



FISH AND WILDLIFE SERVICE PUBLICATIONS

THE PROCESSED PUBLICATIONS ARE AVAILABLE FREE FROM THE DIVISION OF INFORMATION, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON 25, D. C. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

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

Number	Title
CFS-2191	- Massachusetts Landings, October 1959, 5 pp.
CFS-2194	- Shrimp Landings, September 1959, 6 pp.
CFS-2195	- Louisiana Landings, July, August, and September 1959, 4 pp.
CFS-2212	- Fish Meal and Oil, December 1959, 2 pp.
CFS-2220	- Frozen Fish Report, 1959 Annual Summary, 14 pp.
CFS-2222	- South Carolina Landings, December 1959, 2 pp.
CFS-2223	- Florida Landings, December 1959, 6 pp.
CFS-2225	- Maine Landings, December 1959, 3 pp.
CFS-2226	- Ohio Landings, December 1959, 2 pp.
CFS-2227	- Rhode Island Landings, December 1959, 3 pp.
CFS-2228	- Frozen Fish Report, January 1960, 8 pp.
CFS-2229	- Alabama Landings, October 1959, 2 pp.
CFS-2232	- Shrimp Landings, October 1959, 6 pp.
CFS-2234	- Massachusetts Landings, November 1959, 5 pp.
CFS-2235	- Texas Landings, December 1959, 3 pp.
CFS-2236	- Georgia Landings, December 1959, 2 pp.
CFS-2237	- New Jersey Landings, 1959 Annual Summary, 6 pp.
CFS-2238	- New York Landings, 1959 Annual Summary, 8 pp.
CFS-2239	- Mississippi Landings, November 1959, 2 pp.
CFS-2241	- Virginia Landings, January 1960, 2 pp. The first in a series of monthly bulletins which will contain the catch and value of fish and shellfish landed in Virginia.
CFS-2242	- Maryland Landings, January 1960, 2 pp. The first in a series of bulletins to be published monthly which will show the total Maryland catch and landed values by species for the major water areas.

- CFS-2244 - California Landings, October 1959, 4 pp.
CFS-2249 - South Carolina Landings, January 1960, 2 pp.
CFS-2252 - North Carolina Landings, January 1960, 3 pp.
CFS-2254 - Alabama Landings, November 1959, 2 pp.
CFS-2255 - Shrimp Landings, November 1959, 6 pp.
CFS-2261 - Alabama Landings, December 1959, 2 pp.
CFS-2262 - New Jersey Landings, January 1960, 3 pp.
CFS-2264 - Florida Landings, January 1960, 6 pp.
CFS-2265 - Maine Landings, January 1960, 3 pp.
CFS-2266 - Georgia Landings, January 1960, 2 pp.

Wholesale Dealers in Fishery Products (Revised):
SL-20 - Texas (Coastal Area), 1959.
SL-21 - California, 1959.

SSR-Fish. No. 290 - Water Quality Study of Wenatchee and Middle Columbia Rivers Before Dam Construction, by Robert O. Sylvester, 125 pp., illus., March 1959.

SSR-Fish. No. 314 - Sources of Hydrographic and Meteorological Data on the Great Lakes, by Charles F. Powers, David L. Jones, and John C. Ayers, 187 pp., illus., July 1959.

SSR-Fish. No. 315 - Northeastern Pacific Albacore Survey. Part 2--Oceanographic and Meteorological Observations, by Richard J. Callaway and James W. McGary, 138 pp., illus., July 1959.

SSR-Fish. No. 318 - Oceanographic Observations, 1958, East Coast of the United States, by C. Godfrey Day, 126 pp., illus., November 1959.

Sep. No. 583 - Processing and Quality Studies of Shrimp Held in Refrigerated Sea Water and Ice: Part 2 - Comparison of Objective Methods for Quality Evaluation of Raw Shrimp.

Sep. No. 584 - Shrimp - Waste Meal: Effect of Storage Variables on Pigment Content.

Sep. No. 585 - New Technological Laboratory for Fisheries Research in Gloucester, Mass.

Sep. No. 586 - Research in Service Laboratories (April 1960): Contains these articles--"Composition of Rockfish," and "Irradiation Preservation of Pacific Cod Fillets."

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

"The Acoustical Behavior of Some Fishes in the Bimini Area," by James M. Moulton, The Biological

Bulletin, vol. 114, no. 3, 1958, pp. 357-374, printed. (U. S. Fish and Wildlife Service, The Marine Biological Laboratory, Woods Hole, Mass.)

"The Role of the Blood in the Transportation of Strontium 90-Yttrium⁹⁰ in Teleost Fish," by Howard Boroughs and Della F. Reid, article, The Biological Bulletin, vol. 115, no. 1, 1958, pp. 64-73, printed. (U. S. Fish and Wildlife Service, The Marine Biological Laboratory, Woods Hole, Mass.)

(Baltimore) Monthly Summary - Fishery Products, November and December 1959; 9 and 10 pp. each. (Market News Service, U. S. Fish and Wildlife Service, 400 E. Lombard St., Baltimore 2, Md.) Receipts at Baltimore by species and by states and provinces for fresh- and salt-water fish and shellfish; total receipts by species and comparisons with previous years; and wholesale prices on the Baltimore market; for the months indicated.

California Fishery Products Monthly Summary, January 1960, 13 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) California cannery receipts of tuna and tunalike fish, mackerel, anchovies; and pack of canned tuna, mackerel, and anchovies. Market fish receipts at San Pedro, Santa Monica, and Eureka areas; California imports; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; American Tuna Boat Association auction sales; for the month indicated.

(Chicago) Monthly Summary of Chicago's Fresh and Frozen Fishery Products Receipts and Wholesale Market Prices, January 1960, 12 pp. (Market News Service, U. S. Fish and Wildlife Service, 565 W. Washington St., Chicago 6, Ill.) Receipts at Chicago by species and by states and provinces for fresh- and salt-water fish and shellfish; and wholesale prices for fresh and frozen fishery products; for the month indicated.

Gulf Monthly Landings, Production, and Shipments of Fishery Products, February 1960, 8 pp. (Market News Service, U. S. Fish and Wildlife Service, 609-611 Federal Bldg., 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; sponge sales; and imports at Port Isabel and Brownsville, Tex.; for the month indicated.

Halibut and Troll Salmon Landings and Ex-Vessel Prices for Seattle, Alaska Ports, and British Columbia, 1958-1959, 34 pp. (Market News Service, U. S. Fish and Wildlife Service, Pier 42 So., Seattle 4, Wash.) Lists the landings of halibut and troll salmon at leading United States ports of the Pacific Coast, and halibut landings at leading British Columbia ports for 1959, with comparative data.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, February 1960, 4 pp. (Market News Service, U. S. Fish and Wildlife Service, 18 So. King St., Hampton, Va.) Fishery landings and production for the Virginia areas of Hampton Roads, Lower Northern Neck, and 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; for the month indicated.

New England Fisheries--Monthly Summary, January and February 1960, 22 pp. each. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston 10, Mass.) Reviews the principal New England fishery ports, and presents food fish 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 landings and ex-vessel prices for fares landed at the Boston Fish Pier and sold through the New England Fish Exchange; for the months indicated.

