



RECENT FISHERY PUBLICATIONS

FISH AND WILDLIFE SERVICE PUBLICATIONS

THESE 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.
- SSR - FISH-SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).
- SEP. - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

Number	Title
CFS-1643	- Fish Meal and Oil, August 1957, 2 pp.
CFS-1672	- Massachusetts Landings, May 1957 (revised), 5 pp.
CFS-1697	- Ohio Landings, November 1957, 2 pp.
CFS-1708	- South Atlantic Fisheries, 1956 Annual Summary, 10 pp.
CFS-1710	- California Landings, August 1957, 4 pp.
CFS-1712	- Chesapeake Fisheries, 1956 Annual Summary, 6 pp.
CFS-1714	- Shrimp Landings, September 1957, 6 pp.
CFS-1716	- Alabama Landings, November 1957, 2 pp.
CFS-1717	- Ohio Landings, December 1957, 2 pp.
CFS-1718	- Massachusetts Landings, July 1957, 5 pp.
CFS-1719	- Fish Stick Report, 1957 Annual Summary, 2 pp.
CFS-1721	- California Landings, September 1957, 4 pp.
CFS-1722	- North Carolina Landings, December 1957, 3 pp.
CFS-1723	- Mississippi Landings, November 1957, 2 pp.
CFS-1725	- Rhode Island Landings, December 1957, 3 pp.
CFS-1726	- Fish Meal and Oil, December 1957, 2 pp.
CFS-1729	- Georgia Landings, December 1957, 2 pp.
CFS-1731	- South Carolina Landings, December 1957, 2 pp.

- SSR-Fish. No. 220 - Migrations of the Horseshoe Crab, *Limulus polyphemus*, in Plum Island Sound, Mass., by John P. Baptist, Osgood R. Smith, and John W. Ropes, 19 pp., illus., September 1957.
- SSR-Fish. No. 226 - U. S. Federal Fishery Research on the Great Lakes Through 1956, by Ralph Hile, 50 pp., October 1957. A revision and expansion of SSR-Fish. No. 85, entitled "25 Years of Federal Fishery Research on the Great Lakes." The major purpose of this pub-

lication is to present an annotated bibliography of papers resulting from Federal investigations on the Great Lakes fish and fisheries since the formal initiation of a continuing research program by the Fish and Wildlife Service.

- SSR-Fish. No. 231 - Studies on the Marking of Commercial Shrimp with Biological Stains, by C. E. Dawson, 28 pp., illus., September 1957.
- SSR-Fish. No. 232 - Zooplankton Volumes off the Pacific Coast, 1956, by James R. Thrailkill, 53 pp., illus., October 1957.
- SSR-Fish. No. 233 - Oceanographic Observations, 1956, East Coast of the United States, by D. F. Bumpus, 137 pp., illus., November 1957.

Sep. No. 504 - Potential Byproducts from Alaska Fisheries: Utilization of Salmon Eggs and Salmon Waste.

Sep. No. 505 - Breeding Contributes to the Microbial Populations of Frozen Breaded Fishery Products.

Research and Activities under the Saltonstall-Kennedy Act, Fiscal Year 1957, 148 pp., illus., processed. The third annual report of the Secretary of the Interior on activities and research conducted by or under contract with the Fish and Wildlife Service to encourage the distribution of domestically produced fishery products. Gives a detailed account of activities and progress in fishery biological studies of salmon and related species, Pacific sardines; North Atlantic trawl fishes; Atlantic herring; Gulf of Mexico fishes; striped bass; menhaden; shellfish culture in salt-water ponds; oyster spat collectors; control of oyster predators; oyster drill control; albacore research; and inland fishery research. Also gives detailed reports on commercial fishery studies on exploratory fishing and gear research (includes North Atlantic, Maine sardine, South Atlantic, Gulf of Mexico, and North Pacific explorations, and gear development and research). Reports on fishery technological studies cover Middle Atlantic and Gulf research; development of voluntary standards; development of chemical index for nutritive value of fish meal; new uses for and new products from fish meal; improvement in quality of tuna; irradiation preservation of fish and shellfish; and improvement in quality of blue crab meat. Brief reports are included on commercial fishery economic studies; fishery education and market development; commercial fishery statistics; and Fishery Market News Service. Nine appendices list acts and programs and allocations referred to throughout the report.

