.) Receipts at Chicago by species and by states and provinces for fresh- and salt-water

fish and shellfish; and weekly wholesale prices for fresh and frozen fishery products; for the month indicated.

Farm Reservoir Fishes, FWS Circular 131, 12 pp., illus., printed, 1962. (U. S. Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife, Fish Farming Experimental Station, Stuttgart, Ark.) Production of fish in rotation with rice and other field crops is an expanding industry. Sport, food, and bait fishes are in production in the South Central United States. Some reservoirs are stocked with sport fish and angling is permitted on a fee basis. A variety of species is usually stocked into a reservoir to provide the best use of the food resources available. Other less desirable species occasionally find their way in and compete with the stocked fish for food and space. This brochure will help identify the fishes taken from a reservoir. The information given about each species should help in selection of the fish most suited for stocking in a particular reservoir. A few notes on water areas management are included.

Gulf of Mexico Monthly Landings, Production and Shipments of Fishery Products, February 1963, 12 pp. (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; Gulf menhaden landings and production of meal, solubles, and oil; and sponge sales; for the month indicated.

New England Fisheries--Monthly Summary, February 1963, 21 pp. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston 10, Mass.) 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, Provincetown, and Woods Hole), 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 type of gear; for the month indicated.

New York City's Wholesale Fishery Trade--Monthly Summary--December 1962 and January 1963, 19 and 14 pp. respectively. (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 wholesalers' selling prices for fresh, frozen, and selected canned fishery products; marketing trends; and landings at Fulton Fish Market docks and Stonington, Conn.; for the month indicated.

Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, February 1963, 6 pp. (Market News Service, U. S. Fish and Wildlife Service, 706 Federal Office Bldg., 909 First Ave., Seattle 4,

Wash.) 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 receipts 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.

THE FOLLOWING SERVICE PUBLICATIONS ARE FOR SALE AND ARE AVAILABLE ONLY FROM THE SUPERINTENDENT OF DOCUMENTS, U. S. GOVERNMENT PRINTING OFFICE, WASHINGTON 25, D. C.

"Development and Distribution of Larval and Juvenile Fishes of the Family Mullidae of the Western North Atlantic," by Melba C. Caldwell, Fishery Bulletin 213 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 62, pp. 403-457), 59 pp., illus., printed, 40 cents, 1962.

"Distribution of Tunas in Oceanic Waters of the Northwestern Atlantic," by James L. Squire, Jr., Fishery Bulletin 211 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 62, pp. 323-341), 23 pp., illus., printed, 20 cents, 1962.

"Gulf of Mexico Commercial Shrimp Populations-- Trends and Characteristics, 1956-59," by Joseph H. Kutkuhn, Fishery Bulletin 212, (from Fishery Bulletin of the Fish and Wildlife Service, vol. 62, pp. 343-402), 64 pp., illus., printed, 40 cents, 1962.

"Introduction of the Threadfin Shad to Hawaii," by Thomas S. Hida and Donald A. Thomson, article, Progressive Fish Culturist, vol. 24, no. 4, 1962, pp. 159-163, processed, 25 cents.

"Three Portable Feeders for Metering Chemical into Streams for Control of Sea Lamprey," by Gaylord A. Anderson, article, Progressive Fish Culturist, vol. 24, no. 4, 1962, pp. 190-192, processed, 25 cents.

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 ORGANIZATIONS OR PUBLISHER MENTIONED. DATA ON PRICES, IF READILY AVAILABLE, ARE SHOWN.

ABALONES:

"Abalones in British Columbia," by D. B. Quayle, article, Western Fisheries, vol. 64, July 1962, pp. 28-31, printed. Roy Wrigley Publications Ltd., 1104 Hornby St., Vancouver 1, B.C., Canada.

California Abalones, Family Haliotidae, by Keith W. Cox, Fish Bulletin No. 118, 132 pp., illus., printed, \$1.15. Department of Fish and Game, Printing Division, Documents Section, Sacramento 14, Calif., 1962. Covers a 10-year study of abalones, describing the genus Haliotis and its geographical distribution. A section on the California abalones de-

scribes the anatomy of the Haliotis, its life history, enemies, parasites, and other problems. Also gives a history of the Indian, Mexican, and California abalone fisheries.

ALGAE:

Economic Marine Algae of Ceylon, IPFC Occasional Paper 61/4, printed. Indo-Pacific Fisheries Council, Food and Agriculture Organization of the United Nations, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1961.

A Preliminary Bibliography of the Freshwater Algae of the Indo-Malesian Region (including N. Australia), IPFC Occasional Paper 61/2, printed. Indo-Pacific Fisheries Council, Food and Agriculture Organization of the United Nations, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1961.

Research on the Marine Flora of the Pacific Area (Final Report January 1, 1960-August 31, 1962), by E. Yale Dawson, AD-287 736 Div. 16 (TISTB/SATD), 3 pp., printed, \$1.10. Beaudette Foundation for Ecological Research, Solvang, Calif., 1962. (For sale by Office of Technical Services, Washington 25, D. C.)

"Some Interesting Algae from Lake Huron," by Mason G. Fenwick, Contribution No. 4, 5 pp., illus., printed. (Reprinted from Transactions of the American Microscopical Society, vol. LXXXI, no. 1, January 1962, pp. 72-76.) The Great Lakes Research Division, Institute of Science and Technology, The University of Michigan, Ann Arbor, Mich.

AUSTRALIA:

Import Tariff System of Australia, OBR-62-43, 2 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) This report presents information on units of currency, weight, and measurement; bases of specific and ad valorem duties; methods of payment of duty, preferential duties; taxes; customs documents and fees; trade restrictions; and other special regulations.

BASS:

Largemouth Bass, 7 pp., illus., printed. Louisiana Wild Life and Fisheries Commission, Wild Life and Fisheries Bldg., 400 Royal St., New Orleans 16, La. Describes the appearance, habits, adaptability, and commercial value of the largemouth bass in Louisiana.

BEHAVIOR OF FISH:

"The Influence of Temperature on the Behaviour of Fish," by I. Hela and T. Laevastu, FAO Fisheries Biology Technical Paper No. 22, 23 pp., illus., processed, distribution restricted. (Reprinted from Archivum Societatis Zoologicae Botanicae Fennicae "Vanamo", vol. 15, nos. 1-2, 1961, pp. 83-103.) Fisheries Division, Biology Branch, Food and Agriculture Organization of the United Nations, Rome, Italy, September 1962.

"O Povedenii Ryby Pered Tralom Pro Vozdeistviem Nee Elektricheskogo Polya Peremennogo Toka i Medhanicheskogo Razdrzhitel'ya (The Effect of an AC Electrical Field and a Mechanical Irritant on the Behavior of Fish in Front of a Trawl)," by V. A. Shentyakov, article, Biological Abstracts, vol. 31, no. 2, 1962, Abstract No. 4674, printed in Russian.

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

University of Pennsylvania 3815 Walnut St., Philadelphia 4, Pa.

EUROPEAN COUNTRIES:

Import Tariff System of Belgium, Netherlands, and Luxembourg, OBR-63-25, 4 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 25, D.C.) Presents information on customs tariff; units of currency, weight, and measures; bases of specific and ad valorem duties; sales and other internal taxes; consular documents and fees; import restrictions; and related subjects.

BIBLIOGRAPHY:

World List of Periodicals for Aquatic Sciences and Fisheries, FB/T19.1, 267 pp., processed. Biology Branch, Fisheries Division, Food and Agriculture Organization of the United Nations, Rome, Italy, 1962. This is one of a group of Technical Papers giving information concerning bibliographic and intelligence services for aquatic sciences and fisheries.

CHEMISTRY:

Biochemistry of Epidermal Layers and Slime of Fish, article, Torry Research Station, Annual Report 1960, pp. 35-36, printed, Torry Research Station, Aberdeen, Scotland, 1961.

Biochemistry: Extractives of Fish Muscle, article, Torry Research Station, Annual Report 1960, pp. 34-35, printed, Torry Research Station, Aberdeen, Scotland, 1961.

Biochemistry: Fish Muscle Lipids, article, Torry Research Station, Annual Report 1960, pp. 32-33, printed, Torry Research Station, Aberdeen, Scotland, 1961.

Biochemistry: Fish Muscle Lipoproteins, article, Torry Research Station, Annual Report 1960, pp. 32-34, printed, Torry Research Station, Aberdeen, Scotland, 1961.

Biochemistry: Fish Muscle Proteins, article, Torry Research Station, Annual Report 1960, p. 32, printed, Torry Research Station, Aberdeen, Scotland, 1961.