New York City's Wholesale Fishery Trade--Monthly Summary for December 1960, 21 pp. (Market News Service, 155 John St., New York 38, N. Y.) Includes summaries and analyses of receipts and prices on wholesale Fulton Fish Market, imports entered at New York City, primary wholesaler prices for frozen products, and marketing trends; for the month indicated.

(Seattle) Washington, Oregon, and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, February 1960, 7 pp. (Market News Service, U. S. Fish and Wildlife Service, Pier 42 So., Seattle 4, Wash.) Includes landings and local receipts, with ex-vessel and wholesale prices in some instances, as reported by Seattle and Astoria (Ore.) wholesale dealers; also Northwest Pacific halibut landings; and Washington shrimp landings; for the month indicated.

The Size and Shape of Metamorphosing Larvae of Venus (MERCENARIA) Mercenaria Grown at Different Temperatures, by Victor L. Loosanoff, 11 pp., illus., printed. (Reprinted from Biological Bulletin, vol. 117, no. 2, October 1959, pp. 308-318.) Bureau of Commercial Fisheries, Biological Laboratory, Milford, Conn.

THE FOLLOWING MARKET NEWS LEAFLETS ARE AVAILABLE FROM THE BRANCH OF MARKET NEWS, BUREAU OF COMMERCIAL FISHERIES, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON 25, D. C.

Number	Title
MNL-12	- Peruvian Fisheries, 1959.
MNL-14	- United Kingdom's Fishing Industry, 1958-1959.
MNL-15	- Japanese Trawling Operations in the Bering Sea.

THE FOLLOWING ENGLISH TRANSLATION OF A FOREIGN LANGUAGE ARTICLE IS AVAILABLE ONLY FROM THE U. S. FISH AND WILDLIFE SERVICE, BUREAU OF COMMERCIAL FISHERIES, P. O. BOX 3830, HONOLULU, HAWAII.

Attempts at Estimating the Abundance of Fish Population from the Data of Tuna Long Line Fishery. II--A Few Considerations on the Size of

Stratum, by Akira Suda, 11 pp., processed. (Translated from Nankai Regional Fisheries Research Laboratory, Report no. 7, February 1958, pp. 127-148.)

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

1959 Annual Report of the Secretary of the Interior (For the Fiscal Year Ended June 30, 1959), 522 pp., illus., printed, \$3. U. S. Department of the Interior, Washington, D. C. The activities of the Department's bureaus and offices, including the United States Fish and Wildlife Service, are summarized in this report. Among others, the activities of the Bureau of Commercial Fisheries are described. Activities discussed in detail are utilization of the commercial fishery resources; research in fishery biology (shellfisheries, anadromous, inland, and marine fisheries); conservation of Alaska commercial fisheries; Columbia River fisheries program; and Pribilof Island Fur-Seal industry. A summary of the various activities of the Bureau of Sport Fisheries and Wildlife is also included.

Public Fish Culture in the United States, 1958 (A Statistical Summary), by William Hagen and Joseph O. O'Connor, Circular 58, 47 pp., illus., processed, 35 cents, October 1959. A report summarizing the statistical data gathered from the third survey of state fish cultural activities conducted by the U. S. Bureau of Sport Fisheries and Wildlife. The previous surveys were carried out in 1937 and 1949. Basic tool in the present study was a questionnaire sent to all 50 states, requesting data on various aspects of their hatchery facilities and operations, including even an estimate of the expected fish requirements in 1970. This report includes tables showing distribution of fish, by species, from state hatcheries; distribution from Bureau hatcheries, 1957; fish food purchased by the states and the Bureau, 1948 and 1958; hatchery and fishery research and management by the states and Bureau, 1948 and 1958; and other pertinent data. Includes also a number of excellent photos of hatcheries.

MISCELLANEOUS PUBLICATIONS

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ALGAE:

"Complex Primitives: The Red Alga Group," by I. MacKenzie Lamb, article, Natural History, vol. 69, no. 3, March 1960, pp. 16-25, illus., printed, single copy 50 cents. The American Museum of Natural History, Central Park West at 79th St., New York 24, N. Y.

ALMANAC:

The American Ephemeris and Nautical Almanac for the Year 1961, 523 pp., printed, \$4. U. S.

Naval Observatory, Nautical Almanac Office, Washington, D. C. (For sale by Superintendent of Documents, Government Printing Office, Washington 25, D. C.)

ANCHOVY:

"The Food of the Larvae of the Northern Anchovy Engraulis mordax," by Leo Berner, Jr., article, Inter-American Tropical Tuna Commission Bulletin, vol. 4, no. 1, 1959, pp. 1-22, illus., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif.

"Identification of the Egg, Early Life History and Spawning Areas of the Anchoveta, Cetengraulis mysticetus (Gunther), in the Gulf of Panama," by John G. Simpson, article, Inter-American Tropical Tuna Commission Bulletin, vol. 3, no. 10, 1959, pp. 441-580, illus., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif.

ANGOLA:

V Congresso Nacional de Pesca, Angola 1958 - Resumos dos Trabalhos Apresentados (Fifth National Fishery Congress, Angola 1958 - Summaries of Papers Presented), 372 pp., processed in Portuguese. Gabinete de Estudos das Pescas, Lisbon, Portugal. Includes summaries of the 96 papers presented at the Fifth National Fishery Congress, Luanda, Angola, October 1958.

ARGENTINA:

La Pesca Maritima en el Pais (The Marine Fishery of the Country), by Armando Benjamin Sanguorgio, 47 pp., illus., printed in Spanish. Direccion General de Pesca, Secretario de Estado de Agricultura y Ganaderia de la Nacion, Buenos Aires, Argentina, 1959. A comprehensive report covering past accomplishments in the development of the fisheries; conservation of the living resources of the sea; distribution of marine life; and the continental shelf. It also discusses the present status of the fisheries; the high seas and coastal fisheries; marine algae; laws and enforcement; and world fishery production. Included are many statistical tables showing catch by areas and species, vessels by areas, and other pertinent data.

AUSTRALIA:

Australian Journal of Marine and Freshwater Research, vol. 10, no. 3, December 1959, 146 pp., illus., printed. Australian Journal of Marine and Freshwater Research, Commonwealth Scientific and Industrial Research Organization, 314 Albert St., East Melbourne, C2, Australia. Features, among others, articles on: "Some Aspects of the Ecology of Lake Macquarie, N.S.W., with Regard to an Alleged Depletion of Fish. VIII--Trends of the Commercial Fish Catch and Management of the Fishery;" "IX--The Fishes and Their Food;" "X--The Movement of Fish;" and "XI--Estimation of Fish Populations," by J. M. Thomson.

Fishing and Whaling, 1958-59, Statistical Bulletin no. 5, 20 pp., illus., processed. Commonwealth Bureau of Census and Statistics, Canberra, Australia. This is the fifth of a series of annual bulletins dealing with the fishing and whaling industries in Australia. The statistics, covering

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quantity and value of catch and related data, pertain to the year 1958/59 for fisheries and the 1959 season for whaling, with comparative data for the previous 4 years. The bulletin is divided into 4 parts. Part I deals with general fisheries including those for finfish, crustaceans, and molluscs. Part II includes fisheries for pearl-shell and trochus shell. Part III covers the operation of the whaling industry in Australia and Norfolk Island. Part IV shows particulars of overseas trade in fishery and whaling products.