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

California Fisheries Trends and Review for 1956, by V. J. Samson, 25 pp., processed. (Available free from the Market News Service, Post Office Bldg., San Pedro, Calif.) This is a review of the 1956 trends and conditions in the California fisheries. Among the subjects discussed are the tuna fishery (cannery receipts, total pack for 1946-56, ex-vessel prices, domestic catch and fishing conditions, imports of frozen tuna, and canned tuna market conditions and price quotations); California sardine (pilchard) fishery (landings, ex-vessel prices, canned pack, and canned sardine prices); mackerel fishery (cannery receipts and ex-vessel prices); anchovy fishery; and canned pet-food production. Included in the statistical tables are data on tuna receipts and canned pack by months and species; landings and products of sardine (pilchards) by months, products, and areas; landings and pack of mackerel and jack mackerel by species and months; production of miscellaneous fishery products; freezings of fish and shellfish; cold-storage holdings; landings of market fish and shellfish at certain California ports; and imports of fishery products into California and Arizona.

California Fishery Products Monthly Summary, December 1957, 10 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) California cannery receipts of raw tuna and tunalike fish, herring, mackerel, anchovies, and squid; pack of canned tuna, herring, mackerel, anchovies, and squid; market fish receipts at San Pedro, Santa Monica, San Diego, and Eureka areas; California imports; canned fish and frozen shrimp prices; for the month indicated.

(Chicago) Monthly Summary of Chicago's Fresh and Frozen Fishery Products Receipts and Wholesale Market Prices, January 1958, 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; fresh-water fish, shrimp, and frozen fillet wholesale market prices; for the month indicated.

Monthly Summary of Fishery Products in Selected Areas of Virginia, North Carolina, and Maryland, January 1958, 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, Ocean City, and Cambridge; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data; for the month indicated.

(New York) Monthly Summary - Receipts of Fishery Products at the New York City Wholesale Salt-Water Market, June 1957; July 1957; August 1957; September 1957; October 1957; November 1957; and December 1957; 16 pp. each. (Market News Service, U. S. Fish and Wildlife Service, 155 John St., New York 38, N. Y.) Receipts in the salt-water section of the Fulton Fish Market by species and by states and provinces, for the months indicated.

(Seattle) Monthly Summary - Fishery Products, December 1957; January 1958; 7 pp. each. (Market News Service, U. S. Fish and Wildlife Service, Pier 42 South, Seattle 4, Wash.) Includes landings and local receipts, with ex-vessel and wholesale prices in some instances, as reported by Seattle and Astoria (Oregon) wholesale dealers; also Northwest Pacific halibut landings; for the months indicated.

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

Effects of Unialgal and Bacteria-Free Culture of GYMNODINIUM BREVIS on Fish (and Notes on Related Studies with Bacteria), by Sammy M. Ray and William B. Wilson, Fishery Bulletin 123 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 57), 31 pp., illus., printed, 25 cents, 1957.

Fur Seals of the Pribilof Islands, by Ralph C. Baker, Conservation in Action No. 12, 23 pp., illus., printed, 20 cents, 1957. The author states that "The Pribilof Islands in Bearing Sea are the homeland of the largest fur-seal herd in the world. Here the fur seals come ashore to bear their young on the rocks and sands above tidewater. The story behind the restoration and development of the Alaska fur-seal herd is one of adventure and international diplomacy. It is a heartening account of cooperation among nations--an outstanding example of wildlife conservation." This report gives an account of the early history of fur-sealing, life of fur seals, management of the Alaska herd, the sealing industry on the Pribilof Islands, and processing and sale of fur-seal skins.

Natural Mortality Rate of Georges Bank Haddock, by Clyde C. Taylor, Fishery Bulletin 126 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 58), 9 pp., illus., printed, 15 cents, 1958.

Ova Production of American Shad in Atlantic Coast Rivers, by William S. Davis, Research Report 49, 7 pp., printed, 1957, 5 cents.

Treatment of Sulfonamide-Resistant Furunculosis in Trout and Determination of Drug Sensitivity, by S. F. Snieszko and G. L. Bullock, Fishery Bulletin 125 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 57), pp. 555-564, illus., printed, 15 cents, 1957.

MISCELLANEOUS PUBLICATIONS

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

ALASKA:

Mid-Century Alaska, 177 pp., illus., printed, \$1. Office of Territories, U. S. Department of the Interior, Washington, D. C. (For sale by the

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Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) This book presents background material on the Territory of Alaska and its potentialities and serves as a source of reference to aid the student, the prospective settler, and the potential investor. Alaska is a rich land with hundreds of thousands of potential agricultural acres, enormous timber stands, great quantities of minerals, superabundant undeveloped water power, unrivaled salmon fisheries, and immense game and fur resources. A section of the report discusses the fish and shellfish industries of Alaska and possibilities for their development. Another section discusses the fur-seal industry, fur-seal management, and sea otters.

ANTIBIOTICS:

"Comparative Effectiveness of Tetracycline Antibiotics for Fish Preservation," by B. A. Southcott, E. G. Baker, J. W. Boyd, and H. L. A. Tarr, article, *Food Technology*, vol. 12, no. 2, February 1958, pp. 108-110, printed, single copy--domestic \$1.50, foreign \$1.75. The Garrard Press, 510 North Hickory, Champaign, Ill. Discusses experimental procedures and results of research on the comparative effectiveness of tetracycline antibiotics in the preservation of fish. The experiments were designed purposely to maintain the antibiotic concentrations used at fairly low levels such as would be consistent with general commercial practice.

