



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.
MNL - REPRINTS OF REPORTS ON FOREIGN FISHERIES.
SSR - FISH - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).
SEP.-SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

Number	Title
CFS-2441	- Pacific Coast States Fisheries, 1959 Annual Summary, 6 pp.
CFS-2445	- Massachusetts Landings, September 1960, 5 pp.
CFS-2454	- Great Lakes Fisheries, 1959 Annual Summary, 12 pp.
CFS-2458	- New York Landings, October 1960 (Revised), 4 pp.
CFS-2460	- Texas Landings, September 1960, 3 pp.
CFS-2462	- North Carolina Landings, November 1960, 3 pp.
CFS-2463	- Maryland Landings, November 1960, 3 pp.
CFS-2466	- South Carolina Landings, November 1960, 3 pp.
CFS-2468	- Fisheries of the United States, 1959 Annual Summary, 16 pp.
CFS-2470	- Georgia Landings, November 1960, 2 pp.
CFS-2472	- Shrimp Landings, September 1960, 6 pp.
CFS-2473	- Frozen Fish Report, December 1960, 8 pp.
CFS-2474	- California Landings, August 1960, 4 pp.
CFS-2475	- California Landings, September 1960, 4 pp.
CFS-2476	- Rhode Island Landings, November 1960, 3 pp.
CFS-2477	- Florida Landings, November 1960, 7 pp.
CFS-2479	- Mississippi Landings, September 1960, 2 pp.
CFS-2480	- New York Landings, November 1960, 4 pp.
CFS-2481	- Shrimp Landings, October 1960, 6 pp.
CFS-2483	- Mississippi Landings, October 1960, 2 pp.
CFS-2484	- North Carolina Landings, December 1960, 4 pp.
CFS-2486	- New York Landings, December 1960, 4 pp.
CFS-2487	- South Carolina Landings, December 1960, 2 pp.
CFS-2488	- Maine Landings, November 1960, 3 pp.
CFS-2489	- Texas Landings, October 1960, 3 pp.
CFS-2490	- Alabama Landings, October 1960, 2 pp.
CFS-2491	- Maryland Landings, December 1960, 3 pp.
CFS-2492	- Virginia Landings, November 1960, 3 pp.
CFS-2493	- Fish Meal and Oil, December 1960, 2 pp.
CFS-2494	- Alabama Landings, November 1960, 2 pp.
CFS-2496	- Mississippi Landings, November 1960, 2 pp.
CFS-2498	- Alabama Landings, December 1960, 2 pp.
CFS-2499	- Louisiana Landings, May 1960, 2 pp.

CFS-2500 - Louisiana Landings, June 1960, 2 pp.
CFS-2501 - Louisiana Landings, July 1960, 2 pp.
CFS-2502 - New Jersey Landings, December 1960, 4 pp.
CFS-2503 - Ohio Landings, November 1960, 4 pp.
CFS-2504 - Ohio Landings, December 1960, 2 pp.
CFS-2505 - Florida Landings, December 1960, 7 pp.
CFS-2509 - Georgia Landings, December 1960, 2 pp.
CFS-2510 - California Landings, October 1960, 4 pp.
CFS-2513 - Virginia Landings, December 1960, 3 pp.
CFS-2517 - Rhode Island Landings, December 1960, 3 pp.

SSR-Fish. No. 364 - Salmon Runs - Upper Columbia River, 1956-57, by R. R. French and R. J. Wahle, 18 pp., illus., October 1960.

SSR-Fish. No. 366 - Physical and Chemical Data for Bottom Sediments South Atlantic Coast of the United States, M/V Theodore N. Gill Cruises 1-9, by Joseph E. Moore and Donn S. Gorsline, 87 pp., illus., October 1960.

Sep. No. 614 - Air-Curtain Fishing for Maine Sardines..

Sep. No. 615 - A Practical Chemical Method for Killing Mussels and Other Oyster Competitors.

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-13	- Indian Fisheries Report, 1959.
MNL-42	- The Shrimp Industry of Panama.
MNL-43	- The Swedish Shrimp Industry.
MNL-44	- Icelandic Fisheries, 1959.

THE FOLLOWING ENGLISH TRANSLATIONS OF FOREIGN LANGUAGE ARTICLES ARE AVAILABLE ONLY FROM THE U. S. FISH AND WILDLIFE SERVICE, BUREAU OF COMMERCIAL FISHERIES, P. O. BOX 3830, HONOLULU, HAWAII.

The Influence of Predation on Numbers of Young Salmon, by R. S. Semko, Translation Series No. 24, 2 pp., processed, March 30, 1959. (Translated from Trudy Problemykh i Tematicheskikh Soveshchaniu ZIN, vol. 6, 1956, pp. 148-149.)

The Possible Cause of Diagonal Slashes of the North Pacific Salmon, by Osamu Sano, Translation Series No. 27, 7 pp., illus., processed, December 8, 1959. (Translated from Hokkaido Provincial Fisheries Research Laboratory, Monthly Report, vol. 16, no. 9, September 1959, pp. 348-350.)

On the Recording Equipment Taking a Count of Salmon-Number by the Utilization of Photoelectric Cell (Preliminary Note), by Toshio Suetake, Translation Series No. 28, 17 pp., illus., processed, December 21, 1959. (Translated from Scientific Reports of the Hokkaido Fish Hatchery, vol. 10, no. 1, 2, December 1955, pp. 73-81.)

THE FOLLOWING ENGLISH TRANSLATIONS OF FOREIGN LANGUAGE ARTICLES ARE NOT FOR GENERAL DISTRIBUTION BUT ARE AVAILABLE FOR REFERENCE ONLY FROM THE U. S. FISH AND WILDLIFE SERVICE, BUREAU OF COMMERCIAL FISHERIES, P. O. BOX 3830, HONOLULU, HAWAII.

On the Food Habits of Yellowfin Tuna NEOTHUNNUS MACROPTERUS (Schlegel) from the Celebes Sea, by Hiroshi Nakamura, Translation No. 17, 9 pp., illus., processed, August 26, 1949. (Translated from Transactions of the Natural History Society of Formosa, vol. 26, no. 148, January 1936.)