A Review of the Victorian Fishing Industry, 87 pp., illus., processed. Fisheries and Game Dept., 605 Flinders St., Melbourne, C3, Australia. A concise and well-written report on the development and present status of the commercial fresh- and salt-water fisheries in the State of Victoria, Australia. Despite an extensive coastline, large stocks of fish are not readily available in Victorian waters. Since about 25 percent of the population of Australia inhabits this State which comprises only 3.3 percent of the land area, the demand on the fishery resources has been so great that importation of fish has been a necessity. Further development of deep-sea fisheries, such as that for yellow-eye mullet, Australian salmon, and tunas, and the fisheries in the inland lakes is suggested as a means of supplementing existing fish supplies. This report presents information on factors influencing or limiting Victorian fish production, expansion of the fisheries, imports, fishermen's cooperatives, canneries, sport fishing, and the functions of the Fisheries and Game Department.

BARNACLES:

The Settlement and Growth of BALANUS IMPROVISUS, B. EBURNEUS and B. AMPHITRITE, by H. B. Moore and A. C. Frue, 20 pp., illus., printed. (Reprinted from Bulletin of Marine Science of the Gulf and Caribbean, vol. 9, no. 4, pp. 421-440, December 1959.) The Marine Laboratory, University of Miami, Miami 49, Fla.

BEHAVIOR OF FISH:

"Izuchenie Povedeniya Ryb vo Vremya Lova" (A Study of the Behavior of Fish During Catching), by D. V. Radakov, article, Voprosy ikhtiologii, no. 6, 1956, pp. 37-46, printed in Russian. Voprosy Ikhtiologii, Akademia Nauk, U. S. S. R., Ikhtiologicheskaya Komissiya, Moscow, U. S. S. R.

"Rech' Ryb" (The "Language" of Fish), by Yu. A. Shemanskiy, article, Nauka i Zhizn', no. 8, 1958, p. 42, printed in Russian. Nauka i Zhizn', Provda, Novaya Ploshchad', 4, Moscow K-12, U. S. S. R.

BROOK TROUT:

A Compendium of the Life History and Ecology of the Eastern Brook Trout SALVELINUS FONTINALIS (Mitchill), by Colton H. Bridges, Fisheries Bulletin No. 23, 30 pp., printed. Massachusetts Division of Fisheries and Game, 73 Tremont St., Boston 8, Mass., 1958.

CANADA:

Annual Report of the Fisheries Research Board of Canada, 1958/1959 (For the Fiscal Year Ended

March 31, 1959), 186 pp., illus., printed in English with additional introduction in French. A comprehensive summary of the work of the Fisheries Research Board of Canada and its field stations during 1958/1959. The work of the Board is organized in three closely coordinated fields: biological, technological, and oceanographic. During 1958 the Board's new 177-foot trawler-type research vessel, the A. T. Cameron, was placed in service on the Atlantic Coast; biological laboratory facilities in St. Andrews, New Brunswick, were increased; a new technological laboratory was nearly completed in Vancouver, British Columbia; a rented business block in London, Ontario, was modified to serve as laboratory headquarters for fresh-water fishery research; and expanded laboratory space was provided in the Great Slave Lake area. The report also covers activities at the Biological Stations, St. John's, Newfoundland, and Nanaimo, British Columbia; the Arctic Unit, Montreal, Quebec; and the Technological Stations at Halifax, Nova Scotia, Grande-Riviera, Quebec, St. John's, Newfoundland, London, Ontario, and Vancouver, British Columbia. A list of the publications and reports published during the year by the Board is included.

Journal of the Fisheries Research Board of Canada, vol. 16, no. 6, December 1959, 189 pp., illus., printed. Queen's Printer and Controller of Stationery, Ottawa, Canada. Includes, among others, these articles: "Keeping Quality of Pacific Coast Dogfish," by R. H. Moyer and others; "Marine and Freshwater Fishes of the Miramichi River and Estuary, New Brunswick," by R. A. McKenzie; "Survival and Production of Pink and Chum Salmon in a Coastal Stream," by J. G. Hunter; "Additional Observations Concerning Residual Sockeye and Kokanee (*Oncorhynchus nerka*)," by W. E. Ricker; and "Some Morphological Differences Between the Subspecies of Cutthroat Trout, *Salmo clarkii clarkii* and *Salmo clarkii lewisii*, in British Columbia," by S. U. Qadri.

Journal of the Fisheries Research Board of Canada, vol. 17, no. 1, January 1960, 126 pp., illus., printed. Queen's Printer and Controller of Stationery, Ottawa, Canada. Contains, among others, these articles: "The Effect of Time and Temperature of Cooking on the Palatability and Cooking Losses of Frozen Atlantic Codfish Fillets," by Iva L. Armstrong and others; "Incidence and Distribution of Infestation by *Sphyrion lumpi* (Krøyer) on the Redfish, *Sebastes marinus* (L.), of the Western North Atlantic," by Wilfred Templeman and H. J. Squires; "Estimating Abundance from Longline Catches," by Garth I. Murphy; "The Growth, Length-Weight Relationship, and Maturity of Haddock (*Melanogrammus aeglefinus* L.) from the Region of Lockeport, N.S.," by A. C. Kohler; "Biochemical Studies on Sockeye Salmon During Spawning Migration. IX--Fat, Protein and Water in the Major Internal Organs and Cholesterol in the Liver and Gonads of the Standard Fish," by D. R. Idler and I. Bitners; and "Biochemical Studies on Sockeye Salmon During Spawning Migration. X--Glucose, Total Protein, Non-Protein Nitrogen and Amino Acid Nitrogen in Plasma," by R. E. E. Jonas and R. A. MacLeod.

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CATFISH:

"Propagation of Channel Catfish (*Ictalurus lacustris*) at State Fish Hatchery," by Bruce Crawford, paper, Proceedings of the Eleventh Annual Conference, Southeastern Association of Game and Fish Commissioners, October 20-23, 1957, pp. 132-141, printed. Southeastern Association of Game and Fish Commissioners, Columbia, S. C., 1958.

COD:

"La Flotte Morutière Portugaise Devra Ralentir son Expansion Après 1964" (The Portuguese Codfishing Fleet Must Slow Down its Expansion Before 1964), article, La Pêche Maritime, vol. 39, no. 983, February 1960, pp. 73-74, illus., printed in French. La Pêche Maritime, 190 Boulevard Haussmann, Paris (8^e), France.

COMMISSIONS:

(Atlantic States Marine Fisheries Commission) Eighteenth Annual Report (to the Congress of the United States and to the Governors and Legislators of the Fifteen Compacting States), 54 pp., printed. Atlantic States Marine Fisheries Commission, 22 W. First St., Mount Vernon, N. Y., February 1960. Summarizes briefly the many activities of the Atlantic States Marine Fisheries Commission during 1959. Includes condensed reports of the work of the Commission and of the basic committees--legal, technological, biological, and executive. Discusses a report entitled "Recommendations by the Bureau of Commercial Fisheries as to What is Needed in Each State to Establish an Effective System of Catch Statistics," submitted in answer to a formal request made at the 17th Annual Meeting of the Commission. Also contains reports from the North Atlantic Section on the oyster crisis in Long Island Sound, the shad project, and clam investigations. The Middle Atlantic Section reports on dams and barriers on the Delaware River, marshlands protection, and decline of the croaker and sea trout fishery. The Chesapeake Bay Section discusses oyster mortalities, the Potomac Compact between Maryland and Virginia, fisheries of the Atlantic Bight, shad and blue crab projects, cooperative striped bass project, and Baltimore Harbor pollution problem. The South Atlantic Section reports on South Carolina's requirements concerning out-of-state licenses, disposition of marshlands, shad and blue crab projects, exploratory fishing for scallops and shrimp, and legislation for limitation of shrimp imports. Appendices include State legislation recommended, proposed inclusion of mollusks in the terms of the International Convention for the Northwest Atlantic Fisheries, and resolutions adopted by the Commission.