BAHAMAS:

Establishment of Oceanographic Research Stations in the Bahama Islands, Treaties and Other International Acts Series 3927, 16 pp., printed, 10 cents. Department of State, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.)

BARBADOS:

Establishment of an Oceanographic Research Station in Barbados, Treaties and Other International Acts Series 3926, 4 pp., printed, 5 cents. Department of State, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.)

CANADA:

Abundance, Distribution and Commercial Exploitation of the Fisheries Resources of Canada's West Coast, by M. P. Shepard and J. C. Stevenson, 59 pp., illus., printed. Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada. (Reprinted from the 9th B. C. Natural Resources Conference Transactions, February 1956.) Assessment of the present status of the fish stocks utilized by the fishing industry of British Columbia requires knowledge of the abundance, distribution, rates of utilization and natural reproductive and growth rates of the stocks. Although much has been done by the various research agencies in the province to provide these data, the biological information on the existing stocks is, as yet, far from adequate. An attempt has been made in this report to examine each of the major fisheries of the province, with a view to determining how

thoroughly the stocks of fish are now being exploited. A history of the different species of fish and the present status of the industry are given.

British Columbia Catch Statistics, 1957 (By Area and Type of Gear), 158 pp., illus., processed. Department of Fisheries of Canada, 1110 West Georgia St., Vancouver 5, B. C., Canada, February 5, 1958. The seventh annual report of fish-catch statistics for British Columbia based on Departmental copies of sales slips that are completed by all commercial fish buyers operating within the Province. The following information is contained in this report: summary of landings by district and total landed value of all fish; highlights of catch statistics--a general review of fishing by species, gear, and area; and detailed district and area monthly statistics by type of gear. The report is intended as a factual statement of catch and no attempt is made except in a general way to explain the success or failure of fishing operations. However, certain economic, weather, and conservation factors that have a bearing on the catch are reviewed.

"The Commercial Fisheries of Canada," by Harold C. Frick, article, *Trade News*, vol. 10, no. 5, November 1957, pp. 14-19, illus., printed. Department of Fisheries of Canada, Ottawa, Canada. This is a review of a report by the same title written by staff members of the Economics Service of the Department of Fisheries and the Fisheries Research Board of Canada. The report deals with basic elements affecting the future demand for and supply of Canadian fisheries products. It is composed of six chapters on the history, the resources, and the products of the Canadian fisheries, marketing organization and prices, the future demand for fishery products and, finally, the capital requirements for fisheries development and prospective changes in employment and earnings. Useful statistical tables and other information are contained in appendices.

1955 Landings of Atlantic Groundfish in Canada (Excluding Newfoundland), by W. R. Martin and G. J. W. Sullivan, *Statistical Series Circular No. 9*, 10 pp., illus., processed. Fisheries Research Board of Canada, Biological Station, St. Andrews, New Brunswick, Canada, December 1957. This circular provides a digest of 1955 groundfish statistics for Canada, excluding Newfoundland. Simple graphs and tables summarizing landings by area fished, months, type of fishing, and fishing effort.

Progress Reports of the Atlantic Coast Stations, No. 67, 34 pp., illus., printed. Fisheries Research Board of Canada, Biological Station, St. Andrews, New Brunswick, Canada, November 1957. Contains, among others, the following articles: "Redfish Exploration North of Flemish Cap," by W. Templeman; "Trimethylamine Test for Evaluating the Quality of Rosefish Fillets," by H. P. Dussault; "Redfish Grow Slowly," by E. J. Sandeman; and "The Production of Edible Fish Protein ('Fish-Flour')

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from Cod and Haddock," by A. Guttman and F. A. Vandenheuevel.

Progress Reports of the Pacific Coast Stations, no. 109, 19 pp., illus., printed. Fisheries Research Board of Canada, Ottawa, Canada, November 1957. Among the articles included are: "Control of Post-mortem Bacterial Spoilage of Whales with Tetracycline Antibiotics," by D. W. Duncan, J. Leung, N. A. W. LePage, J. W. Boyd, and H. L. A. Tarr; and "The Tagging of the Commercial Crab in the Queen Charlotte Islands region," by T. H. Butler.

Tenth Annual Report of the Fisheries Prices Support Board of Canada, 1956-57, printed. The Department of Fisheries of Canada, Ottawa, Canada. In cooperation with the Economics Service of the Department of Fisheries, the staff of the Fisheries Prices Support Board of Canada continued to carry on surveys and other specialized studies of fishermen's costs and returns in Quebec and the Maritime Provinces. In addition, the staff, working in cooperation with the Department of Trade and Commerce, maintained a continuous review of the markets for various fishery products. This report also provides details of payments of assistance in the cost of salt to producers of salted fishery products and of the operations of the Fishermen's Indemnity Plan.