PORTUGAL:

Os Bermeanos Pescan el Bonito a 1,500 Kilometros de Vigo, (The Men of Bermeo Fish for Bonito 1,500 Kilometers from Vigo), by Vicente Talon Ortiz, article, Puntal, vol. IX, no. 100, July 1962, p. 7, illus., printed in Spanish, single copy 12 ptas. (about 20 U.S. cents). Puntal, Apartado de Correos 316, Alicante, Spain.

BROOK TROUT:

Transplantation of Brook Trout (*Salvelinus fontinalis* (Mitchill)) within a Small Stream System, by J. W. Saunders and M. W. Smith, article, Transactions of the American Fisheries Society, vol. 91, no. 4, 1962, pp. 388-394, printed, Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

BUFFALO FISH:

Nutritive Value of Buffalo Fish, by Marinus C. Kik, article, Journal of the American Dietetic Association,

vol. 41, August 1962, pp. 119-123, printed, American Dietetic Association, 620 N. Michigan Ave., Chicago 1, Ill.

BURMA:

Import Tariff System of Burma, OBR-62-36, 2 pp., printed, 15 cents. Bureau of International Commerce, U.S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D. C.) Presents information on units of currency, weight, and measures; bases of specific and ad valorem duties; method of payment of duty; sales and other internal taxes; shipping documents; trade restrictions; and other special regulations.

Preliminary Bibliography of Fish and Fisheries in Burma, IPFC Occasional Paper 62/1, printed, Indo-Pacific Fisheries Council, Food and Agriculture Organization of the United Nations, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1962.

CALIFORNIA:

Growth Characteristics of Two Southern California Surf-fishes, the California Corbina and Spotfin Croaker, Family Sciaenidae, by David C. Joseph, Fish Bulletin No. 119, 54 pp., illus., printed, Department of Fish and Game, Printing Division, Documents Section, Sacramento 14, Calif., 1962.

CAMBODIA:

Artificial Drying of Cambodian Fish, IPFC Occasional Paper 61/14, printed, Indo-Pacific Fisheries Council, Food and Agriculture Organization of the United Nations, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1961.

CANADA:

British Columbia Catch Statistics, 1962 (By Area and Type of Gear), 174 pp., illus., processed, Department of Fisheries of Canada, 1110 W. Georgia St., Vancouver 5, B. C., Canada.

Fisheries Statistics, New Brunswick, 1961, 37 pp. illus., printed in French and English, 75 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada, February 1963. Consists of tables giving the quantity and value of the principal species of fish and shellfish landed in New Brunswick, 1949-1961; quantity and value of manufactured fishery products, 1949-1961; quantity and value of landings by species and fisheries districts, 1960-1961; new capital investment in the commercial fisheries, 1961; classification of powered fishing craft by over-all length, 1961; number of persons engaged in primary operations by fisheries districts, 1960-1961; and persons engaged in the major fisheries, 1960-1961.

Fisheries Statistics, Nova Scotia, 1961, 47 pp., illus., printed in French and English, 75 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada, February 1963. Consists of tables giving the quantity and value of the fish and shellfish landed in Nova Scotia, 1949-1961; quantity and value by species and fisheries districts, 1960-1961; number of persons engaged in the primary operations by fisheries districts, 1960-1961; and classification of powered fishing craft by over-all length and fisheries districts.

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

Import Tariff System of Canada, OBR-63-10, 4 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 25, D. C.) Presents information on units of currency, weights, and measures; bases of duties; tariff rates; method of payment of duty; internal taxes; trade restrictions and special regulations; and related subjects.

National Fisheries Development (A Presentation to the Government of Canada by the Government of Newfoundland), 60 pp., printed. The Government of Newfoundland, St. John's, Newfoundland, Canada, February 1963. This report discusses the importance of the fishing industry to Canada and the need for a national governmental policy on fisheries. The recommended objectives are: (1) to create the environment of producer market organization and price stability essential for development; (2) to increase productivity; (3) to expand markets; (4) to initiate community development; and (5) to improve product quality.

32nd Annual Report, 1961, Department of Fisheries, 156 pp., illus., printed, 50 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada, 1963. Presents the functions and activities of the Department of Fisheries for the year 1961, and the financial statements of the Department for the fiscal year 1961-1962. Covers in detail the activities of the Department's Conservation and Development Service, Protection Branch's patrol vessels, Inspection Service, Economics Service, Information and Consumer Service, and Industrial Development Service. Also covers the Fishermen's Indemnity Plan, and activities of the Fisheries Prices Support Board, Fisheries Research Board of Canada, international commissions, and special committees. Canada's Pacific and Atlantic Coast and lake fisheries are also discussed. Statistics cover the quantity and value of fish and shellfish landed, exports by type of product, number of fishermen in Canada, and value of vessels and gear. The appendix contains financial statements for fiscal year 1961-1962, and statements on fish-culture development.

CARP:

"Experiments on the Acute Toxic Effect of Modern Contact Insecticides on One-Year Carp (*Cyprinus Carpio* L.)," by D. Ludemann and H. Neumann, article, Water Pollution Abstracts, vol. 35, no. 4, 1962, abstract no. 789, printed. Her Majesty's Stationery Office, Atlantic House, Holborn Viaduct, London EC4, England.

CATCHING FISH:

"Zvuk i Svet Pomogayut Rybolovstvu" (Sound and Light Help to Catch Fish), by Yu. A. Shemanskii, article, Priroda, vol. 3, 1962, pp. 112-115, printed in Russian. Akademiya Nauk SSSR, M. Khariton'yevskii per. 4, Moscow, U.S.S.R.

CATFISH:

Growth of Black Bullhead Catfish in Oklahoma, by Alfred Houser and Charles Collins, Report No. 79, 19 pp., illus., printed, Oklahoma Fishery Research Laboratory, Norman, Okla., February 1962.

CENTRAL AMERICA:

"Central American Common Market," by Nicolas Rivero, IV, article, Americas, vol. 15, no. 1, January 1963, pp. 3-6, illus., printed, single copy 35 cents. Sales and Promotion Division, Pan American Union, Washington 6, D. C.

CHESAPEAKE BAY:

Chesapeake Science, vol. 3, no. 3, September 1962, 80 pp., illus., printed, single copy 75 cents. Natural Resources Institute of the University of Maryland, Chesapeake Biological Laboratory, Solomons, Md. Contains, among others, the following articles: "Life History of the Yellow Perch, *Perca flavescens* in Estuarine Waters of Severn River, a Tributary of Chesapeake Bay, Maryland," by Robert J. Muncy; "Sharks and Rays of Virginia's Seaside Bays," by R. Dickson Hoes; "Eggs, Larvae, and Young of the Hickory Shad, *Alosa mediocris*, with Comments on Its Ecology in the Estuary," by Romeo J. Mansueti; and "Sexual Dimorphism in Oyster Drills of Chincoteague Bay, Maryland-Virginia," by George W. Griffith and Michael Castagna.

COD:

"Otolity Treskovykh Ryb (Sem. Gadidae) Dal'evostochnykh Morei" (Otoliths of Fishes of the Cod Family (Gadidae) of the Far Eastern Seas)," by V. A. Skalkin, article, Voprosy Ikhtiologii, vol. 1, no. 2, 1961, pp. 286-289, printed in Russian. Akademiya Nauk, U.S.S.R. Ikhtiologicheskaya Komissiya, Moscow, U.S.S.R.

"La pesca del Bacalao y su consumo en Espana" (The Fishery for Cod and Its Consumption in Spain), by Juan Antonio Cabezas, article, Industrias Pesqueras, vol. XXXVI, No. 855, December 15, 1962, p. 426, printed in Spanish, single copy 10 ptas. (about 17 U.S. cents). Industrias Pesqueras, Policarpo Sanz, 21-26 Vigo, Spain.

COLD STORAGE:

Holodil'noe Konservirovanie Rybnykh Produktov (Cold Storage of Fish), by V. P. Zajcev, 430 pp., illus., printed in Russian, 1R. 53 k. (about US\$1.70). Pischee promizdat, Moscow, U.S.S.R., 1962.

"Jacketed Cold-Storage Room for Fish," by A. Hegarty, article, Modern Refrigeration, vol. 63, no. 745, 1961, pp. 377-378, printed. Refrigeration Press Ltd., Macclaren House, Great Suffolk St., London SE1, England.