An Outline of Studies of the Plecostei (Tuna and Skipjack) in 1925, by Kamakichi Kishinouye, Translation No. 18, 8 pp., processed, August 29, 1949. (Translated from Suisan Gakkai Ho, vol. 4, no. 3, April 1926, pp. 125-137.)

A Study of the Mackerels, Cybiids, and Tunas, by Kamakichi Kishinouye, Translation No. 25, 15 pp., processed, September 9, 1949. (Translated from Suisan Gakkai Ho, vol. 1, no. 1, May 1915, pp. 1-24.)

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

California Fishery Products Monthly Summary, Part I--Fishery Products Production and Market Data, December 1960 and January 1961; 17 pp. and 13 pp., respectively. (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 sardines; pack of canned tuna, mackerel, anchovies, and sardines; market fish receipts at San Pedro, Santa Monica, and Eureka areas; California and Arizona imports; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; American Tuna Boat Association auction sales; for the months indicated.

(Chicago) Monthly Summary of Chicago's Fresh and Frozen Fishery Products Receipts and Wholesale Market Prices, January 1961, 13 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, November and December 1960; January 1961, 8 pp. each. (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; fishery imports at Port Isabel and Brownsville, Texas, from Mexico; and sponge sales; for the months indicated.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, January 1961, 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 1961, 22 pp. (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 month indicated.

New York City's Wholesale Fishery Trade--Monthly Summary for November and December, 1960, 19 and 17 pp. respectively. (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 months indicated.

Production of Fishery Products in Selected Areas of Alabama, Florida, Louisiana, Mississippi, and Texas, 1959, by Peter Di Marco, 39 pp., processed, February 1961. (Available free from the U. S. Fish and Wildlife Service, 609-611 Federal Bldg., 600 South St., New Orleans, La.) Part I reports on trends and conditions in Gulf Coast fisheries during 1959 and gives a resume of the individual fisheries. For the shrimp fishery, a detailed account is presented of total landings by states, extent of coverage of landings, composition of shrimp landings by species and sizes, prices, canning, imports, cold-storage stocks, and general trends and developments. Discusses production and market conditions for the oyster and blue crab fisheries, as well as imports of fresh and frozen fish and shellfish. Part II includes shrimp closed seasons in effect in the Gulf States during 1959, minimum shrimp size regulations, conversion factors and container capacities, and shrimp sizes. The second part also contains statistical tables showing total fishery products landings; fishery imports through the New Orleans Customs District and Port Isabel and Brownsville, Tex.; and LCL express shipments from New Orleans for 1959 by months and destination. Also includes tables showing monthly range of wholesale prices of fishery products on the New Orleans French Market; Gulf States weekly oyster and shrimp packs, 1958/59 season and packs for season 1954-59; summary of Gulf shrimp landings for selected areas, 1958-59 and 5-year averages; and fishery products market classifications in the Gulf area.

Receipts of Fresh and Frozen Fishery Products at Baltimore's Wholesale Fish Market, 1959, by William N. Kelly and James A. Coyne, 42 pp., processed, 1961. (Available free from the U. S. Fish and Wildlife Service, Market News Service, 400 E. Lombard St., Baltimore 2, Md.) The first part discusses the background of the fishery industry; highlights of the wholesale market; and receipts of crab meat, hard crabs, oysters, and striped bass. Also discussed are scup, hake, shad, and butterfish receipts. The second part contains statistical tables showing receipts of fresh and frozen fishery products during 1959, and data on the fresh finfish and shellfish prices, 1959.

(Seattle) Washington, Oregon, and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, January 1961, 7 pp. (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 (Ore.) wholesale dealers; also Northwest Pacific halibut landings; and Washington shrimp landings; for the month indicated.

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

"The Effect of Controlled Light on the Maturation of Adult Blueback Salmon," by B. D. Combs, R. E. Burrows, and R. G. Bigej, article, Progressive Fish-Culturist, vol. 21, no. 2, 1959, pp. 63-69, processed.

Growth of Bluefin Tuna of the Western North Atlantic, by Frank J. Mather III and Howard A. Schuck, Fishery Bulletin 179 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 61), pp. 39-52, illus., printed, 20 cents, 1960.

MISCELLANEOUS PUBLICATIONS

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

ABALONE:

"On the Formation of the Annual Ring on the Shell of Abalone, *Haliotis discus var hannai* Ino," by Seiichi Sakai, article, The Tohoku Journal of Agricultural Research, vol. 11, no. 3, October 1960, pp. 239-244, illus., printed. The Faculty of Agriculture, Tohoku University, Sendai, Japan.

Review of the Abalone in California, by Keith W. Cox, 26 pp., illus., printed. (Reprinted from California Fish and Game, vol. 46, no. 4, October 1960, pp. 381-406.) Department of Fish and Game, 722 Capitol Ave., Sacramento 14, Calif.

AMINO ACIDS:

"Amino Acid Composition of Shellfish Proteins," by Shoji Konosu and Takajiro Mori, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 25, June 1959, pp. 153-155, printed in Japanese with English abstract. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

ANIMAL SOUNDS:

Animal Sounds and Communications, Edited by W. E. Lanyon and W. M. Tavolga, Publication No. 7, 456 pp.,

printed, illus., plus a 12-inch long-playing record, \$9.50 (\$8.50 to AIBS Members). American Institute of Biological Sciences, 2000 P St. NW., Washington 6, D. C., 1960. The publication of the proceedings of a Symposium held at the American Institute of Biological Sciences meetings at Bloomington, Ind., in September 1958, under the joint auspices of the Institute, the Ecological Society of America, and the American Society of Zoologists, with support from the Office of Naval Research. It reports significant progress on a new frontier--animal sounds and communication. During the actual symposium, the time allotted to each speaker was necessarily short. In the present volume, the coverage was expanded in two ways. First, the contributing authors were asked to submit papers of a length which they deemed adequate to develop their data and conclusions. Second, two additional chapters were solicited on material not represented at the original symposium; a paper on recording techniques; a chapter on the vocalizations of reptiles and amphibians.