CLAMS:

Abundance of the Hard Clam MERCENARIA MERCENARIA in Relation to Environmental Factors, by Harry W. Wells, Contribution No. 108, 6 pp., illus., printed. (Reprinted from *Ecology*, vol. 38, no. 1, January 1957, pp. 123-128.) Chesapeake Biological Laboratory, Maryland Department of Research and Education, Solomons Island, Md. Describes a study of the distribution of the hard clam, *Mercenaria mercenaria*, in relation to environmental factors. The distribution was examined for correlations and links to different types of substrate or bottom, temperature, current, vegetation, salinity, depth of water, and fishing pressure.

The Maryland Soft Shell Clam Fishery: A Preliminary Investigational Report, by J. H. Manning and E. A. Dunnington, Resource Study Report No. 9, 11 pp., illus., processed. (Reprinted from 1955 Proceedings National Shellfisheries Association, pp. 100-110) Maryland Department of Research and Education, Chesapeake Biological Laboratory, Solomons, Md., August 1955. Discusses the development of Maryland's soft-shell clam fishery and the use and effects of the hydraulic clam dredge. According to the authors, "Observations thus far seem to indicate that the soft-shell clam fishery is based on a highly renewable resource of major proportions. This is not to say that the clam resource cannot be over-exploited. Several factors, however, among which the rather high operational and maintenance costs involved in hydraulic dredging are believed to be of great significance, operate against depletion. It is felt that, with intelligent management of the fishery, supplies may be expected to stabilize at a level which will support a continuing and valuable industry."

COD:

A Pesca do Bacalhau--Campanha de 1955-56 (The Cod Fishery--1955-56 Season), by Antonia Duarte Silva, illus., printed in Portuguese. Gabinete de Estudos das Pescas, Lisbon, Portugal, 1957. In this carefully prepared publication, containing many graphs and statistical tables, the author presents a complete panorama of the Portuguese cod industry during the 1955-56 season. The first chapter covers introductory material and contains data on world production of cod. The second chapter describes the operations of a large new vessel, *Gil Eanes*; the characteristics of the Portuguese cod fleet and the human factor involved; production; marketing; the problems of improving the fleet; and by-products and drying installations. The successive chapters report on the cod fishery in the Barents Sea, the distances to the principal cod banks of the Northwest Atlantic and Arctic oceans, and modern fishing operations.

DISEASES OF FISHES:

Diseases of Fishes of the Western North Atlantic. V. Parasites as Indicators of Herring Movements, by Carl J. Sindermann, Research Bulletin No. 27, 30 pp., illus., printed. Maine Department of Sea and Shore Fisheries, State House, Augusta, Me., November 1957. To determine whether the distribution and abundance of parasites might furnish information about populations and movements of sea herring, a study has been made of the incidence of fungus (*Ichthyosporidium hoferi*), myxosporidian (*Kudoa clupei*), larval cestodes (*Trypanorhyncha*), larval nematodes (*Anisakinae*), and trematodes (*Brachyphallus crenatus*) in mature herring of the western North Atlantic, as well as in herring of age groups 0 and 1 from the Gulf of Maine. Results of this study indicate definite geographic variation in distribution of certain parasites, and suggest a lack of intermixing of adult herring of the Gulf of Maine with those of the Gulf of St. Lawrence; and a possible separation of populations of immature herring from eastern and western parts of the Gulf of Maine, with no major lateral movement along the Maine coast between the first and second years of life.

EAST AFRICA:

An Analysis of Records of Gillnet Fishing in Pilkington Bay, Lake Victoria, by D. J. Garrod, Supplementary Publication No. 2, 19 pp., illus., printed. East African Fisheries Research Organization, P. O. Box 343, Jinja, Uganda, 1957. Over the past ten years the East African Fisheries Research Organization has fished experimentally a number of stations within a radius of 50 miles from Jinja. These stations were selected so as to cover a variety of habitats which range from sheltered bays to exposed coastlines. The records discussed in this paper are the result of fishing operations carried out in Pilkington Bay during the period December 1954 to November 1956. This series of fishing operations was carried out in an attempt to assess the composition of the fish populations contained in this area. To this end a variety of nets of different mesh sizes were used.