COMMISSIONS:

(Atlantic States Marine Fisheries Commission) Minutes of the 21st Annual Meeting (September 26-28, 1962, Atlanta, Ga.), 251 pp., illus., processed, limited distribution. Atlantic States Marine Fisheries Commission, 336 E. College Ave., Tallahassee, Fla. Covers the minutes of the 21st annual meeting of the Commission with details of attendance; the first, second, and third general sessions, and section meetings of the North Atlantic, Middle Atlantic, Chesapeake Bay, and South Atlantic Sections. Also includes accounts of the individual section meetings, resolutions recommended for adoption, and the executive committee meeting. Appendices include, among others, reports on research work accomplished by the Commission and its sponsoring agencies, the U. S. Fish and Wildlife Service. Also included in the appendices are reports on problems of the Com-

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

non Market; progress in pesticide research; foreign fishing activities off the Atlantic Coast; shellfish cleansing; striped bass studies in New Jersey; technological problems of the blue-crab industry; and the radiation-preservation program at the Gloucester Technological Laboratory.

COMMUNICATIONS:

Federal Communications Commission--Rules and Regulations, vol. 4, February 1962, 399 pp., printed, \$2. Federal Communications Commission, Washington, D. C., 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Contains all the rules for Part 7--Stations on Land in the Maritime Service; Part 8--Stations on Shipboard in the Maritime Services; and Part 14--Public Fixed Stations and Stations of the Maritime Services in Alaska. This edition is a revision of the September 1959 issue and includes all amendments adopted by the Commission through February 28, 1962.

CONNECTICUT:

Connecticut's Commercial Fisheries, by James P. Galligan, article, The Connecticut Wildlife Conservation Bulletin, vol. 9, no. 1, January-February 1963, pp. 1, 6-7, illus., printed. Connecticut State Board of Fisheries and Game, Hartford, Conn. A brief summary of the size and scope of the commercial fishing industry in Connecticut, and some of the factors responsible for a renewed interest in commercial fishing. Discusses the State's clam, oyster, scallop, and other shellfish industries; the lobster fishery; development of the shad industry; the menhaden fishery; and the dragger fleet.

Distribution and Ecology of Fishes of the Mystic River Estuary, Connecticut, by William G. Pearcy and Sarah W. Richards, article, Ecology, vol. 43, no. 2, 1962, pp. 248-259, printed. Ecological Society of America, Duke University Press, Box 6697, College Station, Durham, N. C.

CRABS:

Crabbing . . . and Crabs, by Ednard Waldo, 7 pp., illus., printed. Louisiana Wild Life and Fisheries Commission, Wild Life and Fisheries Bldg., 400 Royal St., New Orleans 16, La. Contains specifications for the construction of the crab pot, and describes its increased use in Louisiana. Also covers briefly the life history and habits of the blue crab.

COMPOSITION:

Investigation of the Decomposition of Organic Matter in Natural Waters, by Heinrich R. Krause, FAO Fisheries Biology Report No. 34, 22 pp., illus., processed, distribution restricted. Fisheries Division, Biology Branch, Food and Agriculture Organization of the United Nations, Rome, Italy, June 1962.

DELAWARE:

The Largemouth Bass and the Chain Pickerel, 4 pp., illus., printed. Delaware Board of Game and Fish Commissioners, Dover, Del., July 1962. Describes the habits and growth of the largemouth bass and chain pickerel.

DENMARK:

Preparing Shipments to Denmark, OBR-63-30, 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 25, D. C.) Covers the preparation of shipping documents; information on labeling, marking, and packing; free ports and zones, customs procedures, and related subjects.

DOLPHIN:

"Distress Call of the Bottleneck Dolphin: Stimuli and Evoked Behavioral Responses", by John C. Lilly, article, Science, vol. 139, no. 3550, January 11, 1963, pp. 116-118, illus., printed, single copy 35 cents. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington 5, D. C.

EGYPT:

The Fisheries of Egypt--A Report of a Survey with Recommendations for Future Development, by Philip R. Nelson and Charles F. Lee, 64 pp., processed. General Organization for Aquatic Resources, Ministry of Supply, United Arab Republic, Cairo, Egypt, June 1962. A comprehensive report on the present fishery resources of Egypt. Covers the fisheries of the Nile, the Delta lakes, artificial ponds, desert lakes, and the Mediterranean coast of Egypt. Also covers the principal species landed; type of vessels and gear used; facilities for fisheries development and research; and industrial aspects of the fisheries. Recommendations are made for training Egyptian biologists, employment of foreign consultants, and initiation of exploratory fishing studies.

ELECTRICAL FISHING:

"Tests et Indices D'efficacite des Appareils de Peche Electrique" (Tests and Indexes of the Efficiency of Electrical Fishing Apparatus), by R. Vibert, P. Lamarque, and R. Cuinat, article, Annales de la Station Centrale d'Hydrobiologie Appliquee, vol. 8, 1960, pp. 53-89, Annales de la Station Centrale d'Hydrobiologie Appliquee, Station d'Hydrobiologie Appliquee de Biarritz, Biarritz, France.

ETHIOPIA:

Establishing a Business in Ethiopia, OBR-62-42, 12 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Discusses the law in Ethiopia proper and Eritrea; Government policy towards capital investment; extent of private foreign investment; and rights of aliens in Ethiopia and Eritrea. Also discusses entry and repatriation of capital; United States-Ethiopian Treaty; conditions and laws affecting employment; taxation in Ethiopia and Eritrea; and related subjects.

Report to the Imperial Ethiopian Government on a Reconnaissance Survey of Lake Abaya (Margherita), Ethiopia, 1960, by Dietmar R. Riedel, 34 pp., processed. Fisheries Division, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1961.

EXPORTS:

Preparation of Shipments for Export to Federal Republic of Germany and West Berlin, OBR-62-30, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington,

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

D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Covers the preparation of shipping documents, information on labeling and marking; customs procedures, and related subjects.

Preparation of Shipments for Export to Mauritania, OBR-62-39, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Covers the preparation of shipping documents; import regulations; information on labeling, marking, and packing; customs procedures; and related subjects.

Preparation of Shipments for Export to Viet-Nam, OBR-62-21, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Covers the preparation of shipping documents, information on labeling and marking; customs procedures, and related subjects.

Preparing Shipments to Finland, OBR-63-2, 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 25, D. C.) Covers the preparation of shipping documents; information on labeling, marking, and packing; customs procedures; and related subjects.

FACTORYSHIPS:

"Trawler-przetwornia 'B-15'," by W. Piltz, article, Budowinstwo Okretowe, vol. 5, no. 7, 1960, pp. 192-195, illus., printed in Polish. Wydawnictwa Czasopism Technicznych Not, 315 Czackiego, Warsaw, Poland.

FARM PONDS:

The Management of Tennessee Farm Ponds, by Eugene S. Cobb, 32 pp., illus., printed, Tennessee Game and Fish Commission, State Office Bldg., Knoxville, Tenn., 1961. Presents information on the basic factors involved in producing fish in farm ponds, so that a pond owner can establish a program of management which will develop and maintain a balanced population of fish capable of producing quality fishing in the years ahead.

FECONDITY:

"Otnositel'naya Plodovitost' Ryb i Razmery Yaits (The Relative Fecundity of Fish and the Sizes of their Eggs)," by A. I. Zotin, article, Voprosy Ikhtiologii, vol. 1, no. 2, 1961, pp. 307-313, printed in Russian. Voprosy Ikhtiologii, Akademia Nauk, U.S.S.R., Ikhtiologicheskaya Komissiya, Moscow, U.S.S.R.

FEED:

"The Role of Fish for Animal Feeding," by G. F. Combs, article, FAO International Conference on Fish in Nutrition (Washington, D. C., September 19-27, 1961), Paper No. R/I.5, processed. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1961.

FISH CULTURE:

Handbook on Fish Culture in the Indo-Pacific Region, FB/TI4, 213 pp., processed, distribution restricted. Biology Branch, Fisheries Division, Food and Agriculture Organization of the United Nations, Rome, Italy, 1962.

Research Activities on Marine and Freshwater Aquaculture and Propagation, IPFC Occasional Paper 61/13, printed, Indo-Pacific Fisheries Council, Food and Agriculture Organization of the United Nations, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1961.

FISH DISEASES:

A Provisional List of Experts Concerned with Diseases of Aquatic Organisms and Associated Parasites, FB/TII (Rev. 1), 28 pp., processed, distribution restricted. Biology Branch, Fisheries Division, Food and Agriculture Organization of the United Nations, Rome, Italy, November 1962.

FISHERY CONFERENCE:

"West European Fishery Conference," article, Svensk Vastkustfiskaren, vol. 32, no. 18, September 25, 1962, pp. 396-398, illus., printed in Swedish. Svensk Vastkustfiskarnas Centralforbund, Goteborg, Sweden.