Birds have their songs, frogs and toads their own method of communication, and insects and fish their own set of sounds. The book brings out that these sounds are a part of the animal's behavioral responses to his environment, his inner state, and his associates, and that is why they are being studied. They are communications, and they are being scientifically studied as such. The introduction of the book aptly points out: "A cricket chirps, a dog barks, a thrush sings; sounds older than man, sounds pleasing to the ear, often complex in structure, each distinctive, each stereotyped... . Nearly all of us must have stopped at one time or another to ask ourselves: what do they mean? what do they express? what do they accomplish? why do they exist? and why have they evolved to their present complex and improbable forms?" Although technical in nature, the papers that make up this book can readily be followed by the layman. The introduction points out that to the naturalist perhaps the most striking feature of animal sounds or signals is specificity on a background of tremendous sonant diversity. Every species has its own distinctive signals and some have a considerable repertoire of calls, each corresponding to a particular environmental situation or context.

The study of communication in animals has made great strides in recent years, according to the book. One basic problem has been the absence of any uniform system for describing and classifying animal sounds. Then the introduction states: "Many workers have emphasized the value of descriptive characterization in terms of pitch, timbre, duration, inflexion, and the repetitive or rhythmic patterns of multi-unit phrases and songs. This system has the great advantage of relative objectivity and recently has achieved exciting new potentialities with the development of sensitive recording and analyzing instruments. The sound spectrograms obtained from these instruments constitute an accurate and objective representation of most of the pertinent physical characteristics of sound patterns in a form that can be stored as a permanent record. The significance of this development for the future of communication research is hard to overestimate; like photography and printing, it offers a means of capturing and preserving data which previously remained elusive and ephemeral."

Of the nine papers presented, several are concerned with bird songs. One paper with graphs and rec-

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

ordings analyzes the characteristics in detail of selected songs, the variations within the species and even for the same individual, and characteristic differences between species. Another paper demonstrates with respect to the development of vocalization in birds, the promising results to be achieved by a combination of observational and experimental procedures. Still another paper deals with bird songs and mate selection.

The chapter "Sound Production and Underwater Communication in Fishes" is quite fascinating and offers a new look into the unknown world of sound production and communicating among fish. The chapter also points out: the fact that fish make sounds and also have excellent hearing has been known for a long time. Equally as interesting is the chapter on "The Influence of Sound on the Behavior of Amphibians and Reptiles." Also there is the chapter, "Sound Communication in Orthoptera and Cicadidae," which discusses sound communications in two orders of insects. The two final papers of the nine deal with the broader aspects of the studies: "An Ecological and Functional Classification of Animal Sounds," and "Logical Considerations in the Study of Animal Communication."

The standard 12-inch long-playing record, prepared from tape recordings that accompanied the papers at the Indiana meeting, is included with the book to illustrate the principles discussed in each chapter. It aids in understanding the discussions in the book and in appreciating the findings. The bird songs are first played at normal speed and then at one-fourth speed, enabling the listener to hear the details and characteristics he sees on the graphs. There are also sounds of insects, amphibians, and fish. The sounds of fish should be of particular interest to any one interested in fish in any way, even if the interest is just cursory since it is quite interesting to hear the sounds made by the black grouper, sea catfish, gaff-topsail catfish, and toadfish. Also, the record gives a repertoire of sounds made by different species of frogs.

--Joseph Pileggi

CALIFORNIA:

California Fish and Game, vol. 47, no. 1, January 1961, 120 pp., illus., printed. Department of Fish and Game, 722 Capitol Ave., Sacramento 14, Calif. Includes, among others, these articles: "King Salmon Spawning Stocks of the California Central Valley, 1940-1959," by Donald H. Fry, Jr.; "Report on a Co-operative, Preseason Survey of the Fishing Grounds for Albacore (*Thunnus germon*) in the Eastern North Pacific, 1959," by William L. Craig and Joseph J. Graham; "Construction and Operation of a Small Boat Trawling Apparatus," by Wayne J. Baldwin; "The First Recorded Mass Stranding of Pelagic Red Crabs, *Pleuroncodes planipes*, at Monterey Bay, California, Since 1859, with Notes on Their Biology," by Peter W. Glynn; and "The External Morphology of the First Zoeal Stages of the Crabs, *Cancer magister* (Dana), *Cancer antennarius* (Stimpson), *Cancer anthonyi* (Rathbun)," by Robert D. Mir.

The Marine Fish Catch of California (For the Year 1959), Fish Bulletin No. 111, 44 pp., illus., printed.

Librarian, California State Fisheries Laboratory, Terminal Island, Calif., 1960. A summary of the 1959 landings of fish, mollusks, and crustaceans in California by commercial fishing vessels or shipped into the State for processing. Statistical data cover annual landings and shipments, 1916-1959; landings and shipments of leading species by pounds and value; licensed commercial fishermen; number of fishing boats by length; origin of shipments; origin of commercial fish landings; and monthly landings and shipments, statewide and by areas. Also included are annual data on quantity and value of landings by areas; value of landings by ports and areas; sport catch, 1950-1959; and live bait catch. Contains a list of common and scientific names of fishes, crustaceans, and mollusks in the 1959 commercial catch.

CANADA:

Fisheries Statistics of Canada, 1959 (British Columbia), 18 pp., illus., printed in French and English, 50 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada, January 1961. Contains tables giving the quantity and value of fishery products landed in British Columbia in 1944-59, by species and by fisheries districts; quantity and value of manufactured fishery products for 1958-59; capital equipment in the primary fisheries operations, 1958-59; and number of persons engaged in primary fisheries operations, 1958-59.

Fisheries Statistics of Canada, 1959 (Newfoundland), 24 pp., illus., printed in French and English, 50 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada, January 1961. Presents tables giving the value of fishery products by species, 1955-59; quantity and value of fishery products by species and fisheries areas, 1958-59; capital equipment employed in primary operations by areas, 1958-59; and number of persons engaged in the fisheries by areas, 1958-59.