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EUROPE:

Le Marche du Poisson en Europe Occidentale Depuis 1950 (Fish Trade in Western Europe Since 1950), 316 pp., illus., printed in French, 1,200 francs (US\$4.00). European Agency of Productivity of the O.E.C.E., 2 rue Andre-Pascal, Paris 16^e, France, 1957. This book is divided into two parts. The first part covers fishing in Europe; general trends in marketing fresh and frozen fish; general organization; prices; consumption; quality--fresh fish, refrigerated plants, and frozen fish; and transportation. The second part studies the fish trade in the following countries: Austria, Belgium, Denmark, France, Greece, Germany, Ireland, Iceland, Italy, Norway, Netherlands, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

FISH PONDS:

Your Own Fishpond, by Earl Franklin Kenamer, Circular no. 528, 31 pp., illus., printed. Alabama Polytechnic Institute, Extension Service, Auburn, Ala., November 1957. This publication is intended as an aid to those who plan to build or improve a fish pond. The author gives advice on location, construction, management, and fishing of fish ponds.

FLORIDA:

Florida Crab Plant Design and Sanitation, by Robert Young, Educational Series No. 10, 20 pp., illus., printed. State Board of Conservation, Tallahassee, Fla., July 1957. Increased markets for crab meat and tightening of public health and sanitation rules connected with the production of this commodity have made it desirable to collect information which can be of help to Florida processors in producing a good quality product. A crab plant design is presented, which is thought to embody desirable features leading to efficient and sanitary production of crab meat. The importance of the personal sanitation of workers is explained and advice is given on the means of reducing contamination of the product by those handling it. Similarly, methods are suggested for keeping the plant and equipment sanitary. The quality standards established by two of the principal markets, New York City and Baltimore, are summarized and explained.

Report on the Sport and Commercial Fisheries of the Braden and Manatee Rivers, by James F. Murdock, Report 57-23, 22 pp., illus., processed. The Marine Laboratory, University of Miami, #1 Rickenbacker Causeway, Miami 49, Fla., December 1957. At the request of the Florida State Board of Conservation a survey was made early in 1957 of the sport and commercial fisheries of the Braden and Manatee Rivers. Biological and economic considerations were presented to aid in the appraisal of a conflict of interests concerning commercial net fishing in these rivers.

FOOD AND AGRICULTURE ORGANIZATION:

Canada: Northwest Atlantic Fisheries Convention Regulations (SOR/57-67. Order in Council P.C. 1957-271), Food and Agricultural Legislation, vol. VI, no. 2, XVI.5/57.1, 5 pp., printed. Food and Agriculture Organization of the United Nations, Rome, Italy. (For sale by Columbia Uni-

versity Press, International Documents Service, 2960 Broadway, New York 27, N.Y.)

General Fisheries Council for the Mediterranean, Proceedings and Technical Papers, No. 4, 437 pp., illus., printed in French and English. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1957. This book is divided into two parts. The first part covers the proceedings of the fourth meeting of the Council held in Istanbul, Turkey, September 17-22, 1956--including a list of participants, a summary record of plenary sessions, a statement by the delegate from Morocco, and a general report on the Council's activities in exploration, production, fish utilization, inland waters, economics, and statistics. The second part contains, among others, the following technical papers: "Research on the Industrial Utilization of Fishes in Turkey and Characteristics of Their Products," "The Oil Content Variation of Anchovy, Horse Mackerel, and Mackerel in the Black Sea," "Research on Mackerel (*Scomber scomber* L.) Oil," and "Relation Between the Migration of *Sarda sarda* Bloch and Prevailing Temperature," by A. Acara; "Some Observations on the Biology of Tuna (*Thunnus thynnus*) Caught in Turkish Waters," by E. F. Akyüz and I. Artüz; "Pelagic Fisheries in Israel," by A. Ben-Tuvia; "Preliminary Report on Experimental Fishing with an Improved Type of Trawl Net," by M. Ben-Yami; "About the Swordfish (*Xiphias gladius* L.)," by M. Demir, A. Acara, and N. Arim; "Underwater Study of the Italian Type Trawl Gear," by Z. Fried; "Savings Gear Experiments with Trawl Nets in Israel Waters," by E. Gottlieb and O. H. Oren; "La Peche aux Crevettes en Turquie," by D. Iyigüngör; "The Preservation of Sardines by Freezing and Previous Treatment," by R. Lopez Costa and L. Rodriguez Molins; "Conservation et Distribution des Produits de la Peche," by G. Ricci; and "Transport of Fish for Short Trips by Sea at Medium Temperature," by S. R. Suntur.

Sweden: Royal Order No. 625 Specifying Certain Protective Regulations Relating to Plaice, Flounder and Cod Fisheries in the Baltic Sea, Food and Agricultural Legislation, vol. VI, no. 2, XVI.5/56.2, 3 pp., printed. Food and Agriculture Organization of the United Nations, Rome, Italy. (For sale by Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.)