FISHING WITH LIGHTS:

Light Fishing, by Raimondo Sara, GFCM Studies and Reviews No. 19, 45 pp., illus., processed, GFCM Secretariat, Food and Agriculture Organization of the United Nations, Rome, Italy, August 1962. This study attempts to assemble all the information available about the reactions of fish to light, and to study technical fisheries problems. It reports on findings concerning intensity of lights used in fishing, the effects of colored lights, and underwater lamps and electric generators. The appendix contains tables giving information on characteristics of sources of light and characteristics of boats and gear used in fishing with lights in the Mediterranean. Also includes several excellent photos and drawings.

"O Prichinakh Privlecheniya Ryb Na Svet (Why Light Attracts Fish)," by V. N. Belyaeva and I. V. Nikonov, article, Voprosy Ikhtiologii, vol. 1, no. 3, pp. 513-518, printed, Akademia Nauk, U.S.S.R., Ikhtiologicheskaya Komissiya, Moscow, U.S.S.R.

FISH MEAL:

"Chemical Composition of Fish Meals. II," by Eliezer de Carvalho Rios (Ministry of Agriculture, Rio Grande, Brazil), article, Chemical Abstracts, vol. 56, June 11, 1962, 14675i, printed, The American Chemical Society, 1155 16th St. NW., Washington D. C.

Fish Meal Supply and Price Trends, by Jack S. Ross, ERS-112, 12 pp., illus., processed. (Reprinted from Feed Situation, FdS-197, February 1963, pp. 27-37. Economic Research Service, U. S. Department of Agriculture, Washington 25, D. C. Reports on supply, demand, prices, and trends in fish meal during recent years. According to the author "Domestic demand for fish meal has expanded rapidly in recent years. In the 1961-1962 feeding year, the total tonnage fed reached a record high of 615,000 tons, 50 percent more than 5 years ago. Even at this level, fish meal makes up only about 1.5 percent of the

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

total tonnage of commercially prepared livestock and poultry feeds and about 4 percent of total high-protein feeds. However, its importance as an ingredient of poultry and hog rations is much greater than indicated by its relatively small volume. Fish meal is a primary source of certain amino acids (mainly lysine and methionine) and B-complex vitamins. These are not found in sufficient quantities in feed grains and many of the other byproducts." This report includes charts and tables giving data on fish meal supplies; production, imports, and supplies; production from menhaden; and other similar information. Most data are for 1952-1962, with some for earlier years.

Nutrient Composition of British Columbia Whole Herring Meal, by B. E. March, Jacob Biely, and H. L. A. Farr, Circular No. 26, 11 pp., processed, Fisheries Research Board of Canada, Technological Station, Vancouver, B. C., Canada, September 1962.

FISH MUSCLE:

Denaturation of the Actomyosin-Fraction in Fish Muscle Under the Influence of Salt Solutions," by R. R. Linko, article, Kylteknisk Tidskrift, vol. 21, no. 3, 1962, pp. 50-51, illus., printed in Swedish. Svenska Kyltekniska Forening, 86 St. Eriksgaten, Stockholm 7, Sweden.

Studies on the Physiological Chemistry of Phosphorus Compounds in Fish Muscle. VI--The Effects of Ammonium Chloride and Sodium Chloride in Water on Phosphorus Compounds in Fish Muscle," and VIII--The Effect of Urethan on Phosphorus Compounds in Muscle of Mackerel," by Tomoo Nakano, articles, Bulletin of the Japanese Society of Scientific Fisheries, vol. 27, September 1961, pp. 850-854, and vol. 27, December 1961, pp. 1095-1099, printed. Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-Ku, Tokyo, Japan.

FISH OIL:

On the Yellowtail Oil. IV--Acetone-Soluble Lipid and Lecithin in Pyloric Appendages," by Hideo Tsuneki and Uhei Naruse, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 27, August 1961, pp. 734-737, printed. Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-Ku, Tokyo, Japan.

FISH PONDS:

Methods of Treating the Bottom of Fish Ponds and Their Effects on Productivity, by Alfred G. Wurtz, IFCM Studies and Reviews No. 11, 51 pp., printed. IFCM Secretariat, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1960.

FISH SCHOOLS:

Strazhatel'naya Sposobnost' Pelagicheskikh I Donnykh Ryb (Sound-Reflecting Capacity of Pelagic and Benthic Fish)," by E. V. Shishkova, article, Rybnoe Khoziaistvo, vol. 10, 1960, pp. 56-63, printed, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

FISH STOCKS:

Recent Model Concepts on the Dynamics of Demersal Fish Stocks, by Gotthilf Hempel and Dietrich Sahrhage, 5 pp., processed. (Translated from the German, Beichte Deutsche Wissenschaftliche Kommission

fur Meeresforschung, vol. XVI, no. 2, pp. 51-89.) Fisheries Laboratory, Ministry of Agriculture, Fisheries and Food, Lowestoft, Suffolk, England, 1961.

FISH TRANSPORTATION:

"Perevozka Ryby V Germeticheskome Chane SKislordom (The Transportation of Fish in a Hermetically Sealed Container with Oxygen)", by R. Gumerov, article, Rybovodstvo I Rybolovstvo, vol. 4, 1961, pp. 16-17, printed. Rybovodstvo I Rybolovstvo, Ministerstvo Sel'skogo Khoziaistva SSSR, Moskva, U.S.S.R.

"The Transport and Handling of Fish", Hygiene Codes of Practice No. 4, 15 pp., illus., printed. H. M. Stationery Office, York House, Kingsway, London WC2, England, 1960.

FLATWORMS:

Survival and Movements of the Flatworm, STYLOCHUS ELLIPTICUS, in Different Salinities and Temperatures, by Warren S. Landers and Richard C. Toner (U.S. Bureau of Commercial Fisheries, Biological Laboratory, Milford, Conn.), 8 pp., illus., printed. (Reprinted from Biological Bulletin, vol. 123, no. 1, August 1962, pp. 146-153.) The Marine Biological Laboratory, Woods Hole, Mass.

FLORIDA:

Bathymetry of the Straits of Florida and the Bahama Islands, by Robert J. Hurley, Violet B. Siegler, and L. Kenneth Fink, Jr., Contribution No. 414, 9 pp., illus., printed. (Reprinted from Bulletin of Marine Science of the Gulf and Caribbean, vol. 12, no. 3, September 1962, pp. 313-321.) The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

Effect of Hurricane Donna on the Aquatic Fauna of North Florida Bay, by Durbin C. Tabb and Albert C. Jones, Contribution No. 402, 4 pp., illus., printed. (Reprinted from Transactions of the American Fisheries Society, vol. 91, no. 4, October 1962, pp. 375-378.) Institute of Marine Science, 1 Rickenbacker Causeway, Miami 49, Fla.

Hydrographic Data, Supplement I, from the Inshore Bays and Estuaries of Everglades National Park, Florida 1959-1962, by Durbin C. Tabb and David L. Dubrow, 62-69, 22 pp., illus., printed. Florida State Board of Conservation, W. V. Knott Bldg., Tallahassee, Fla., 1962.

Results of the Tagging of Salt Water Fishes in Florida, by Robert M. Ingle, Robert F. Hutton, and Robert W. Topp, Technical Series No. 38, 63 pp., illus., printed. The State Board of Conservation, Marine Laboratory, Maritime Base, Bayboro Harbor, St. Petersburg, Fla., September 1962.

Seasonality of Fishes on a South Florida Shore, by Victor G. Springer and Andrew J. McErlean, Contribution 59, 22 pp., illus., printed. (Reprinted from Bulletin of Marine Science of the Gulf and Caribbean, vol. 12, no. 1, March 1962, pp. 39-60.) Florida State Board of Conservation, W. V. Knott Bldg., Tallahassee, Fla., 1962.

FLOUNDER:

"Ecology of an Estuarine Population of Winter Flounder Pseudopleuronectes americanus (Walbaum). I--Hy-

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

drography of the Mystic River; II--Distribution and Dynamics of Larvae; III--Distribution, Abundance, Growth, and Production of Juveniles; IV--Food Habits of Larvae and Juveniles," by William G. Percy, articles, vol. 18, article 1, 1962, pp. 5-78, printed. Peabody Museum of Natural History, Yale University, New Haven, Conn.