CANNING:

"Studies on Technical Problems in the Processing of Canned Crab (*Paralithodes camtschatica* Tilesius)," by Eiichi Tanikawa, article, Memoirs of the Faculty of Fisheries Hokkaido University, vol. 7, nos. 1 and 2, 1959, pp. 95-155, printed. Faculty of Fisheries, Hokkaido University, Hakodate, Japan.

CAVIAR:

"The Effect of Pasteurization on the Prolongation of the Storing Time of Caviar of the Siberian Salmon," by I. I. Lapshin, article, Sbornik Nauchnykh Moskovskogo Instituta Narodnogo Khoziaistva, no. 8, 1956, pp. 148-159, printed in Russian. Moscow Institute of the National Economy, Stremianni P., Moscow, U.S.S.R.

CEYLON:

Administration Report of the Director of Fisheries for 1959, 92 pp., printed in Sinhalese and English, Rs. 2.75 (About 60 U. S. cents). Government Publication Bureau, Colombo, Ceylon, November 1960. Progress reports for the year 1959 are presented by the Department of Fisheries. Among the subjects covered are: Colombo plan aid from Canada and other countries; extended technical assistance program of F.A.O.; fishing disputes and regulations; enforcement work; economic assistance to fishermen; fishermen's cooperative societies; and loans

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

to individuals and groups of fishermen. Also discussed are: coastal navigation aids; fisheries extension service; fresh and brackish water fisheries; pearl fisheries; cooperative fish sales union; and biological and technological research. Statistical data are included on the production of fresh and cured fish, and foreign trade in fishery products and byproducts.

CHEMICAL CONTENT:

"The Folic Acid Content of Fish and Shellfish," by Hideo Higashi and others, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 24, no. 9, 1959, pp. 776-780, printed in Japanese with English abstract. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

"Studies on Folic Acid and Folinic Acid of Fishes," by Daiichi Kakimoto and Akio Kanazawa, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 24, no. 11, 1959, pp. 933-936, printed in Japanese with English abstract. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

CHOLESTEROL:

"Determination of Cholesterol in Fish Meat with Saponin," by Y. Yamazoe, article, Kagaku Kogaku, vol. 30, 1960, pp. 258-259, printed in Japanese. Society of Chemical Engineers, 609 Kojunsha Bldg., 4 Ginza 6-chome, Chuo-ku, Tokyo, Japan.

CLAMS:

"Clam Poison. I--The Paper Chromatographic Purification of Clam Poison Dihydrochloride," by A. A. Casselman and others, article, Canadian Journal of Chemistry, vol. 38, August 1960, pp. 1277-1290, printed. Canadian Journal of Chemistry, National Research Council, Ottawa 2, Canada.

COD:

"Evidence of Cod (Gadus morhua L.) Migrations from the Norway Coast to the Faroese Islands," by M. J. Holden, article, Journal du Conseil, vol. 26, no. 1, December 1960, pp. 68-72, illus., printed. Andr. Fred. Host & Son, Bredgade, Copenhagen, Denmark.

COMMISSIONS:

Gulf States Marine Fisheries Commission Eleventh Annual Report 1959-1960 (to the Congress of the United States and to the Governors and Legislators of Alabama, Florida, Louisiana, Mississippi, and Texas), 36 pp., printed, for limited distribution. Gulf States Marine Fisheries Commission, 312 Audubon Bldg., New Orleans 16, La., 1960. Outlines the Commission's activities for the period October 1959-October 1960, 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 programs, and other activities are included. Also contains a financial report of the Commission.

CRAYFISH:

"Chromatophorotropins in the Crayfish Orconectes clypeatus and Their Relation to Long-Term Back-

ground Adaptation," by Milton Fingerman, article, Physiological Zoology, vol. 31, 1958, pp. 193-208, printed. Physiological Zoology, University of Chicago Press, 5750 Ellis Ave., Chicago 37, Ill.

DEODORIZATION:

"Deodorization of Fishiness by Adding Ginger," by Y. Tomiyasu, M. Toyomizu, and K. Takahashi, article, Eiyo to Shokuryo, vol. 7, 1955, pp. 272-273, printed in Japanese. Eiyo to Shokuryo (Journal of the Japanese Society of Food and Nutrition), Charles E. Tuttle Co., Tokyo, Japan.

DIRECTORIES:

Scandinavian Fishing Year-Book, 1960-61 (The European Fishing Handbook), edited by Jorgen Frimodt, 487 pp., illus., printed. Jorgen Frimodt, 25, Strandgade, Copenhagen K, Denmark. A useful handbook for the international fisheries trade. Contains chapters on the world catch and production of fish and shellfish, European fishing in the Atlantic, and fish names in various languages together with their scientific names. Sections on Denmark, Faroe Islands, Norway, Sweden, Finland, Iceland, Germany, Netherlands, Belgium, and United Kingdom contain articles on catch statistics, addresses of foreign representatives, names of importing and exporting firms, lists of builders and repair yards for fishing craft, and other trade data. Included are lists of importers and exporters of fishery products throughout the world. The appendix contains a list of port-distinguishing letters of fishing vessels and a directory of individual vessels under registry of the above-mentioned countries.

DOGFISH:

"Osmotic Pressure and Aqueous Humor Formation in Dogfish," by Russel F. Doolittle, Cynthia Thomas, and William Stone, Jr., article, Science, vol. 132, July 1960, pp. 36-37, printed. Science, American Association for the Advancement of Science, 1515 Massachusetts Ave., NW, Washington 5, D. C.

ELECTRICAL FISHING:

"Refinements of Equipment and Procedures in Electrofishing," by Arthur Witt, Jr. and Robert S. Campbell, article, Transactions of the American Fisheries Society, vol. 88, no. 1, 1959, pp. 33-35, printed. Transactions of the American Fisheries Society, Librarian, Colorado A & M College, Fort Collins, Colo.