FOREIGN TRADE:

Guides for the Newcomer to World Trade, 20 pp., printed, 15 cents. U. S. Department of Commerce, Bureau of Foreign Commerce, Washington, D. C., January 1957. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) This booklet is a revision of the publication Guides for New World Traders issued by the U. S. Department of Commerce in October 1949. The purpose of this booklet is to help businessmen who are newcomers to foreign trade by providing information on the major problems involved in importing and exporting and suggesting solutions

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to those problems. Covers the following aspects of world trade: channels for trading abroad; analysis of import and export products; credit terms; and services to traders--service firms, U. S. Government aids, foreign governments, and trade associations.

GENERAL:

Annual Report of the Federal Trade Commission (For the Fiscal Year Ended June 30, 1957), 133 pp., printed, 40 cents. Federal Trade Commission, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) The forty-third annual report of the Federal Trade Commission, covering its accomplishments during the fiscal year ended June 30, 1957. The section on litigation covers, among other items, a case of alleged price fixing in the tuna industry.

Annual Report of the United States Tariff Commission, 1957, House Document No. 277, 85th Congress, 2nd Session, 68 pp., printed, 25 cents. United States Tariff Commission, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) This, the forty-first annual report of the United States Tariff Commission, covers the period October 1, 1956, through September 30, 1957. It discusses the activities of the Commission and contains summaries of all reports that the Commission made during 1957, including, among others, the escape-clause investigation of groundfish filets, the tunafish investigation, and the trade agreements program.

Improving Foreman Relations in Small Plants, by Edward L. Anthony, Management Aids for Small Manufacturers No. 88, 4 pp., printed. Small Business Administration, Washington 25, D. C., November 1957.

Keys to the Fishes of Washington, Oregon, and Closely Adjoining Regions, by Leonard P. Schultz, Publications in Biology, vol. 2, no. 4, 126 pp., illus., printed, \$1.25. University of Washington Press, Seattle 5, Wash., 1950.

HALIBUT:

The Effect of Fishing on Stocks of Halibut in the Pacific, by William Francis Thompson, 72 pp., illus., printed, \$1. University of Washington Press, Seattle 5, Wash., 1950.

HERRING:

The Status of the Major Herring Stocks in British Columbia in 1954-55, by F.H.C. Taylor, FRB No. 423, 23 pp., illus., printed. (Reprinted from the Report of the British Columbia Department of Fisheries, 1954.) Fisheries Research Board of Canada, Pacific Biological Station, Nanaimo, B. C., Canada, 1955. This report presents a review of the status and level of abundance of the major herring stocks in British Columbia and of the results of the tagging program obtained in 1954-55. In the first part of the report, the 1953-54 data on catch statistics, age composition, and spawn deposition in the major herring populations are reviewed, and an analysis of the movement of herring between populations is

presented. In the last part of the report, information on the level of abundance of the major stocks derived from data in the first part of the report is discussed.

INTERNATIONAL COMMISSIONS:

International Commission for the Northwest Atlantic Fisheries, Annual Proceedings for the Year 1956-57, vol. 7, 76 pp., illus., printed. International Commission for the Northwest Atlantic Fisheries, Halifax, Nova Scotia, Canada, 1957. This bulletin presents the administrative report of the Commission for the year ending June 30, 1957, including financial statements; a report of the Seventh Annual Meeting of the Commission, May 20-25, 1957; summaries of research during 1956 broken down by country; and a compilation of research reports by sub-areas for 1956. Also lists scientists and laboratories engaged in various branches of the Commission's work.

JAPAN:

Bulletin of Tokai Regional Fisheries Research Laboratory (Fisheries Agency) No. 16 (April 1957), illus., printed in Japanese with summaries in English. Tokai Regional Fisheries Research Laboratory, Tsukishima, Chuo-ku, Tokyo, Japan. A collection of reprints including the following subjects: scales of the pink salmon; anatomy of the silver-lip pearl oyster, Pinctada maxima; ecological studies on a predator for commercial clams, Philine japonica; and the optimum temperature for the development of the starfish, Asterias amurensis Lutken.

Journal of the Tokyo University of Fisheries, vol. 43, no. 1, 126 pp., illus., printed. The Tokyo University of Fisheries, Shiba Kaigandori 6, Minato-Ku, Tokyo, Japan, March 1957. Contains, among others, the following articles: "Effect of Differences of Initial and Final Temperature of Whalemeat When It Is Taken Into and Out of Freezer on Drips," and "Drip from Frozen Whalemeat Affected by Freezing Rate and Air Temperature in Air Defrosting," by K. Tanaka and T. Tanaka; "Enzymatic Studies on the Glycolysis of Fish Muscle, I. Activity of Phosphorylase," by T. Ono, F. Nagayama, H. Osawa, and B. Takahashi; and "Biochemical Studies on the Vitamin A in Fish Viscera, IV. Lipoxidase in Liver and Dark Muscle," by T. Ono, F. Nagayama, and T. Sasaki.