FOOD AND AGRICULTURE ORGANIZATION:

Current Bibliography for Aquatic Sciences and Fisheries (Vols. 1 to 4 and 1957 Supplement, Subject Index--Physical Oceanography), 37 pp., processed, distribution restricted. Biology Branch, Fisheries Division, Food and Agriculture Organization of the United Nations, Rome, Italy, November 1962. Contains detailed indexes to entries relating to the subject of physical oceanography.

English Translation of Convention Between the Governments of the U.S.S.R. and Japan on Deep Sea Fisheries in the Northwest Pacific (1956), FB/T27, 12 pp., processed, distribution limited. Biology Branch, Fisheries Division, Food and Agriculture Organization of the United Nations, Rome, Italy, October 1962.

FOOD HABITS:

"The Types of Food Habits of Fishes (Determined) by Stomach Contents Examination," by F. Yasuda, article, Bulletin of Japanese Society of Scientific Fisheries, vol. 26, no. 7, 1960, pp. 653-662, printed in Japanese. Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-Ku, Tokyo, Japan.

FOOD MANAGEMENT:

Using Storage in Food Service Establishments, by Robert F. Lukowski, Charles E. Eshbach, and Albert L. Wrisley, Jr., Food Management Program Leaflet No. 4, 24 pp., illus., printed. Cooperative Extension Service, University of Massachusetts, 408 Atlantic Ave., Room 303, Boston 10, Mass., 1962. This publication considers some aspects of the efficient use of storage facilities in a food service establishment. It is designed to call attention to major problem areas in the use of storage, and to suggest ways in which difficulties may be avoided or minimized. It discusses the storage care of various types of foods, including fresh and frozen fish.

FRANCE:

"Les Peches Lointaines, Objectif de Demain" (The Distant-Water Fisheries--Goal for the Future), by R. Lenier, article, France Peche, no. 70, February 1963, pp. 15-17, illus., printed in French. France Peche, Boite Postale 179, Lorient, France.

FREEZE-DRYING:

"Engineering Aspects of Freeze-Drying Foods," by J. D. Mellor, articles, Refrigeration Journal, vol. 15, no. 10, April 1962, pp. 38-41; vol. 15, no. 11, May 1962, pp. 38-39, 42-43, illus., printed. John D. Jukes, Pty., Ltd., 165 Clarence St., Sydney, Australia. A brief review of progress in freeze-drying from 1909 to date is given, followed by an explanation of the principles involved. Part 2 of the article deals with the type of equipment being used in the process.

FREEZING:

"The Effect of Freezing in Fish Muscle," by R. M. Love, article, Recent Advances in Food Science, pp.

147-150, printed. University of Glasgow, Glasgow, Scotland, 1962.

"Freezing Fish at Sea Aboard Canadian Fishing Boats" by O. C. Young, article, Canadian Fisherman, vol. 48, December 1961, pp. 29-30, printed. National Business Publications Ltd., Gardenvale, Quebec, Canada.

"Modern Meat Freezing Plants on Board of Whalers" by E. Hofmann, article, Kalttechnik, vol. 13, no. 3, March 1961, pp. 128-133, illus., printed in German. C. F. Muller Verlag, Karlsruhe, Germany.

FROGS:

Frogs and Toads of Louisiana, by Perch Viosca, Jr., 7 pp., illus., printed. Louisiana Wild Life and Fisheries Commission, Wild Life and Fisheries Bldg., 400 Royal St., New Orleans 16, La. Discusses briefly the twenty-five different kinds of toads and frogs found in Louisiana.

GATT:

General Agreement on Tariffs and Trade--Schedules of the United States of America, Department of State Publication 7451, 144 pp., processed, 70 cents. Department of State, Washington, D. C., November 1960. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Contains schedules of the United States of America annotated to show countries with which concessions were negotiated at Geneva in 1960-1961.

GRAY SNAPPER:

Growth and Food of the Gray Snapper, LUTJANUS GRISEUS in Everglades National Park, by Robert A. Croker, Contribution No. 403, 5 pp., illus., printed. (Reprinted from Transactions of the American Fisheries Society, vol. 91, no. 4, October 1962, pp. 379-383.) Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

GREENLAND:

East Greenland Fishing, Laboratory Leaflet No. 25, 3 pp., illus., processed. U. K. Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Lowestoft, England, 1960.

GUATEMALA:

Basic Data on the Economy of Guatemala, OBR-62-33, 24 pp., illus., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Discusses, among other items related to the economy of Guatemala, the fishing industry which is underdeveloped although there are opportunities for profitable development of both offshore and freshwater fisheries.

Import Tariff System of Guatemala, OBR-62-37, 4 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.) Presents information on units of currency, weights, and measures; bases of specific and ad valorem duties; method of payment of duty; preferential and differential duties; consular fees and documents; trade restrictions; and other special regulations.

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

DOCK:

Development of Volatile Carbonyls in Haddock (*Melanogrammus aeglefinus*) Flesh During Storage at 20° C., by Joseph M. Mendelsohn and Maynard A. Weinberg, article, Food Technology, vol. 16, June 1962, pp. 113-115, printed. The Garrard Press, 110 North Hickory, Champaign, Ill.

HERBICIDES:

The Toxic Effect of Pentachlorophenate, a Herbicide, on Fishery Organisms in Coastal Waters. I--The Effect on Certain Fishes and a Shrimp, by Tetuo Tomiyama and Katsumi Kawabe, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, no. 3, 1962, pp. 379-382, printed. Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-Ku, Tokyo, Japan.

HERMIT CRABS:

The Larval Development of the Tropical Land Hermit *COENOBITA CLYPEATUS* (Herbst) in the Laboratory, by Anthony J. Provenzano, Jr., Contribution No. 392, 21 pp., illus., printed. (Reprinted from Crustaceana, vol. 4, part 3, 1962, pp. 207-228.) The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

HERRING:

Plane Spots Herring Spawnings, by D. N. Outram, article, Trade News, vol. 15, no. 4, October 1962, pp. 3-5, illus., processed. Information and Consumer Service, Department of Fisheries, Ottawa, Canada. An aerial survey of herring spawning grounds along the rugged west coast of the Queen Charlotte Islands was undertaken in early April 1962. The purpose of the survey was twofold: (1) to evaluate aerial reconnaissance as a method of reporting herring spawning in remote areas; and (2) to obtain some indication of the size of the west coast spawning stocks.

Studies on the Stock of Pomeranian Bay Spawning Herring in 1950-1954, by Włodzimierz Besolowicz, OTS 60-21283, 24 pp., illus., processed, 60 cents. (Translated from the Polish, Prace Morzeńskiego Instytutu Rybackiego w Gdyni, no. 9, 1957, pp. 151-173.) Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., 1962.

INDIA:

India: A Growing Market for U. S. Products and Investment, OBR-63-26, 28 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 25, D. C.) A report presenting information on India as a growing market for U. S. products and investment. It discusses India's foreign trade during 1951-1961, reflecting the economic growth under the five-year plans; and trade with the United States. Also covers import policy and foreign aid as factors in trade; the third five-year plan, 1961-1966; and outlook for foreign investment.

Investment Factors in India, OBR-62-40, 28 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent

of Documents, U. S. Government Printing Office, Washington 25, D. C.) A question and answer type of report on investment factors in India. Presents information on the scope and growth rate of private foreign investment and licensing in India; fields for investment; operating facilities in India; and related subjects.

INDONESIA:

Licensing and Exchange Controls of Indonesia, OBR-62-34, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Discusses the import and export controls of Indonesia, and United States import and export controls.

INTERNATIONAL COMMISSIONS:

(International North Pacific Fisheries Commission) Chairman of Canadian Section Outlines Reasons for Decisions and Recommendations of Commissioners, by G. R. Clark, article, Trade News, vol. 15, no. 7, January 1963, pp. 7-10, processed. Information and Consumer Service, Department of Fisheries, Ottawa, Canada.

(International North Pacific Fisheries Commission) Proceedings of the Ninth Annual Meeting, 1962, 204 pp., illus., processed. International North Pacific Fisheries Commission, 6640 NW., Marine Dr., Vancouver 8, B. C., Canada.

INTERNATIONAL TRADE:

"World Trade in Fish", by Georg Borgstrom, article, Fishing News International, vol. 2, no. 1, January-March 1963, pp. 17-21, illus., printed, single copy 6s., 6d (about 91 U. S. cents). Arthur J. Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England.

IRAN:

Investment Factors in Iran, by George S. Ayers, OBR-63-15, 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 25, D. C.) Presents information on prospects for U. S. private investment in Iran. Government controls over industry, screening of investment proposals, taxation, and financial facilities.