ENZYMES:

"The Enzyme 5-Phosphorylribose Pyrophosphokinase in Fish Muscle," by H.L.A. Tarr, article, Canadian Journal of Biochemistry and Physiology, vol. 38, July 1960, pp. 683-691, printed. Canadian Journal of Biochemistry and Physiology, Division of Administration, The National Research Council, Sussex St., Ottawa, Canada.

EUROPE:

"Evolution Probable des Industries de la Peche en Europe dans les Vingt Annees qui Viennent" (Probable Development of the European Fishery Industries in the Next 20 Years), by M.B.F. Ranken, article, La Peche Maritime, vol. 39, no. 993, December 1960, pp. 807-817, illus., printed in French. La Peche Maritime, 190, Blvd. Haussmann, Paris (8^e), France.

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

FISH BEHAVIOR:

"Differences on the Frequency of Fishes Among Several Kinds of Colours for Under-Water Fencing Net," by Y. Hiyama, T. Kusaka, and K. Kondo, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 22, no. 10, 1957, pp. 598-601, printed in Japanese with English summary. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

"Differences on the Frequency of Transfer of Fishes with Different Degrees of Inclinations of Under-Water Fencing Net," by Y. Hiyama, T. Kusaka, and K. Kondo, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 22, no. 10, 1957, pp. 602-604, printed in Japanese with English summary. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

"Effect of Supersonic Wave on Behavior of Fish," by Chosei Yoshimuta and Shinsuke Mitsugi, article, Bulletin of the Tokai Regional Fisheries Research Laboratory, no. 13, 1956, pp. 51-60, printed in Japanese with English abstract. Tokai Regional Fisheries Research Laboratory, Tsukishima, Chuo-ku, Tokyo, Japan.

"Fundamental Studies on the Relation of Underwater Sound to the Fish Behaviour. I--About the Sounds by Dropping or Showering," by Michio Chuman, article, Memoirs of the Faculty of Fisheries, Kagoshima University, no. 4, 1955, pp. 61-64, printed in Japanese with English abstract. Faculty of Fisheries, Kagoshima University, Kagoshima, Japan.

"Movement of the Fish in Response to Sound Stimuli with Reference to Sound Intensity," by Y. Suyehiro, S. Yoshino, and Y. Tsukamoto, article, Japanese Journal of Ichthyology, vol. 6, no. 4/6, 1957, pp. 136-140, printed. Japanese Association for the Promotion of Ichthyology, Tsukiji 5-chome, 1-banchi Kyobashi, Tokyo, Japan.

"The Restricted Movement of Fish Populations," by Shelby D. Gerking, article, Biological Reviews, vol. 34, no. 2, 1959, pp. 221-242, printed. Biological Reviews of the Cambridge Philosophical Society, Cambridge University Press, 200 Euston Rd., London NW1, England.

FISH COOKERY:

"The Change of Digestion Rate of Fish Protein with Different Cooking Methods," by Kinue Ito, article, Kasei-gaku Zasshi, vol. 10, 1959, pp. 171-176, printed in Japanese. Kasei-gaku Zasshi, Charles E. Tuttle Co., Tokyo, Japan.

FISH FLOUR:

"Nutritional Value of Fish Flour Supplements," by V. Chalam Metta, article, Journal of the American Dietetic Association, vol. 37, September 1960, pp. 234-240, printed. American Dietetic Association, 620 North Michigan Ave., Chicago 11, Ill.

FISH OILS:

"Dietary Marine Fish Oils and Cholesterol Metabolism. 2--The Effect of Vitamin A and Lingcod Liver Oil Components on the Serum Cholesterol Levels in Chicks," by J. D. Wood, article, Canadian Journal of

Biochemistry and Physiology, vol. 38, August 1960, pp. 879-887, printed. Canadian Journal of Biochemistry and Physiology, Division of Administration, The National Research Council, Sussex St., Ottawa, Canada.

FISH POPULATIONS:

"Dynamical Treatment of Exploitation of Aquatic Resource. II--Effect on the Aspect of Appearance of Recruit by the Feedback of Information of the Size of Stock," by Takeyuki Doi, article, Bulletin of the Tokai Regional Fisheries Research Laboratory, no. 13, 1956, pp. 73-84, printed in Japanese with English summary. Tokai Regional Fisheries Research Laboratory, Tsukishima, Chuo-ku, Tokyo, Japan.

FISHERY AGREEMENT:

Fishery Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Kingdom of Norway (with Annexes and Exchanges of Letters), Oslo, November 17, 1960, Norway No. 2 (1960), 13 pp., printed, 1s. (about 14 U. S. Cents). Her Majesty's Stationery Office, York House, Kingsway, London WC2, England.

FISHWAY:

"Experiments with a Vertical Baffle Fishway," by Leonard O. Fisk, article, California Fish and Game, vol. 45, no. 2, 1959, pp. 111-122, printed. Department of Fish and Game, 722 Capitol Ave., Sacramento 14, Calif.

FLORIDA:

Conserving Florida's Marine Resources, 4 pp., illus., printed. Florida State Board of Conservation, Marine Laboratory, St. Petersburg, Fla., March 1960.

FOREIGN TRADE:

Exporting for Profit, by J. Parker Van Zandt, Management Aids for Small Manufacturers No. 121, 4 pp., processed. Small Business Administration, Washington 25, D. C., January 1961. A leaflet outlining steps to be followed in exporting commodities profitably. United States businessmen now have the best opportunity in years to do business abroad. A producer starts by analyzing his most promising foreign markets. He next selects agents to introduce his products abroad. Then he uses the same creative imagination and vigor in promoting his export program as he does in his sales promotion at home. His efforts are encouraged by the Federal Government because his success helps to reduce the U. S. multibillion dollar payment gap and aids in strengthening the economy.

FRANCE:

"Les Problemes de la Commercialisation du Poisson" (Problems in Marketing Fish), by R. Lagarde, article, La Peche Maritime, vol. 39, no. 993, December 1960, pp. 769-775, illus., printed in French. La Peche Maritime, 190, Blvd. Haussmann, Paris (8^e), France.