(Atlantic States Marine Fisheries Commission) Minutes of the 18th Annual Meeting (September 22-24, 1959, New York, N. Y.) 219 pp., processed, limited distribution. Atlantic States Marine Fisheries Commission, 22 W. First St., Mount Vernon, N. Y. Covers the minutes of the 18th 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 agency, the U. S. Fish and Wildlife Service. Also included in the appendices are recommendations by the Bureau of Commercial Fisheries as to what is needed in each State to establish an effective system of catch statistics; and reports on increased consumption of fishery products through quality improvement; use made of Payne Act funds for fishery education and extent of State participation; disposal of radioactive wastes in the sea; and new approach in relations between angler groups and commercial fishery groups.

Gulf States Marine Fisheries Commission Tenth Annual Report 1958-1959 (to the Congress of the United States and to the Governors and Legislators of Alabama, Florida, Louisiana, Mississippi, and Texas), 38 pp., printed, for limited distribution. Gulf States Marine Fisheries Commission, 312 Audubon Bldg., New Orleans 16, La., February 1960. Outlines the Commission's activities for the period October 1958-October 1959, with a summary of some of the points of general interest in the Compact among the 5 Gulf States. Describes briefly the activities of each of those States during the period. Short discussions of the U. S. Fish and Wildlife Service activities in technological and biological research, exploratory fishing in the Gulf area, the Gulf fishery statistical and Market News program, and other activities are included. Also contains a financial report of the Commission.

CRABS:

The Shallow-Water Hermit Crabs of Florida, by Anthony J. Provenzano, Jr., 71 pp., illus., printed. (Reprinted from Bulletin of Marine Science of the Gulf and Caribbean, vol. 9, no. 4, December 1959, pp. 349-420.) The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

DENMARK:

"La Industria Danesa de Congelacion de Filetes de Pescado" (The Danish Fish Fillet Freezing Industry), by Henning Pedersen, article, Industrias Pesqueras, vol. 33, no. 784, December 15, 1959, pp. 427-428, printed in Spanish. Industrias Pesqueras, Policarpo Sanz, 21-2^o, Vigo, Spain. A translation of an article appearing in Danish Foreign Office Journal. Describes the enormous increase in the export of fish fillets from Denmark since World War II and a major factor in this increase, the development of freezing on a commercially-profitable basis. The advantages to the consumer of frozen fish fillets are discussed. The Danish industry utilizes two techniques for this process: the machine method, usually used for "round" fish, especially cod; and the hand-cutting method, used for preparing groundfish fillets. Mentions research in new techniques and the development of the Greenland fisheries. Greenland exports large quanti-

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ties of fillets to the United States. Between 1954 and 1958, the quantity and value of Danish exports of fish fillets more than doubled.

EAST AFRICA:

Lake Victoria Fisheries Service, Annual Report, 1958/59, 32 pp., illus., printed. East African High Commission, Nairobi, Kenya, 1959. Reports on the general activities of the Lake Victoria Fisheries Service, including studies on motor fishing vessels, radio equipment, random-sample recording, improved fishing boats, deep-water fishing survey, fish meal, use of gill nets, introduction of tilapia into Lake Victoria, fish marking, legal enforcement, and survey of fishing activity. Also includes statistical summaries of annual catches by species in 1958 at recording stations in Uganda, Tanganyika, and Kenya, which are the three territories under the authority of the East African High Commission.

ECHO-SOUNDING:

Echo Sounding Experiments in the Barents Sea, by I. D. Richardson and others, Fishery Investigations, series II, vol. XXII, no. 9, 61 pp., illus., printed, £1 (about US\$2.80). York House, Kingsway, London WC2, England, 1959.

"Locating Fish With Echo Sounder (A Report on the White Line Recorder, the Operation of the Echo Sounder, and Interpretation of the Echo-grams)," by Ralph Eide, Norwegian Fishing News, vol. 6, no. 4, 1959, pp. 15, 17, 19, 21, 23, illus., printed. Norwegian Fishing News, Ltd., Bergen, Norway.

ECOLOGY:

Eksperimental'naia Ekologiya Pitaniia Ryb (Experimental Ecology of Fish-Feeding), by Viktor Sergeevich Ivlev, 252 pp., illus., printed in Russian. Pishchepromizdat (Food Industry Publishing House), Moscow, U. S. S. R., 1955.

EUROPEAN COMMON MARKET:

"L'Economie des Pêches Françaises Apres un An de Marché Commun" (The Economics of the French Fisheries after One Year of the Common Market), by J. Merot, article, La Pêche Maritime, vol. 38, no. 981, December 1959, pp. 755-762, illus., printed in French. La Peche Maritime, 190 Boulevard Hausmann, Paris (8^e), France.

"Situation et Evolution de la Pêche Maritime Italienne dans le Cadre du Marché Commun" (The Status and Growth of the Italian Marine Fishery Within the Framework of the Common Market), by C. de Felip, article, La Pêche Maritime, vol. 38, no. 981, December 1959, pp. 776-779, illus., printed in French. La Peche Maritime, 190 Boulevard Hausmann, Paris (8^e), France.

FISH-LIVER OILS:

"A Substance in Lingcod Liver Oil Which Prevents Hypercholesterolaemia in Cholesterol-Fed Chickens," by J. D. Wood and Jacob Biely, article, Nature, vol. 185, no. 4711, February 13, 1960, pp. 473-474, printed. Nature, St. Martin's Press, 175 Fifth Ave., New York 10, N. Y.

FISHERIES MANAGEMENT:

Biological and Economic Aspects of the Management of Commercial Marine Fisheries, by Millner B. Schaefer, 5 pp., illus., printed. (Reprinted from Transactions of the American Fisheries Society, vol. 88, 1959, pp. 100-104.) Inter-American Tropical Tuna Commission, La Jolla, Calif., 1959.

"Program of the Branch of Fishery Management Services," by Willis King, paper, Proceedings of the Eleventh Annual Conference, Southeastern Association of Game and Fish Commissioners, October 20-23, 1957, pp. 62-66, printed. Southeastern Association of Game and Fish Commissioners, Columbia, S. C., 1958. The legal authority and objectives for this new Branch of the Bureau of Sport Fisheries and Wildlife, U. S. Fish and Wildlife Service, are discussed. Management services on Federal lands, cooperation on State fishery programs, and plans for new activities are covered.

FISHERY RESEARCH:

"Some Uses of Punch Card Methods in the Tabulation and Analysis of Fishery Research Data," by Ben Leeper, Herbert Stern, Jr., and Victor M. Lambou, paper, Proceedings of the Eleventh Annual Conference, Southeastern Association of Game and Fish Commissioners, October 20-23, 1957, pp. 226-232, printed. Southeastern Association of Game and Fish Commissioners, Columbia, S. C., 1958.