IRELAND:

Import Tariff System of Ireland, OBR-62-38, 2 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Presents information on units of currency, weights, and measures; bases of specific and ad valorem duties; method of payment of duty, preferential duties; trade restrictions; and other special regulations.

Report to the Government of Ireland on the Development of the Sea Fishery Industries, by I. S. McArthur, 82 pp., illus., processed. Fisheries Division, Food and Agriculture Organization of the

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

United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1959.

IRISH MOSS:

"The Irish Moss Industry in the Maritimes," by M. C. Cormier, article, Trade News, vol. 15, no. 7, January 1963, pp. 3-6, illus., processed. Information and Consumer Research, Department of Fisheries, Ottawa, Canada. Irish moss (Chondrus crispus) is a small perennial seaweed growing attached to rocks near low water or beyond it, to depths of 20 feet or more. Its habitat in Europe includes Norway, the British Isles, France, and Spain. In the northwestern Atlantic, it occurs from New Jersey to Newfoundland. It is harvested with rakes, dried, and the extract (gelose of carrageen), because of its viscosity and suspension power, is used in the dairy, packing, brewing, and textile industries.

IRRADIATION:

To Determine the Effect of Irradiation upon the Wholesomeness of Food, by Om P. Malhotra and others, Progress Report No. 13, 17 pp., printed. Illinois University, College of Veterinary Medicine, Urbana, Ill., March 1962.

Long-Term Rabbit and Hamster Feeding of Irradiated and Control Foods and Its Effect upon the Blood Serum Constituents (Phase 1) and Nutritive Value of Irradiated Proteins and Control Proteins (Phase 2), by D. F. Watson, R. M. Smibert, and R. W. Engel, Progress Report No. 10, 14 pp., printed. Virginia Agricultural Experiment Station, Blacksburg, Va., February 28, 1962.

On the Nutritive Value of the Major Nutrients of Irradiated Foods and Appraisal of the Toxicity of Irradiated Foods, by P. B. Rama Rao and others, Progress Report No. 21, 30 pp., illus., printed. University of Illinois, Urbana, Ill., March 1, 1962.

ISRAEL:

Fishermen's Bulletin, vol. 4, no. 3-4 (33-34), September-December 1962, 44 pp., illus., printed in Hebrew with English abstracts. Department of Fisheries, P. O. B. 699, Haifa, Israel. Includes, among others, the following articles: "On the Fisheries of Israel," by M. Shavit; "Fisheries Resources of the Red Sea," by A. Ben-Tuvia; "Fisheries Investigations of the Israel South Red Sea Expedition. Part II--Additional Fishes," by A. Ben-Tuvia; "Fishing in Ancient Egypt," by M. Nun; "Ancient Fishing Gear in Ein-Gev," by Z. Ben-Ami; "Plinius on Fishes," by M. Sas; "'Tonara' in Eilat," by S. Levin; "Fishing with Lights during the Year 1962," by A. Ben-Tuvia; and "Summary of the 1962 Light Fishing Season," by Y. Ariav.

ITALY:

"Refrigerating Plants in the Italian Ocean Fishing Fleet," by O. Osti, article, Il Freddo, vol. 16, no. 2, March-April 1962, pp. 1-12, illus., printed in Italian. Associazione Frigorifera Italiana, 8 Via Donatello, Milan, Italy.

JAPAN:

Journal of the Faculty of Fisheries and Animal Husbandry, vol. 4, nos. 1-2, illus., printed. The Faculty of Fisheries and Animal Husbandry, Hiroshima Uni-

versity, Fukuyama, Japan, December 1962. Contains, among others, the following articles: "Electrical Shocking Effect on Larvae of Balanus;" "Comparison of Catches of Two Pound Nets Located at Different Distances from the Shore;" "Ecology of Fishes of Kasaoka Bay as Observed from the Catches of Pound Nets;" and "Reports on the Biology of 'Umitaka-Maru' Expedition. Part 2--Planktonic Gastropoda Collected by the Training Vessel 'Umitaka-Maru' from the Pacific and Indian Oceans and the Course of Her Antarctic Expedition, 1956."

KENYA:

"The Relationship Between Tilapia nigra (Gunther) and T. mossambica (Peters) in the Eastern River of Kenya," by P. J. P. Whitehead, article, Proceedings of the Zoological Society of London, vol. 13, part 4, 1962, pp. 605-637, printed. Ministry of Forest Development, Game and Fisheries, Nairobi, Kenya.

KOREA:

Korean Fisheries, 1962, 132 pp., illus., printed. Marine Resources Section, Fisheries Bureau, Ministry of Agriculture and Forestry, Seoul, Korea, October 1962. With the introduction of advanced fishery techniques during the first decades of this century great progress was made in developing the industry in Korea. In 1937, Korea's fish catch amounted to more than 10 percent of the global total. However, the subsequent diminution of marine resources in the coastal waters and the outbreak of World War II, and the Korean Conflict, dealt a crippling blow to Korean fisheries. At present, vigorous effort is being made to rehabilitate the Korean fisheries industry and deep-sea fishing is being undertaken for the first time. The Government is promoting the fisheries within the framework of its Five-Year Plan for Economic Development. This report gives a brief description of the current situation in Korea's fisheries industry in the fields of fishing, processing of fisheries products, and fish culture. It also presents an outline of plans for future development of the industry. Also includes brief descriptions of the composition and functions of various fisheries organizations, particularly cooperatives, financing institutions, and administrative agencies; research, education, and educational organizations; together with a summary of foreign assistance and aid to fisheries. The appendix presents statistical data on fisheries production, vessels, important species landed, exports, processed products, and other related topics.

Preliminary List of Inshore Diatoms of the South Coast of Korea, IPFC Occasional Paper 61/II, printed. Indo-Pacific Fisheries Council, Food and Agriculture Organization of the United Nations, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1961.

LEBANON:

Establishing a Business in Lebanon, OBR-62-41, printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., December 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Discusses the Lebanese Government's policy on investment; entry and repatriation of capital; foreign ownership of property; and

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

ations affecting employment; taxation; and related subjects.

LOUISIANA:

(1) Louisiana Wild Life and Fisheries Commission, Ninth Annual Report, 1960-1961, 213 pp., illus., printed. Louisiana Wild Life and Fisheries Commission, Wild Life and Fisheries Bldg., 400 Royal St., New Orleans, La. The report of the Louisiana Wild Life and Fisheries Commission during the calendar years ending December 31, 1960, and December 31, 1961, includes chapters on the Fish and Game Division, Division of the Oysters, Water Bottoms, and Aquaculture. The section on fisheries discusses fish culture, pond and lake projects, work done under the Kingell-Johnson Project, and other topics. Also discusses research in shrimp production, clam shell culture to aid oyster reproduction, operation of oyster reservations, a crawfish report, and other biological reports. Also includes a chapter on the work of the Water Pollution Control Division.

MAURITANIA REPUBLIC:

"Le Futur de la Peche Malgache" (The Future of the Malgache Fishery), by Michel Angot, article, *La Peche Maritime*, vol. 42, no. 1018, January 1963, pp. 21-25, illus., printed in French, single copy 11F (US\$2.23). *La Peche Maritime*, 190 Boulevard de la Seine, Paris, France.

MIDDLE EAST:

"The Control of Water Hyacinth in the Near East," by T. J. Job, processed. (Reprinted from *Journal of the Near East*.) Fisheries Division, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1961.

MARICULTURE:

"Mariculture," by R. W. Menzel, Contribution No. 73, 4 pp., printed. (Reprinted from *Proceedings of the Gulf and Caribbean Fisheries Institute*, Tenth Annual Session, November 1961, pp. 1-4.) Oceanographic Institute, Florida State University, Tallahassee, Fla. In summary the author pointed out that "The increasing need for food, the development of techniques for rearing of several of the commercial mollusks including oysters and the Bahauhaug clam, the possibilities of pond culture and other techniques of controlled sea farming, the increasing inroads in shellfish production caused by diseases, predators and other factors have caused increasing interest in scientific mariculture. Laboratory rearing of the mollusks will result in a constant supply of seed. Techniques have been developed for the chemical control of predators and the use of antibiotics. Chemical and genetic control of diseases and the production of fast growing strains of mollusks are now being developed. Technology has advanced so that the sea can be harvested and processed more efficiently. Additional research in many problems is needed. Needed are pilot operations to determine the laboratory developed techniques are applicable to mariculture. Needed are the development of techniques of disease and predator control, production of more vigorous and faster growing 'crops,' and techniques that will reach market size uniformly to allow year-round harvesting. There are many other facets of mariculture that need to be explored and perfected in order

that mariculture can compete with agriculture in the mass production of food."