Journal of the Tokyo University of Fisheries, vol. 43, no. 2, 162 pp., illus., printed. The Tokyo University of Fisheries, Shiba Kaigandori 6, Minato-Ku, Tokyo, Japan, March 1957. Contains, among others, the following articles: "Studies on the Chemical Essentials to the Discoloration of Fish Oil," by J. Nonaka; "Polarographic Studies on Fish Muscle Meats," by K. Fukushima, I. Osakabe, T. Kikuchi, and I. Okada; and "Atmospheric Exposure of Netting Threads Fouled with Fatty Acids, Linseed Oil and Sardine Oil," by K. Honda, T. Kikuchi, and I. Okada.

LOBSTERS:

Chromatographic Identification of Lobster Egg Estrogen, by J. Kenneth Donahue, Research Bulletin No. 28, 3 pp., printed. Department of

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

Sea and Shore Fisheries, State House, Augusta, Me., November 1957.

MARKETING:

Fish Marketing in Western Europe Since 1950, Project No. 325/2, 304 pp., illus., processed, US\$4. The European Productivity Agency of the Organisation for European Economic Co-Operation, 2 Rue Andre-Pascal, Paris XVI, France. (Available at O.E.E.C. Publications Office, 1346 Connecticut Ave. NW., Washington 6, D.C.) The primary purpose of the present study was to bring up to date the information contained in the report on "Fish Marketing in O.E.E.C. Countries" compiled in 1950-51. The present report consists of two parts. Part I covers the most important and recent issues in European fisheries policy-making and draws some conclusions on the basis of material presented in Part II which deals with conditions in each country. The European Productivity Agency is of the opinion that this report should contribute considerably towards the continued development of productivity in fish marketing throughout Europe. It also should provide a useful documentation for the furtherance of trade in fish on national and international levels. More specifically Part I discusses fishing in Europe, general trends in fish marketing, distribution, prices, consumption, quality, and transportation. Part II deals with the fisheries and fishery trade of these countries individually: Austria, Belgium, Denmark, France, Western Germany, Greece, Iceland, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, and the United Kingdom.

MARYLAND:

Chesapeake Biological Laboratory, Educational Series No. 41, 34 pp., illus., printed. Chesapeake Biological Laboratory, Solomons Island, Md. Describes the Laboratory and its development and the present program of research in the management of Maryland's resources. Future plans are presented for research studies of the oyster, clam, crab, and fishery resources of Maryland.

(Maryland Board of Natural Resources) Thirteenth Annual Report, 1956, 150 pp., illus., printed. Maryland Board of Natural Resources, Annapolis, Md. The present report follows in general the plan of organization used in the twelve preceding reports. Part I consists of an introduction. Part II summarizes the activities and the deliberations of the Board itself. Part III describes the work of four of the five Departments (including the Department of Tidewater Fisheries and the Department of Game and Inland Fish) represented on the Board; and Part IV reviews new conservation laws and the 1956 conservation budget. The annual reports of the two Departments concerned with fish and shellfish contain summaries of work dealing with hydrographic engineering, law enforcement, fish and shellfish studies, rockfish investigation, inland fish management, and related subjects.

OYSTERS:

"The Atlantic Oyster Industry," by H. R. Found, article, Trade News, vol. 10, no. 6, December

1957, pp. 3-7, illus., printed. Department of Fisheries, Ottawa, Canada. Describes the rehabilitation of the oyster population of Prince Edward Island after it was devastated by an epidemic disease from 1914 to 1920. In 1928 the redevelopment of the oyster industry in that province was turned over to the federal Department of Fisheries. This article describes the Department's oyster culture work in Prince Edward Island and the expansion of the program to other Maritime provinces.

PRESERVATION:

The Processing of Dried Salted Fish, by S. A. Beatty and H. Fougere, Bulletin No. 112, 60 pp., illus., printed, 50 Canadian cents. Queen's Printer, Ottawa, Canada, 1957. The English edition of the Fisheries Research Board of Canada's Bulletin No. IX (Methods of Handling Fish. 1. The Processing of Dried Fish, by A. G. Huntsman) has been out of print for a considerable time. From its first issue in 1927 that bulletin was popular and a reprinting had been under consideration for some time. However, during the period since it was issued the knowledge of the chemistry and bacteriology of the preservation of fish by salt has been extended and the drying of fish is now largely carried out indoors in well-designed tunnels under the control of the operator. For these reasons, while that portion of the original bulletin concerned with the dressing of fish has been left intact, the present bulletin has been extended to include sections concerned primarily with the bacteriology and the chemistry of fish salting, and artificial drying. It contains ten chapters on the care of fish at sea, dressing, types of salt, how salt cures fish, the relation between amount of salt used on fish and type of cure, methods of salting, a quantitative study of yields, bacteria and other microorganisms concerned with fish curing, machine washing, and drying salt fish.