FRESH-WATER FISH:

"Studies of Tolerance of Certain Freshwater Fishes to Brine Water from Oil Wells," by Robert K. Chipman, article, Ecology, vol. 40, no. 2, 1959, pp. 299-302, printed. Ecological Society of America, Duke University Press, Box 6697, College Station, Durham, N.C.

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

GENERAL:

A Biography of the Sea: The Story of the World Ocean, Its Animals and Plant Population, and Its Influence on Human History, by Richard Carrington, 286 pp., illus., printed, \$5. Basic Books, Inc., 59 - 4th Ave., New York 3, N. Y.

Mirovoe Rybolovstvo (World Fisheries), by V. M. Shparlinskii, 132 pp., printed in Russian. Vsesoiuznyi Nauchno-Issledovatel'skii Institut Morskogo Rybnogo Khoziaistvo i Okeanografii (VNIRO), Gosplan SSSR, Moscow, U.S.S.R., 1959.

OEEC: Seefischerei und Aussenhandel mit Fischen und Fischwaren der Assoziierten Gebiete (Sea Fisheries and Foreign Trade in Fish and Fishery Products in Various Nations), by Wilhelm Blanke, 83 pp., processed in German, 10 DM (about US\$2.40), Forschungsstelle fur Fischereiwirtschaft im Bremer Ausschuss fur Wirtschaftsforschung, Parkstrasse 50, Bremen, Germany, 1960. This study is the third volume of a series concerned with sea fisheries and foreign trade in fish and fishery products in various nations of the world. In this particular work, there is provided the statistical basis for trade between the O.E.E.C. and various nations; in particular, Hong Kong, Ceylon, Aden, and Angola.

"On the Relation Between Water Temperature and the Response for Stimuli. The Investigation to Decide the 'Optimum Temperature,'" by Toshiro Kuroki, article, Memoirs of the Faculty of Fisheries, Kagoshima University, vol. 3, no. 2, 1954, pp. 19-24, printed in Japanese with English summary. Faculty of Fisheries, Kagoshima University, Kagoshima, Japan.

"On the Type of Frequency Curve of the Catch. II," by T. Yoshihara, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 22, no. 10, 1957, pp. 618-620, printed in Japanese with English summary. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

GERMANY:

"L'Industrie des Peches en Republique Federale Allemande" (The Fisheries Industry in the German Federal Republic), by Rudolph Preisler, article, La Peche Maritime, vol. 39, no. 993, December 1960, pp. 777-798, illus., printed in French. La Peche Maritime, 190, Blvd. Haussmann, Paris (8^e), France.

"La Nouvelle Halle a Poisson de Cuxhaven" (Cuxhaven's New Fish Market), article, La Peche Maritime, vol. 39, no. 993, December 1960, pp. 799-805, illus., printed in French. La Peche Maritime, 190, Blvd. Haussmann, Paris (8^e), France.

GILL-NETTING:

"Gill-Netting in Nova Scotia," article, Trade News, vol. 13, no. 6, December 1960, pp. 11-13, illus., processed. Information and Educational Service, Department of Fisheries, Ottawa, Canada. Discusses the application of the Great Lakes method of gill-netting to the Nova Scotia groundfish industry. Nova Scotia's Director of Fisheries originated this unique idea and secured the services of a veteran Lake Erie net expert for instructing fishermen in the net-hanging technique used on the Great Lakes. Long-liners and draggers were used and power net-lifters were

installed. Labor-saving advantages and increased catches were soon apparent to fishermen and foretell a reduction in long-lining and hand-lining in the inshore fisheries, according to one enthusiastic user.

GREAT LAKES:

"Variations in the Annual Abundance in Quebec of Fishes Native to the Great Lakes," by Vadim D. Vladykov and G. Beaulieu, article, Naturaliste Canadien, vol. 85, no. 6/7, 1958, pp. 149-156, printed. Naturaliste Canadien, l'Universite Laval, Quebec, Canada.

GULF OF MEXICO:

"Role of Estuarine Waters in Gulf Fisheries," by Bernard E. Skud and William B. Wilson, article, Transactions of the Twenty-Fifth North American Wildlife Conference, pp. 320-326, printed. Wildlife Management Institute, Wire Bldg., Washington 5, D. C., 1960.

HERBICIDES:

"Effects of Five Herbicides on Farm Pond Plants and Fish," by Alfred W. Eipper, article, New York Fish and Game Journal, vol. 6, no. 1, 1959, pp. 46-56, printed. Conservation Department, Arcade Bldg., Albany, N. Y.

HERRING:

"Chemical Character of Spoilage Due to Saponification of Mild-Salted Herring," by V. M. Myasoedova and R. A. Savchenko, article, Izvestiia Tikhookeanskogo Nauchno-Issledovatel'skogo Instituta Rybnogo Khoziaistva i Okeanografii, no. 44, 1957, pp. 197-207, printed in Russian. Izvestiia Tikhookeanskogo Nauchno-Issledovatel'skogo Instituta Rybnogo Khoziaistva i Okeanografii, Vladivostok, U.S.S.R.

"A Deoxyribonucleic Acid from Herring Spermatozoa," by Rudolf K. Zahn, article, Zeitschrift fur Physiologische Chemie, no. 313, 1959, pp. 87-96, printed in German. Zeitschrift fur Physiologische Chemie, Walter de Gruyter & Co., Woyschstrasse 13, Berlin W35, Germany.

La Peche Maritime, vol. 40, no. 994, January 1961, 64 pp., illus., printed in French. La Peche Maritime, 190, Boulevard Haussmann, Paris, France. Contains the following articles on the herring industry: "La Peche Britannique du Hareng s'Adapte a la Situation Actuelle" (The British Herring Fishery Adapts Itself to Current Conditions); and "L'Industrie Neerlandaise s'Inquiete de la Rarefaction du Hareng" (The Netherlands Industry Becomes Uneasy over the Scarcity of Herring), by J. J. Jilstra and K. H. Postuma.