MARINE ANIMALS:

Hydrophone Installation for the Study of Soniferous Marine Animals, by John C. Steinberg, Morton Kronengold, and William C. Cummings, Contribution No. 377, 6 pp., illus., printed. (Reprinted from *The Journal of the Acoustical Society of America*, vol. 34, no. 8, August 1962, pp. 1090-1095.) The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

MARINE BACTERIA:

"Marine Bacteria with Antiyeast Activity," by John D. Buck, Samuel P. Meyers, and Katherine M. Kamp, article, *Science*, vol. 138, no. 3547, December 21, 1962, pp. 1339-1340, printed, single copy 35 cents. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington 5, D. C.

MARINE BIOLOGY:

Preparation of Synopses on the Biology of Species of Living Aquatic Organisms, H. Rosa, Jr., FB/ST, processed. Fisheries Division, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1962.

MARINE MAMMALS:

"Locomotion in Pinnipeds," by Cafleton Ray, article, *Natural History*, vol. LXXII, no. 3, March 1963, pp. 11-21, illus., printed, single copy 50 cents. The American Museum of Natural History, Central Park West at 79th St., New York 24, N. Y.

MARINE RESEARCH:

List of Marine Institutions in the Tropics (30° N. to 30° S.), FAO Fisheries Biology Technical Paper No. 20, 11 pp., illus., processed, distribution restricted. Fisheries Division, Biology Branch, Food and Agriculture Organization of the United Nations, Rome, Italy, June 1962.

MARKETING:

"Seafood Distribution Methods Studied by USDI to Improve Frozen Handling," article, *Quick Frozen Foods*, vol. XXV, no. 4, November 1962, pp. 93-94, illus., printed. E. W. Williams Publications, Inc., 1776 Broadway, New York 19, N. Y. Discusses studies being conducted on methods of handling frozen fishery products during distribution, and the factors affecting the ultimate quality of the product.

MAURITANIA REPUBLIC:

Basic Data on the Economy of the Islamic Republic of Mauritania, by William E. Hutt, OBR-63-6, 16 pp., illus., 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 25, D. C.) Discusses among other items related to the economy of Mauritania, the fishing activity which is carried out on the Senegal River and in the territorial and international waters along the Mauritanian coastline.

MIDWATER TRAWLS:

"A New Method for 'Aimed' One-Boat Trawling in Midwater and on the Bottom," by J. A. Scharfe,

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

GFCM Studies and Reviews No. 13, 38 pp., illus., processed. General Fisheries Council for the Mediterranean, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1960.

MOLLUSKS:

Marine Molluscan Genera of Western North America: An Illustrated Key, by A. Myra Keen and Eugene Coan, 126 pp., illus., printed, \$4.50. Stanford University Press, Stanford University, Calif., 1963.

NETHERLANDS NEW GUINEA:

Report of a Preliminary Survey of the Ajamaroe Lakes, Netherlands New Guinea, IPFC Occasional Paper 61/12, printed. Indo-Pacific Fisheries Council, Food and Agriculture Organization of the United Nations, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1961.

NETS:

Ring Nets Made of Synthetic Fibres, by Gerhard Klust, GFCM Studies and Reviews No. 4, 18 pp., illus., printed. The GFCM Secretariat, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1958.

NEW ZEALAND:

"Fish Exported from New Zealand During the 1961 Calendar Year," table, Commercial Fishing, vol. 1, no. 2, October 1962, pp. 16-17, printed. Trade Publications Ltd., 47 Lewis Eady Bldg., 192 Queen St., Auckland, New Zealand.

"N. Z. Should Seek 12-Mile Fisheries Limit," by W. A. Fox, article, Commercial Fishing, vol. 1, no. 2, October 1962, p. 5, illus., printed. Trade Publications Ltd., 47 Lewis Eady Bldg., 192 Queen St., Auckland, New Zealand.

NORTHWEST ATLANTIC:

"International Co-Operation in Northwest Atlantic Research," by C. E. Lucas and A. J. Lee, article, Fishing News International, vol. 2, no. 1, January-March 1963, pp. 32-34, illus., printed, single copy 6s., 6d. (about 91 U.S. cents). Arthur J. Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England.

NUTRITION:

Metabolism and Nutrition, Radiation and Sterilization of Foods, 33 pp., printed. University of California, School of Medicine, Los Angeles, Calif., January 31, 1962.

NUTRITIVE VALUE:

"The Influence of Fermentation of the Nutritive Value of Fish with Special Reference to Fermented Fish Products of Southeast Asia," by K. Amano, article, FAO International Conference on Fish in Nutrition (Washington, D. C., September 19-27, 1961), Paper No. R/II.5/3, processed. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1961.

PAKISTAN:

Report on the Work of East Regional Laboratories, P.C.S.I.R., Dacca, 1959-1961, 57 pp., illus., printed. Pakistan Council of Scientific and Industrial Research, Mirpur Rd., Dhanmandi, Dacca-2, Pakistan.

Reports on the work of the laboratories at during 1959-1961, including studies of hilsa-puti-fish oil, fish spoilage, and sun-dried fish.

PHILIPPINES:

Fisheries Statistics of the Philippines, 1961, processed. Bureau of Fisheries, Department of Agriculture and Natural Resources, Quezon City, Philippines, 1962. A complete report covers aspects of Philippine fishery production data with some comparative data for previous years. Tables are grouped together under the headings: (1) production, consumption, and requirements of commercial fishing vessels; (2) fish ponds; (3) fish trade; and (4) other data. Subdivision of the data is made according to gear, species caught, production, and fishing grounds. The appendixes include, among other items, information on the districts, fishing grounds used by commercial vessels, and forms used in collecting statistical data. Except for the table showing production data for 1949, most of the information covers the five-year period 1957-1961.

PHYTOPLANKTON:

Growth of Pure Cultures of Marine Phytoplankton and the Presence of Toxicants, by Ravenna Ukeles, (Biological Laboratory, U. S. Bureau of Commercial Fisheries, Milford, Conn.), 6 pp., printed. Applied Microbiology, vol. 10, November 1962, pp. 532-537. Applied Microbiology, Williams & Wilkins, Mt. Royal and Guilford Avenues, Baltimore 2, Md.

PLAICE:

The Effects of Current Eddies on the Distribution of Plaice Eggs, by T. Laevastu, FAO Fisheries Technical Paper No. 21, 13 pp., illus., printed. Fisheries Division, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, June 1962.

POISONOUS FISH:

"Aiguillon Venimeux de Certains Poissons: *nebulosus*, *Ictalurus catus*. Recherches sur la Venimeuse des Plaies" (Venomous stinger fish: *Ictalurus nebulosus*, *Ictalurus catus*, of Infected Wounds) by A. R. Potvin, article in Abstracts, vol. 39, no. 2, 1962, Abstract 6294, printed in French. University of Pennsylvania, 38-5 Walnut St., Philadelphia 4, Pa.

RADIATION:

Effects of Visible Radiation on Salmonoid Eggs and Larvae, by Ronald Eisler, Contributions in Fisheries Research, vol. 66, pp., illus., printed. (Reprinted from Transactions of the American Fisheries Society, vol. 90, no. 2, 1961, pp. 281-346.) College of Fisheries, University of Washington, Seattle 5, Wash.

Radiation and Sterilization Foods (Progress Report for Period Ending March 15, 1962), by M. J. F. M. Garner, and W. E. Tucker, Jr., AD-270, Div. 16 (TISTB/CCH), 3 pp., printed, \$1.10. Forces Institution of Pathology, Army Medical Center, Washington, D. C., 1962. (For sale by Office of Technical Services, Washington 25, D. C.)

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

ACTIVITY:

"Studies on Nuclear Species in Contaminated Fish and their Movement in the Body of the Fish," by S. I. R. Yasumoto, and K. Mori, article, Water Pollution Abstracts, vol. 35, no. 3, 1962, Abstract 10, printed. Her Majesty's Stationery Office, Stationery House, Holborn Viaduct, London EC4, England.

EUREPE:

"Eurytomy in Gymnodinium breve Davis," by W. Aldrich, article, Science, vol. 137, no. 3471, 1962, pp. 988-990, printed. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington 5, D. C.

ALIA:

Spawning Report--British Columbia, 1961, processed. Department of Fisheries, Pacific Division, 1155 Robson St. W., Vancouver 5, B. C., Canada, February 26, 1963. A report covering the seedling and the salmon spawning areas of British Columbia in 1961. Developments or trends of the 1961 migration and spawning escapement of salmon, by species and areas, are discussed.