FLORIDA:

An Ecological Study of the Fishes of the Tampa Bay Area, by Victor G. Springer and Kenneth D. Woodburn, Professional Papers Series no. 1, 109 pp., illus., printed. Florida State Board of Conservation, Marine Laboratory, St. Petersburg, Fla., January 1960.

FROZEN FISH:

"La Commercialisation et la Consommation du Poisson Congelé dans le Pays Membres de l'O. E. C. E." (The Marketing and Consumption of Frozen Fish in the Member Countries of the O. E. C. E.), article, La Pêche Maritime, vol. 38, no. 981, December 1959, pp. 792-803, illus., printed in French. La Peche Maritime, 190 Boulevard Hausmann, Paris (8^e), France.

GENERAL:

Fish and Ships (This Was Fishing from the Columbia to Bristol Bay), by Ralph W. Andrews and A. K. Larssen, 250 pp. of photos with short text, printed, \$10.60. The Fishermen's News, Fishermen's Terminal, Seattle 99, Wash. A picture history of the old days of cod, halibut, and salmon in the Pacific Northwest. It covers Indian customs, gill-netting under sail, horse and beach seining, early salteries and canneries, whaling, and sealing.

GILL NETS:

"Comparative Efficiency of Differently Coloured Gill-Net in the North Sea Salmon Fishing," by Atushi Koike, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 24, no. 1, 1958, pp. 9-12, printed in Japanese with English

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

abstract. Japanese Society of Scientific Fisheries, c/o Tokyo Suisan Daigaku, Shiba-kaigandori 6-Chome, Tokyo, Japan.

HERRING:

The Extent of the 1959 Herring Spawning in British Columbia Coastal Waters, by D. N. Outram, Circular No. 56, 13 pp., illus., processed. Fisheries Research Board of Canada, Biological Station, Nanaimo B. C., Canada, November 1959. Reviews the annual success of herring spawning in the major British Columbia herring stocks. Since the amount of spawn deposited in any region is proportional to the number of spawners, the annual estimates of spawn deposition not only form a basis for a quantitative index of the size of the spawning stock but also provide an indication of the escapement from the fishery and hence of the carry-over to the next fishing season. The present report covers the results of the 1959 spawn census in 12 areas along the British Columbia coast. In spite of the second largest winter catch on record, the size of the 1959 spawning escapements showed an increase from the previous year in all but 3 sub-districts. This terminated a steady, downward trend apparent during the past 6 years in the total amount of spawn deposited.

"Nablyudeniya za Povedeniem Kaspyskikh Kilek" (Observations on the Behavior of the Caspian Sprat), by I. V. Nikonov, article, Voprosy Ikhtologii, no. 6, 1956, pp. 21-36, printed in Russian. Voprosy Ikhtologii, Akademia Nauk, U. S. S. R., Ikhtologicheskaya Komissiya, Moscow, U. S. S. R. In this investigation, the behavior of sprats was studied to perfect methods of catching them by the use of light.

"Smalsild- og Feitsildtokt Med G. O. Sars i Tiden 24. September til 29. Oktober 1959" (Small Herring and Fat Herring Investigations by Research Vessel G. O. Sars Between September 24 and October 29, 1959), by Olav Dragesund, article, Fiskets Gang, vol. 45, no. 52, December 24, 1959, pp. 694-699, illus., printed in Norwegian. Fiskets Gang, Postgiro Nr. 691 81, Bergen, Norway.

IMPORTS:

Schedule A--Statistical Classification of Commodities Imported into the United States, January 1, 1960, Edition, 268 pp., printed, \$3.50 domestic and \$4.50 foreign. (The cost of the Schedule includes supplemental bulletins and pages to keep it up to date for at least a year from the time of issuance.) Foreign Trade Division, Bureau of the Census, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) This Schedule exhibits the statistical commodity classifications (including fishery products and related commodities) used in compiling the official United States import statistics. It shows the complete commodity description and commodity code number for each statistical classification used in the published reports and machine tabulations of United States imports. In addition, it shows the country, customs district, commodity subgroup, commodity group, economic class, and

flag of vessel classifications, as well as the units of quantities used in the compilation of the data.

IRRADIATION PRESERVATION:

"Cuts Food Radiation Costs," article, Food Engineering, vol. 32, no. 1, January 1960, pp. 78-80, illus., printed. Food Engineering, McGraw-Hill Publishing Co., Inc., 330 W. 42nd St., New York 36, N. Y. Capital investment can be halved and operating charges reduced 75 percent in processing foods by the use of a new radiation generator, the L-band linac (traveling-wave linear accelerator). "Shelf-life extension of seafood by low dose irradiation presents an opportunity to reverse the declining trend of the fresh fish market," according to the author. In this type of processing, "one L-band linac will handle 9,200 lbs. per hr. at 250,000 rad. Previously, two conventional S-band linacs would have been required to handle 7,500 lbs. per hr., at more than twice the capital cost."

JAPAN:

Bulletin of the Japanese Society of Scientific Fisheries, vol. 25, nos. 7-9, November 1959, 97 pp., illus., printed in Japanese with English summaries. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-Chome, Minato-ku, Tokyo, Japan. Contains, among others, these articles: "Implication of the Scale Ring. III--Improvement of Age-Determination for Fishes," by Hideaki Yasuda; "The Comparison of Sardine Purse Seine Fishery Between Ohara and Katagai in Chiba Prefecture (Significance of Fishery Harbour Reflected in the Attainment of Sardine Purse Seine Fishery)," by Makoto Inoue; "The Distribution of Stress on the Fishing Net. I--On the Static Load," by Yasushi Kondo and Makoto Suzuki; "The Cooperation of Some Legalized Antiseptics in Their Preservative Application to Fish Cakes," by Megumu Goda and Yoshinobu Isa; "The Softening Spoilage of Fish Sausage. V--Effect of Sodium Pyrophosphate and Sorbic Acid on the Growth of Spore of Bacillus circulans," by Hitoshi Uchiyama and Keishi Amano; "Bacteriological Studies on the Spoilage of Fish Sausage. I--Number of Bacteria Present in the Meat of Fish Sausage on the Market," by Mikio Akamatsu; "Bacteriological Studies on the Spoilage of Fish Sausage. II--Kinds of Bacteria Present in the Meat of Fish Sausage on the Market," by Mikio Akamatsu; "Bacteriological Studies on the Spoilage of Fish Sausage. III--Aerobic and Anaerobic Growth of Three Kinds of Bacillus Which are Isolated from Fish Sausage," by Mikio Akamatsu; and "The γ -Radiation Oil Deterioration of Marine Products and Its Prevention (Preliminary Work)," by Kenzo Toyama, Toshiyuki Hirano and Hiroshi Yamaga.

Bulletin of the Japanese Society of Scientific Fisheries, vol. 25, nos. 10-12, December 1959, 108 pp., illus., printed in Japanese with English abstracts. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-Chome, Minato-ku, Tokyo, Japan. Includes, among others, the following articles: "Preparation of a Coating Material by Chlorination of Fish Oil. VI--Influence of Hydroxy Groups

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and Peroxides in Fish Oil on Chlorination," by Kosaku Suzuki; "Amino Acid Composition of the Muscle Extracts of Aquatic Animals. II--The Amounts of Free Amino Acids in the Muscle of Shellfishes and Their Variation During Spoilage," by Keiji Ito; "Biochemical Studies on the Edible Seaweed, *Porphyra tenera*. I--Contents of Various Nitrogenous Components in the Frond as Affected by the Type of the Nitrogen Source," by Shiro Sato and others; and "Riboflavin Contents in the Liver of Fish," by Hideo Higashi, Shigeo Murayama, and Kikuko Tabei.