"Preliminary Results of Tagging Experiments with Herring (Clupea harengus L.) in Greenland," by Jorgen Nielsen, article, Journal du Conseil, vol. 26, no. 1, December 1960, pp. 73-79, illus., printed. Andr. Fred. Host & Son, Bredgade, Copenhagen, Denmark.

ICELAND:

Fishing and the Stocks of Fish at Iceland, by J. A. Gulland, Fishery Investigations, series 2, vol. 23, no. 4, 54 pp., illus., printed, 17 s. (about US\$2.40). Ministry of Agriculture, Fisheries and Food,

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

London, England, 1961. (For sale by Her Majesty's Stationery Office, York House, Kingsway, London WC2, England.) Reviews the catch statistics of demersal fish at Iceland during the past 50 years. Cod is the most important species, yielding up to nearly half a million tons annually. The present level of fishing has been sufficient to reduce the abundance of the stocks of cod, but this reduction is not great, and increased effort would result in increased catch. Increased catches could also be obtained by increased trawl mesh size to allow the smallest sizes of fish to escape, thus enabling them to grow larger. Plaice and haddock both show much more severe effects of fishing. The other demersal species caught at Iceland are not analyzed in detail but most of them show some effect of fishing.

INDUSTRIAL OPERATIONS:

Boosting Productivity in Small Shops, by John F. In-derdohnen, Technical Aids for Small Manufacturers No. 74, November-December 1960, 4 pp., processed. Small Business Administration, Washington 25, D.C. A leaflet offering leads on boosting productivity in small plants. The importance of superior production facilities such as up-to-date equipment, regular maintenance schedules, and labor-saving devices is stressed. The role of manufacturing operations--efficient plant layout, use of diecastings, production planning, proper inspection and quality control, and control of over-all costs--is discussed. Suitable placement of employees, maintenance of high morale by adequate facilities, and the cultivation of good manager-employee relations are all important. Working conditions which affect productivity directly are orderly production-line layouts, proper lighting, controlled comfort levels, adequate safety programs, and good housekeeping and maintenance.

ISRAEL:

Bamidgeh, vol. 12, no. 3, September 1960, 48 pp., illus., printed in Hebrew and English. Bamidgeh, Joint Agricultural Extension Center, Division of Fisheries, Ministry of Agriculture, Tel Aviv, Israel. Includes, among others, these articles: "Outlook for the Fish Culture Industry," by S. Tal; "Carp Diseases, Their Prevention and Treatment," by S. Sarig; "Effect of Low Temperatures on *Tilapia nilotica* and *Tilapia galilaea*," by A. Yashouv; "Evaluation of Various Food Items in Diet of *T. nilotica*," by A. Yashouv and J. Chervinski; and "A Note on the Sexual Behaviour of *Tilapia nilotica*," by J. Chervinski.

JAPAN:

Annual Report of Catch Statistics on Fishery and Agriculture, 1959, Agriculture Forestry and Fishery Statistics Bulletin 35-46, 427 pp., printed in Japanese and English. Statistics and Survey Division, Ministry of Agriculture and Forestry, Tokyo, Japan, October 1960. Contains statistical information on the 1959 production of marine fisheries--whaling, pelagic fisheries on the high seas, and domestic marine fisheries; culture in shallow seas; inland water fisheries; and culture in inland waters. Also presents data on processing, average market prices of fishery commodities, and estimated value of the catch.

Statistic Tables of Fishing Vessels (as of the End of 1959), General Report No. 12, 211 pp., printed in

Japanese and English. Japanese Fisheries Agency, Tokyo, Japan. An annual report containing data on the various types of Japanese fishing craft, both powered and nonpowered, as obtained by a fishery registration system. According to the report, "vessels in most types of fisheries have decreased in number except those for fixed net fishing, tuna and bonito fishing and whaling, and governmental vessels, which have increased slightly. In spite of the decrease in number, the gross tonnage of vessels, such as pole-and-line and long-line fishing boats, has increased."

LAMPREY:

"Notes on the Spawning Habits of the River Lamprey (*Petromyzon fluviatilis*)," by L. O. Hagelin, article, Oikos, vol. 9, no. 2, 1958, pp. 221-238, printed. Oikos, Ejnar Munksgaard, Copenhagen, Denmark.

"Parasitic Lampreys of the Genus *Ichthyomyzon* in the Rivers of Illinois," by William C. Starrett, William J. Harth, and Philip W. Smith, article, Copeia, no. 4, December 30, 1960, pp. 337-346, illus., printed. The American Society of Ichthyologists and Herpetologists, 34th St. and Girard Ave., Philadelphia 4, Pa.

LAW OF THE SEA CONFERENCE:

"The Second Geneva Conference on the Law of the Sea: The Fight for Freedom of the Seas," by Arthur H. Dean, article, The American Journal of International Law, vol. 54, no. 4, October 1960, pp. 751-789, printed. The American Society of International Law, Prince and Lemon Sts., Lancaster, Pa. A comprehensive report, by the Chairman of the United States delegation, of the second Conference on the Law of the Sea, held at Geneva, March 17-April 27, 1960, with 87 nations participating. Covers the historical background of the law of the sea, fisheries claims and political disputes, the first Conference, proceedings and achievements of the 1960 Conference, and future freedom and exploration of the seas.

LOUISIANA:

Fish Populations and Aquatic Conditions in Polluted Waters in Louisiana, by James T. Davis, 121 pp., illus., printed. Louisiana Wild Life and Fisheries Commission, Wild Life and Fisheries Bldg., 400 Royal St., New Orleans 16, La., 1960.

"A Survey of the Fishes in the Upper Kisatchie Drainage of West Central Louisiana, 1958," by Charles D. Hancock, Jr. and James E. Sublette, article, Proceedings of the Louisiana Academy of Science, vol. 20, 1958, pp. 38-52, printed. Louisiana Academy of Science, Louisiana State University, Baton Rouge, La.