Forecast of Bristol Bay Red Salmon Run in 1963, International Leaflet No. 23, 22 pp., illus., processed. Commercial Fisheries Division, Alaska Department of Fish and Game, Juneau, Alaska, January 17, 1963. Highest estimate of red salmon return into Bristol Bay rivers in 1963 is 24.6 million fish. The forecast was prepared jointly by the Alaska Department of Fish and Game, the U. S. Bureau of Commercial Fisheries, and the Fisheries Research Institute of the University of Washington. The methods of forecast include cycle analysis, smolt and return relationship, early returns of certain year groups, and abundance of immature salmon at sea. The report includes forecasts of the run by rivers and lakes and through seas operations such as purse-seining and netting. Contains a number of statistical tables and printing data on these topics.

EAST:

Estimation of Abundance and Mortality of a Spotted Seatrout Population, by E. S. Iversen and Alan W. Brown, Contribution No. 405, 4 pp., illus., printed. Selected from Transactions of the American Fisheries Society, vol. 91, no. 4, October 1962, pp. 395-400. The Marine Laboratory, University of Miami, Rickenbacker Causeway, Miami 49, Florida.

HEH:

Observations on the Taxonomy and Biology of Some West-Pacific Penaeidae (Crustacea, Decapoda), by N. F. Hall, Colonial Office Fishery Publication No. 17, 236 pp., illus., printed, £4 12s. (No. 40--includes mailing costs). Sales Section, Information Services, 845 Third Ave., New York 22, N. Y., 1962. Deals with the Penaeidae species, many of which have a wide distribution in Southeast Asia about Malaya. Shrimp are one of the most valuable products of tropical fisheries and in many countries are the basis for export industries which are a valuable foreign exchange. Besides off-collecting of shrimp made during the cruises of the research vessel Manihine, the author deals with the catches made in coastal waters by the

smaller research launches, and by the various local fishing gears, including the great fixed stake-nets. Particularly interesting is the author's account of the commercial shrimpponds of Singapore, the growth and feeding of the shrimp during their stay in the ponds, and the reasons for the ponds' high productivity. He also discusses possible unexploited resources of shrimp in the Malayan region.

SPAIN:

Publicaciones Tecnicas de la Junta de Estudios de Pesca (Technical Publications of the Fishery Research Committee), Publication No. 2, 247 pp., illus., printed in Spanish. Direccion General de Pesca Maritima, Subsecretaria de la Marina Mercante, Madrid, Spain, January 1963.

SPINY LOBSTER:

The Rock Lobster of South West Africa--Size Frequency, Reproduction, Distribution, and Availability, by J. P. Matthews, Investigational Report No. 7, 59 pp., illus., printed. Marine Research Laboratory, Administration of South West Africa, Windhoek, South West Africa, 1962. Deals with the South West African spiny lobster Jasusalandii (Milne Edwards) and discusses the size distribution, sexual development, and availability during the period 1959 to 1961. The introduction gives an historical review of legislative development of the industry and research, as well as a summary of knowledge regarding reproduction and metamorphosis of the rock or spiny lobster.

STRIPED BASS:

Striped Bass in Maryland Tidewater, by Romeo J. Mansueti and Edgar H. Hollis, 23 pp., illus., processed. Maryland Department of Tidewater Fisheries, Annapolis, Md., February 1963. Summarizes in non-technical terms the results of research and management studies of the striped bass in Maryland tidewater. "The striped bass, with the scientific name Roccusaxatilis (Walbaum) and the common name 'rock,' is the most important and valuable fish found in Maryland waters. The fish on the Great Seal of Maryland is said to be the rock, symbolic of Chesapeake Bay," according to the authors. The report discusses in considerable detail the biology of the striped bass, its local movements and migrations, its utilization by anglers and netters, and its conservation and management. The authors state that future research and management activities will be focused on continual monitoring of the rock fishery and the habitat; population size estimation of legal-size fish to learn how many individuals are present at the beginning of a fishing season; and forecasting fish crops for all fishermen.

THAWING:

"Dielectric Thawing of Fish. II--Experiments with Frozen White Fish," by A. C. Jason and H. R. Sanders, article, Food Technology, vol. 16, June 1962, pp. 107-112, printed. The Garrard Press, 510 N. Hickory, Champaign, Ill.

TILAPIA:

"The Culture of Tilapia nigra (Günther) in Ponds. VIII--The Effect of Cropping a Breeding Population by Trapping," by Vernon D. Van Someren, article, East African Agricultural and Forestry Journal, 1962,

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

pp. 176-185, printed. East African Agricultural and Forestry Journal, Box 21, Kikuyu, Kenya.

U.S.S.R.:

The Progress of the Fishery on the Northern Slope of Goose Bank in Relation to the Hydrological Conditions, by A. A. Elizarov, 9 pp., processed. (Translated from the Russian, Trudy PINRO, vol. XI, 1959, pp. 142-148.) Fisheries Laboratory, Ministry of Agriculture, Fisheries and Food, Lowestoft, Suffolk, England, 1962.

VIETNAM:

Present Status of Research and Development in Connection with the Chanos Fisheries in Viet-Nam, IPFC Occasional Paper 61/9, printed. Indo-Pacific Fisheries Council, Food and Agriculture Organization of the United Nations, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1961.

VIRGINIA:

A Survey of Salt-Water Sport Fishing in Virginia, 1955-1960, by C. E. Richards, Contribution No. 123, 13 pp., illus., printed. (Reprinted from Chesapeake Science, vol. 3, no. 4, December 1962, pp. 223-235.) The Virginia Institute of Marine Science, Gloucester Point, Va.

WATER POLLUTION:

"A Review of the Literature of 1960 on Wastewater and Water Pollution," by H. Heukelekian, article Journal of Water Pollution Control Federation, vol. 33, no. 7, 1961, pp. 681-710, printed. Water Pollution Control Federation, 4435 Wisconsin Ave. NW., Washington 16, D. C.

WHALE OIL:

"The Paper Chromatography of Fats. XLVI--The Composition of Sperm-Whale Oil. The Isolation and Characterization of Palmitoleic Acid, by H. P. Kaufmann and Z. E. Shoeb (Deut. Inst. Fettforschung, Munster, Germany), article, Chemical Abstracts, vol. 55, November 13, 1961, 24055b, printed. The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

WHALES:

"Locomotion in Whales," by P. E. Purves, article Nature, vol. 197, no. 4865, January 26, 1963, pp. 334-337, illus., printed. Nature, St. Martin's Press Inc., 175 Fifth Ave., New York 10, N. Y.

WHALING:

"25.8 Million Tons of Whales in 16 Years," article Fisheries Newsletter, vol. 22, no. 2, February 1963, p. 26, printed. Commonwealth Fisheries Office, Department of Primary Industry, Canberra, Australia. According to the author. "In 16 years of post-war pelagic whaling in the Antarctic, 519,413 whales—a total weight of 25,809,404 metric tons, were killed by the combined national fleets. The total comprised 451,987 baleen whales (23,632,104 tons) and 67,426 sperm whales (2,177,300 tons)." Includes a table showing numbers and tonnage of whales taken by Antarctic pelagic expeditions, 1946/1947-1961/1962.

WHITE SEA:

Biology of White Sea, USSR, OTS No. 62-11771, 1962, illus., printed, 50 cents. Office of Technical Services, U. S. Department of Commerce, Washington D. C., September 21, 1962.

WORLD FISHERIES:

"The Changing Global Fisheries," by G. L. Kesteven, article, Fishing News International, vol. 2, no. 1, January-March 1963, pp. 9-13, illus., printed, single copy 6s. 6d. (about 91 U. S. cents). Arthur & Co. Highway Publications Ltd., Ludgate House, Fleet St., London EC4, England.

YELLOW PIKE:

"An Analysis of an Alternate-Year Walleye Fry Stocking Program in the Cedar River in Iowa," by R. E. Cleary, article, Proceedings of the Academy of Science, vol. 68, 1962, pp. 254-262, printed. Iowa Conservation Commission, Bio. Station, Independence, Iowa.



Created in 1849, the Department of the Interior—America's Department of Natural Resources—is concerned with the management, conservation, and development of the Nation's water, fish, wildlife, mineral, forest, and park and recreational resources. It also has major responsibilities for Indian and Territorial affairs.

As the Nation's principal conservation agency, the Department works to assure that nonrenewable resources are developed and used wisely, that park and recreational resources are conserved for the future, and that renewable resources make their full contribution to the progress, prosperity, and security of the United States—now and in the future.