LIGHT FISHING:

"Reaktsiya Ryb na Tsvet" (The Reaction of Fish to Light), by T. I. Privol'nev, article, *Voprosy Ikhtiologii*, no. 6, 1956, pp. 3-20, printed in Russian. *Voprosy Ikhtiologii*, Akademia Nauk, U. S. S. R., Ikhtologicheskaya Komissiya, Moscow, U. S. S. R.

MARINE BIOLOGY:

Some Information of the Basic Studies on Marine Biology in Japan, by Denzaburo Mlyadi, Contributions from the Seto Marine Biological Laboratory, No. 306, 7 pp., illus., printed. (Reprinted from *Proceedings of the UNESCO Symposium on Physical Oceanography*, 1955, pp. 197-203.) UNESCO, Paris and Japan Society for the Promotion of Science, Tokyo, Japan, 1957.

NETS:

"The Selectivity and Effectiveness of Certain Types of Commercial Nets in the T. V. A. Lakes of Alabama," by C. E. White, Jr., paper, *Proceedings of the Eleventh Annual Conference, Southeastern Association of Game and Fish Commissioners*, October 20-23, 1957, pp. 142-151, printed. Southeastern Association of Game and Fish Commissioners, Columbia, S. C., 1958.

NORTH PACIFIC FISHERIES COMMISSION:

(International North Pacific Fisheries Commission) *Proceedings of the Sixth Annual Meeting, 1959* (Seattle, Wash., November 2-7, 1959), 152 pp., processed. International North Pacific Fisheries Commission, University of British Columbia, Vancouver 8, B. C., Canada, February 1960. Covers the agenda, list of participants, minutes of sessions, and committee reports for the sixth annual meeting of the Commission. The appendixes present, among others, subcommittee reports on distribution of sockeye, pink, and chum salmon; results of deep-sea salmon tagging; racial studies, statistics, and sampling; oceanographic studies; king crab research; and long-term research planning by the member countries--United States, Canada, and Japan.

NORTHWEST ATLANTIC FISHERIES COMMISSION:

Selected Reports of the Standing Committee on Research and Statistics (from the 1958 and 1956 Annual Meetings), 68 pp., illus., processed, limited distribution. (Reprints from serial numbers 570, 540, 553, and 413B.) International Commission for the Northwest Atlantic Fisheries, Halifax, N. S., Canada, 1958. Includes the complete report of the Committee on Research and Statistics at the 1958 and 1956 Annual Meet-

ings together with appendixes. Presents reports of ad hoc subcommittees on requirements for the ocean perch symposium; marking; research on the sea scallop fishery of Subarea 5; statistics; chafing gear; assessment of benefits of mesh regulation; plankton and hydrography; sampling of Eastern Subarea 4 cod stocks; and others. Also presents an outline of present research and long-range needs in the Convention Area in regard to cod, haddock, ocean perch, halibut, statistics, sampling and population dynamics, standardization of measurements, gear selection and mesh measuring, and special projects.

NORWAY:

Cooperation Among Fishermen in Norway, Fiskeridirektoratets Skrifter, vol. IV, no. 2, 71 pp., illus., printed. A/S John Griegs Boktrykkeri, Bergen, Norway, 1959. Contains the following articles which were the basis for working papers presented at the FAO-ILO Technical Meeting on Fishery Cooperatives at Naples, May 12-21, 1959: "Business Organization and Management of Fishery Cooperatives in Norway," by Arne Nordset; and "A General Survey of the Development of Cooperation Among Fishermen in Norway and Methods by Which the Government Has Assisted the Organization," by Aslak Aasbø.

"Lofotfiskets Lonnsomhet 1959" (The Value of the Lofoten Fisheries in 1959), by Georg Oppendal, article, *Fiskets Gang*, vol. 46, no. 1, January 7, 1960, pp. 6-16, illus., printed in Norwegian. *Fiskets Gang*, Postgiro Nr. 691 81, Bergen, Norway.

"Rapport om Tokt med Johan Hjort til Barentshavet 19 September til 24 Oktober 1959" (Report on the Trip of the Johan Hjort to Barentshavet, September 19 to October 24, 1959), by Lars Middtun, article, *Fiskets Gang*, vol. 45, no. 47, November 19, 1959, pp. 639-640, illus., printed in Norwegian. *Fiskets Gang*, Postgiro Nr. 691 81, Bergen, Norway.

"Stortralernes Fiske i 1958" (Large Trawler Fishery in 1958), by Sverre Mollestad, article, *Fiskets Gang*, vol. 45, no. 48, November 26, 1959, pp. 650-656, illus., printed in Norwegian. *Fiskets Gang*, Postgiro Nr. 691 81, Bergen, Norway.

"Stortralernes Lønnsomhet 1958" (The Value of Large Trawlers during 1958), by A. Holm, article, *Fiskets Gang*, vol. 46, no. 2, January 14, 1960, pp. 24-30, illus., printed in Norwegian. *Fiskets Gang*, Postgiro Nr. 691 81, Bergen, Norway.

OCEANOGRAPHY:

"Canadian Oceanographic Research in the North Pacific Ocean," by J. P. Tully and A. J. Dodimead, 30 pp., printed. Fisheries Research Board of Canada, Pacific Oceanographic Group, Nanaimo, B. C., Canada, 1957.

PERU:

"Peru Rides a Fish Boom," by W. J. Jenkins, article, *Foreign Trade*, vol. 113, no. 5, February 27, 1960, pp. 18-20, illus., printed. Queen's

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

Printer, Government Printing Bureau, Ottawa, Canada, single copy 20 Canadian cents. Discusses the recent tremendous increase in the production of Peruvian fish meal and its consequences. Whaling and the bonito fishery are also sizable industries. "Borne along on the rich harvest of the Humboldt Current, Peru's fisheries still hold first place among the countries of Latin America. Expanding fleets require up-to-date equipment. . . ." explains the author.

PICKEREL:

A Compendium of the Life History and Ecology of the Chain Pickerel ESOX NIGER (LeSueur), by Kenneth Wich, Fisheries Bulletin No. 22, 23 pp., printed. Massachusetts Division of Fisheries and Game, 73 Tremont St., Boston 8, Mass., 1958.

POLLUTION:

"Sources and Control of Radioactive Water Pollutants," by E. C. Tzivoglou and W. W. Towne, article, Sewage and Industrial Wastes, vol. 29, no. 2, 1957, pp. 143-156, printed. Federation of Sewage and Industrial Wastes Association, 4435 Wisconsin Ave., NW., Washington 16, D. C.

POND FISHERIES:

"A Preliminary Report on the Comparative Testing of Some of the Newer Herbicides," by J. R. Snow, paper, Proceedings of the Eleventh Annual Conference, Southeastern Association of Game and Fish Commissioners, October 20-23, 1957, pp. 125-132, printed. Southeastern Association of Game and Fish Commissioners, Columbia, S. C., 1958.