RAINBOW TROUT:

Size as a Determinant of Growth Rate in Rainbow Trout SALMO Gairdneri, by P. A. Larkin, J. G. Terpenning, and R. R. Parker, 13 pp., illus., printed. (Reprint from Transactions of the American Fisheries Society, vol. 86 (1956), pp. 84-96.) Transactions of the American Fisheries Society, Librarian, Colorado A & M College, Fort Collins, Colo.

SALMON:

Contributions to the Life-History of the Sockeye Salmon, by D. R. Foskett, Paper 40, FRB No. 422, 49 pp., printed. (Reprinted from the Report of the British Columbia Department of Fisheries, 1954). Fisheries Research Board of Canada, Pacific Biological Station, Nanaimo, B. C., 1955.

King Salmon and the Ocean Troll Fishery of Southeastern Alaska, by Robert R. Parker and Walter Kirkness, Research Report No. 1, 64 pp., illus., printed. Alaska Department of Fisheries, Juneau, Alaska, September 1956. The production of king salmon by trolling has declined steadily since its beginning in the 1900's despite improved fishing methods and discoveries

CALIFORNIA SEALS AND SEA LIONS

Millions of people have enjoyed the trained "seal" acts of circuses, vaudeville and television. The animals' intelligence and amusing antics never cease to amaze--but what the onlooker rarely knows is that these "seals" are not true seals at all.

The sleek, liquid-eyed performer which learns to balance a ball on its nose or to toot a tune on a series of horns instead is almost always a female California sea lion (the male is more belligerent and uncooperative, harder to train).

Sea lions, unlike the true seal, have an external ear, a long, supple neck and rear flippers which turn forward for walking when the animal is ashore. Seals cannot turn their rear flippers forward because they are joined behind the body by a membrane. This makes it mighty awkward when they come ashore, for they must laboriously hitch along on their front flippers and belly.



A YOUNG CALIFORNIA SEA LION TRAINED BY HOMER SNOW OF SAN FRANCISCO. THE ANIMALS ARE CLEVER AND WILLING PERFORMERS AND DEMAND APPLAUSE LIKE ANY PRIMA DONNA.

hides and blubber. They are beginning to return to their former range after having been almost exterminated. The Stellers, never seriously threatened, have maintained fairly stable numbers.

The two other eared seals found in California waters are the famous northern fur seal, featured in Walt Disney's "Seal Island," and the now rare Guadalupe fur seal.

On the California coast females and pups of the northern fur seal seldom venture closer than 20 miles to shore. The Guadalupe, never so numerous as its northern relative, also was nearly exterminated for its pelt and by 1890 was thought to be extinct. A few, however have been observed in their former haunts since then, the last one in California waters being seen at San Nicolas Island in 1949.

The other two members of the family inhabiting our waters are true seals or hair seals, the better known of which is the harbor seal. It stays closer to human activity than do its cousins and for that reason is commonly seen swimming in bays or basking on channel buoys.

Ending the list of six is the northern elephant seal, second only in size to the elephant seal of the southern hemisphere. Like the fur seals, it can spend many months at sea before coming ashore to shed its skin or to bear its young and to breed on the islands of Southern California and Mexico. The elephant seal, so called because of its trunk-like appendage, was ruthlessly exploited by the whalers for its blubber and by the 1870's had virtually disappeared. Now fully protected, the animals are slowly increasing.

What does a sealion eat? Those on our coast like a diet of fish and squid. At least half of the fish they eat are "trash fish" varieties not used by man. Squid were the largest single item in the diet found during a study of the California and the Steller sea lions. They also eat some marine life of commercial and sport fishing importance such as salmon, sablefish, flounder, cod, and halibut.

The true seals eat a variety of fish, usually the slower moving kinds, mollusks and crustaceans. The stomach of an elephant seal taken 40 miles at sea contained ratfish, skates, and small sharks.

It's when the sealion or seal turns to a free meal from nets or fishing lines that it gets into trouble, for commercial fishermen and sportsmen alike don't like to have expensive equipment damaged. It's legal for them to kill seals or sea lions that are causing damage or stealing their fish.

Once in a while, though, the animal indirectly turns the tables on the avenging fisherman. There are cases on record where an overanxious commercial fisherman slipped and was killed by his own gun while the offending seal escaped.

Under present law the California Department of Fish and Game has regulatory powers over the herds, and if overpopulation occurs the surplus animals can be harvested in a sensible manner so they need never again be faced with extermination.

But whether you call them seals or sea lions, or whether they have visible ears and independent flippers, these creatures are some of the most interesting animals in California waters.

--By Emil J. Smith, Jr., Marine Biologist,
Outdoor California, California Department of Fish and Game.