PROCESSING:

"Enzyme Visceration and Scaling of Fish," by W. W. Meinke, article, Frosted Food Field, vol. 30, no. 2, February 1960, pp. 52, 66, illus., printed. Frosted Food Field, Inc., 321 Broadway, New York 7, N. Y. In this study, findings indicate the feasibility of producing a clean wholesome fish product for human consumption from fish by an enzymatic visceration and cleaning process. The enzyme for the process must have the ability to degrade or breakdown protein structure. Favorable economic return can be obtained from this operation only if the cleaned fish can bring a premium price. Different species of fish vary in the ease with which the viscera and scales can be removed by enzymatic preparations. In the present study, the golden croaker was used.

PROCESSING MACHINERY:

"Fish-Processing Machines For Factory-Trawlers and Factory-Ships" by I. A. Schenck, article, Norwegian Fishing News, vol. 6, no. 4, 1959, pp. 25, 27, 29, illus., printed. Norwegian Fishing News, Ltd., Bergen, Norway.

SALMON:

"Adult Returns of Pink Salmon from the 1954 Fraser River Planting," by W. Percy Wickett, article, Progress Reports of the Pacific Coast Stations, no. 111, 1958, pp. 18-19, printed. Fisheries Research Board of Canada, Pacific Fisheries Experimental Station, 6640 N. W. Marine Dr., Vancouver 8, B. C., Canada.

British Columbia Salmon Spawning Report - 1959, 14 pp., processed. Department of Fisheries, 1110 Georgia St., W., Vancouver, B. C., Canada, February 1960. Covers the developments associated with the 1959 salmon migration, seeding, and escapement in the various areas of British Columbia.

"Directing Young Salmon," article, Nature, vol. 182, no. 4629, 1958, pp. 162-163, printed. Nature, St. Martin's Press, Inc., 103 Park Ave., New York 17, N. Y.

"An International Tagging Test with Salmon (Salmo salar L.) Smolts," by A. Swain and P. E. Caradine, article, Nature, vol. 185, no. 4708, January 23, 1960, pp. 206-207, printed. Nature St. Martin's Press, Inc., 175 Fifth Ave., New York 10, N. Y.

"Neketye Dannye o Morskikh Migratsiyakh Semgi" (Some Data on the Sea Migrations of Salmon), by V. V. Azbelev and I. I. Lagunov, article, Voprosy Ikhtiologii, no. 6, 1956, pp. 113-120, printed in Russian. Voprosy Ikhtiologii, Akademia Nauk, U. S. S. R., Ikhtiologicheskaya Komissiya, Moscow, U. S. S. R.

SHRIMP:

"Bacterial Content of Commercially Frozen Breaded Shrimp," by Rouben Kachikian, Edward P. Larken, and Warren Litsky, article, Frosted Food Field, vol. 30, no. 2, February 1960, pp. 50-51, printed. Frosted Food Field, Inc., 321 Broadway, New York 7, N. Y. A survey of 144 samples of commercially-frozen breaded shrimp (24 brands) indicated a high variation in the number and types of bacteria present. In the authors' opinion, consideration should be given each operation from fishing boat to the local market in an attempt to reduce the bacterial counts of the final product.

"Nutritive Value of Frozen Shrimp Offers Potent Promotion Prong," article, Quick Frozen Foods, vol. 22, no. 7, February 1960, pp. 125-126, 128, printed. Quick Frozen Foods, E. W. Williams, Publications, Inc., 82 Wall St., New York 5, N. Y. A provocative article describing the results of research on the biochemical composition and value in human nutrition of fresh and frozen shrimp. U. S. Department of the Interior's surveys predict an outstanding increase in the demand for shrimp during the next 15 years. The high value of shrimp, nutrition-wise, coupled with its abundance should be incentives for its increased consumption on a nationwide basis. The promotion of increased use of shrimp in the United States might be an alternative solution to the so-called oversupply problem to imposition of quotas or import duties by the Congress. Bills which would force such restrictions are now under consideration.

Results of Shrimp Trawling by INVESTIGATOR NO. 1, June 1959, by T. H. Butler, Circular No. 55, 7 pp., illus., processed. Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, November 1959. An extensive exploratory program for shrimp was conducted on the British Columbia coast from 1953 to 1955.

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A number of promising areas were located, and subsequently at least two were fished commercially. During June 1959, several inlets on the west coast of Vancouver Island and the area off the entrance to Nootka Sound were resurveyed. In all, 21 tows with a small otter trawl were completed. Details of all tows are presented in this report, which includes tables and maps of the areas studied.

SIERRA LEONE:

Report on Fisheries, 1958, 16 pp., printed, 1s. 6d. (about 21 U. S. cents). Government Bookshop, Water Street, Freetown, Sierra Leone, 1959. Reviews the accomplishments of the Fisheries Development and Research Unit of Sierra Leone since 1945. Also covers the work of the Development and Research Sections during 1958. A Fisheries Officer and Master Fisherman were appointed and commenced work on a four-point program including the (1) introduction of small inshore motor trawlers; (2) introduction of improved techniques to the indigenous fishery--outboard motors for canoes, etc.; (3) economic survey of the fishery including statistics and marketing and transportation methods; and (4) investigation of invertebrate fisheries such as shrimp, crayfish, and oysters. A program of research covering fish tagging, gear studies, and exploratory fishing was also initiated.

SOUTH CAROLINA:

Annual Report, 1958-1959, Contribution No. 31, 10 pp., illus., printed. (Reprinted from Report of South Carolina Wildlife Resources Department, Fiscal Year July 1, 1958-June 30, 1959.) Bears Bluff Laboratories, Wadmaw Island, S. C., January 1960. A detailed description of the activities of Bears Bluff Laboratories for the period under review, covering the study of oysters, shrimp, blue crabs, finfish, pond cultivation.

SPINY LOBSTER:

"Le Conditionnement sous Vide des Queues de Langoustes en Haute Mer" (Vacuum Packing of Spiny Lobster Tails on the High Seas), by A. G. Bresson de Bast, article, France Pêche, vol. 4, no. 35, December 1959, pp. 19-20, illus., printed in French. France Pêche, 84, Rue Carnot, Lorient, France.

ST. PIERRE AND MIQUELON:

"La Pêche a Sant-Pierre et Miquelon" (The Fishery on St. Pierre and Miquelon), by R. Percier, article, La Pêche Maritime, vol. 39, no. 982, January 1960, pp. 13-18, illus., printed in French. La Pêche Maritime, 190 Boulevard Haussmann, Paris (8^e), France. Describes the fishing fleet, the harbors, fishing methods, species landed, processing plants, and other aspects of the fishing industry on these two tiny French possessions in Canada's Gulf of St. Lawrence.

STRIPED BASS:

"The Status of Striped Bass (Roccus saxatilis) (Walbaum) in North Carolina Waters," by Arthur W. Dickson, paper, Proceedings of the Eleventh Annual Conference, Southeastern As-

sociation of Game and Fish Commissioners, October 20-23, 1957, pp. 264-268, printed. Southeastern Association of Game and Fish Commissioners, Columbia, S. C., 1958.

"Striped Bass (Roccus saxatilis) (Walbaum) Research in Maryland," by Edwin M. Barry, paper, Proceedings of the Eleventh Annual Conference, Southeastern Association of Game and Fish Commissioners, October 20-23, 1957, pp. 268-270, printed. Southeastern Association of Game and Fish Commissioners, Columbia, S. C., 1958.

TILAPIA:

"Further Experiments with Tilapia mossambica as a Pondfish," by H. S. Swingle, paper, Proceedings of the Eleventh Annual Conference, Southeastern Association of Game and Fish Commissioners, October 20-23, 1957, pp. 152-154, printed. Southeastern Association of Game and Fish Commissioners, Columbia, S. C., 1958.

TOADFISH:

"Foghorn Sounds Beneath the Sea," by William N. Tavolga, article, Natural History, vol. 69, no. 3, March 1960, pp. 44-50, illus., printed, single copy 50 cents. The American Museum of Natural History, Central Park West at 79th St., New York 24, N. Y.

TRADE LIST:

The Bureau of Foreign Commerce, U. S. Department of Commerce, Washington 25, D. C., has published the following mimeographed trade list. Copies may be obtained by firms in the United States from that office or from Department of Commerce field offices at \$2 each.

Canneries--Morocco, 11 pp. (February 1960).

Lists the names of canneries and addresses and types of products handled. Includes fish and shellfish canneries.

TROUT:

Introduction of the Hybrid Between the Eastern Brook Trout and Lake Trout into the Great Lakes, by John Budd, 4 pp., illus., printed. (Reprinted from The Canadian Fish Culturist, no. 20, August 1957.) Department of Fisheries of Canada, Ottawa, Canada.

The Survival of Yearling Lake Trout Planted in South Bay, Lake Huron, by F. E. J. Fry and J. C. Budd, 9 pp., illus., printed. (Reprinted from The Canadian Fish Culturist, no. 23, December 1958.) Department of Fisheries of Canada, Ottawa, Canada.

TUNA:

Additional Information on the Length-Weight Relationship of Skipjack Tuna from the Eastern Tropical Pacific Ocean, by Richard C. Henne-muth, 13 pp., illus., printed in English and Spanish. (Reprinted from Inter-American Tropical Tuna Commission Bulletin, vol. 4, no. 2, 1959, pp. 25-37.) Inter-American Tropical Tuna Commission, La Jolla, Calif.

"Dakar, d'Une Campagne a l'Autre - La Campagne Thoniere 1958-1959" (Dakar, From One Season

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to Another - The Tuna Fishing Season, 1958-1959), by Jehan Ichtus, article, *La Pêche Maritime*, vol. 39, no. 983, February 1960, pp. 77-79, printed in French. La Pêche Maritime, 190 Boulevard Haussmann, Paris (8^e), France.

"Datos sobre la Edad y Crecimiento de la Albacora Germo alalunga Bonnaterra" (On the Age and Growth of the Albacore *G. alalunga*), by A. Figueras, article, *Investigación Pesquera*, vol. 9, 1957, pp. 27-31, printed in Spanish. Instituto de Investigaciones Pesqueras, Universidad de Barcelona, Barcelona, Spain.

"Morphometric Comparison of Yellowfin Tuna for the Western, Middle, and Eastern Parts of the Indian Ocean," by Jun Nakagome, article, *Bulletin of the Japanese Society of Scientific Fisheries*, vol. 24, no. 3, 1958, pp. 165-168, printed in Japanese with English abstract. Japanese Society of Scientific Fisheries, c/o Tokyo Suisan Daigaku, Shiba-kaigandori 6-Chome, Tokyo, Japan.

Recovery of Tagged Bluefin Tuna (THUNNUS SALIENS), 3 pp., illus., printed. (Reprinted from *California Fish and Game*, vol. 46, no. 1, January 1960, pp. 107-109.) California Department of Fish and Game, 722 Capitol Ave., Sacramento 14, Calif.

"On the Seasonal Variation of Swimming Layers of Yellowfin Tuna, Big-Eyed Tuna, and Black Marlin in the Area of Caroline and Marshall Islands. II--Relation Between Seasonal Variation of Swimming Layer and Vertical Distribution of Water Temperature; III--On the Relationship Between Seasonal Variation of Swimming Layer and Rate-of-Catch," by Jun Nakagome, article, *Bulletin of the Japanese Society of Scientific Fisheries*, vol. 24, no. 3, 1958, pp. 169-175, printed in Japanese with English abstract. Japanese Society of Scientific Fisheries, c/o Tokyo Suisan Daigaku, Shiba-kaigandori 6-Chome, Tokyo, Japan.

"Tuna Fishing Investigations in the South Pacific," by Michel Angot, article, *SPC Quarterly Bulletin*, vol. 9, no. 4, October 1959, pp. 48-52, 60-62, illus., printed, single copy 30 U. S. cents. South Pacific Commission, Box 5254, G. P. O., Sydney, Australia. The commercial possibilities of tuna fishing in waters around French territories in the Pacific are promising, according to recent investigations made by fisheries research vessels of the French Institute of Oceania, Noumea, and Pacific Oceanic Fisheries Investigations, Honolulu. The revival of fishing, long neglected in this area, on a commercial scale utilizing modern methods is urged as a means of increasing the protein food supply, as well as an aid to the local economy.

UNITED KINGDOM:

Journal of the Marine Biological Association of the United Kingdom, vol. 38, no. 3, December 1959, 238 pp., illus., printed, \$7.50. Journal of the Marine Biological Association, Cambridge University Press, 32 E. 57th St., New York 22, N. Y. Includes, among many others, these articles: "Observations on Herring Spawning and Larval Distribution in the Firth of Clyde in 1958," by B. B. Parrish and others; and "The Biology of the Prawn, *Palaemon* (=Leander) *ser-ratus* (Pennant)," by G. R. Forster.

VIRGINIA:

Sixtieth and Sixty-First Annual Reports of the Commission of Fisheries of Virginia (For the Fiscal Years Ending June 30, 1958, and June 30, 1959), 57 pp., illus., printed. Commission of Fisheries, Newport News, Va., 1959. A report for the fiscal years ending June 30, 1958 and June 30, 1959, showing the amount of revenue derived from the fish and shellfish industries, all the expenditures, historical background and jurisdiction, and the general condition of the fish and shellfish industries under the supervision of the Commission. Self-explanatory schedules and reports for these fiscal years are included as follows: receipts from the fish and oyster industries; expenditures for administration, enforcement, and restocking work; recorded oyster planting grounds; areas in which restocking was done; and comparative statements of expenses for the past ten years. Includes reports covering the shad-hatching work on the Mattaponi and Pamunkey Rivers for 1958 and 1959. Because of poor runs of shad, the hatchery on the Chickahominy River did not operate during either year. A report of the Virginia Fisheries Laboratory, Gloucester Point, describes its activities for the two years, with special reference to investigations of oysters and oyster drills, the blue crab, migratory fish, and the pollution problem.

WHALING:

Whales and Whaling, by Paul Budker, 186 pp., illus., printed, 21s. (about US\$2.94). George G. Harrap & Co., Ltd., London, England.

WHALING COMMISSION:

"The 11th Meeting of the International Whaling Commission," article, *Norsk Hvalfangst-Tidende* (The Norwegian Whaling Gazette), vol. 49, no. 1, January 1960, pp. 1-12, printed in Norwegian and English. Norsk Hvalfangst-Tidende, Sandefjord, Norway.

WHITE PERCH:

A Compendium of the Life History and Ecology of the White Perch MORONE AMERICANA (Gmelin), by Charles F. Thoits, III, *Fisheries Bulletin* No. 24, 16 pp., printed. Massachusetts Division of Fisheries and Game, 73 Tremont St., Boston 8, Mass., 1958.