MACKEREL:

La Peche Maritime, vol. 40, no. 994, January 1961, 64 pp., illus., printed in French. La Peche Maritime, 190, Boulevard Haussmann, Paris, France. Contains the following articles on the mackerel industry: "Considerations sur l'Evolution de la Peche du Maquereau" (Aspects of the Development of the Mackerel Fishery), by L. Plouas; "Progression Continue de la Production de Maquereau a Boulogne" (Mackerel Production at Boulogne Continues to Increase); and "l'Activite de la

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

Conserve de Maquereau" (The Status of the Mackerel Canning Industry), by A. de Torquat.

MARINE ALGAE:

Alginate Jellies, by Robert R. Merton and Richard H. McDowell, British Patent No. 828, 350, printed. Her Majesty's Patent Office, 25 Southampton Bldgs., London WC2, England, February 17, 1960.

Marine Algae of the Eastern Tropical and Subtropical Coasts of the Americas, by William Randolph Taylor, 981 pp., illus., printed, \$19.50. University of Michigan Press, Ann Arbor, Mich., 1960.

MARINE TELEOSTS:

"On the Forming Season of Annual Rings (Opaque and Translucent Zones) in the Otoliths of Several Marine Teleosts," by Takaaki Irie, article, Journal of the Faculty of Fisheries and Animal Husbandry, Hiroshima University, vol. 1, no. 3, 1957, pp. 311-319, printed. Faculty of Fisheries and Animal Husbandry, Hiroshima University, Hiroshima, Japan.

MENHADEN:

"Distribution of Menhaden, Genus brevoortia, in the Gulf of Mexico," by J. Y. Christmas and Gordon Gunter, article, Transactions of the American Fisheries Society, vol. 89, no. 4, 1960, pp. 338-343, printed. Transactions of the American Fisheries Society, Librarian, Colorado A & M College, Fort Collins, Colo.

MISCELLANEOUS:

The National Watercraft Collection, by Howard I. Chapelle, U. S. National Museum Bulletin 219, 327 pp., illus., printed, \$3.50. Smithsonian Institution, Washington, D. C., 1960.

MISSISSIPPI:

Freshwater Fishes in Mississippi, by Fanny A. Cook, 239 pp., illus., printed, \$3. Mississippi Game and Fish Commission, Jackson, Miss., 1959.

MOZAMBIQUE:

Boletim Mensal de Estatistica (Monthly Statistical Bulletin), vol. 1, no. 1, July 1960, 40 pp., printed, 10 escudos (about 35 U. S. cents). Dirrecao dos Servicos de Economia e Estatistica Geral, Lourenco Marques, Mozambique. Includes data on fishery products landings and deliveries to the markets.

NEMATODES:

A New Nematode of the Genus CUCULLANUS (Camallanata: Cucullanidae) from a Flounder, PAROPH-RYS VETULUS Girard, 1854, with Notes on the Species from Pleuronectiformes, by L. Margolis, F. R. B. No. 618, 11 pp., illus., printed. (Reprinted from Canadian Journal of Zoology, vol. 38, 1960, pp. 839-849.) Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada.

NETS:

"A Study of the Comparative Efficiency between Nylon and Linen Gill Nets," by Robert J. Muncy, article, Chesapeake Science, vol. 1, no. 2, June 1960, pp. 96-102, illus., printed, 75 cents a single copy. Maryland Department of Research and Education, Chesapeake Biological Laboratory, Solomons, Md. Field tests were conducted in Chesapeake Bay during the spring of 1959 to compare the differences in the

catches of soft-rayed fish by nylon and linen fiber gill nets. Test nets were matched as closely as possible from commercial net sources and each section was located randomly as to sequence of mesh size and material. Results showed that larger sizes and greater numbers of fish were taken in nylon nets.

"Two Experiments to See the Effect of Mesh Size of Nets on Driving a School of Fish to a Certain Point," by T. Kusaka, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 22, no. 11, 1957, pp. 662-667, printed in Japanese with English summary. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

NORWAY:

Konkylien, vol. 5, no. 2, December 1960, 31 pp., illus., printed in Norwegian with English summaries. Konkylien, Stord Marin Industri a.s., Bergen Norway. Contains, among others, the following articles: "Utilizing the Whale," by Kjell Roed; and "Algae and Seaweed," by Dagfinn Omland.

NUTRITION:

Food Balances in Foreign Countries, Part I--Estimates for 16 Countries of Western Europe, FAS-M-100, 18 pp., October 1960; Part II--Estimates for 12 Countries in the Far East, FAS-M-101, 14 pp., October 1960; Part III--Estimates for 20 Republics of Latin America, FAS-M-104, 22 pp., November 1960; Part IV--Estimates for 28 Countries of Africa and Western Asia; all processed. A series of bulletins giving estimated food balances for some 80 Free World countries in or about the year 1958. The food balance, summarizing in statistical form the food supply situation of a country or area, shows production, import requirements, export availabilities, the utilization of domestically-consumed supplies, and national consumption, both total and average per capita, of individual foods or food groups. Data for fish are included as one among the ten food groups.

NUTRITIVE VALUE:

"Nutritive Value of Fish. II--Biotin, Folic Acid, Pantothenic Acid, and Free Amino Acids of Various Salt-Water Species," by M. E. Loughlin and A. E. Teeri, article, Food Research, vol. 25, July-August 1960, pp. 479-483, printed. Food Research, Department of Food Technology, University of California, Davis, Calif.

OCEANOGRAPHY:

Canadian Oceanographic Research in the Northeast Pacific Ocean, by A. J. Dodimead and J. P. Tully, F.R.B. No. 520, 16 pp., illus., printed. (Reprinted from The Proceedings of the Ninth Pacific Science Congress, 1957, vol. 16, 1958, pp. 180-195.) Fisheries Research Board of Canada, Pacific Oceanographic Group, Nanaimo, Canada.

OCTOPUS:

Kingdom of the Octopus, by Frank W. Lane, 320 pp., illus., printed, \$7.50. Sheridan House, 257-4th Ave., New York 10, N. Y., 1960.

O.E.C.D.:

"The OECD Takes Shape," by G. W. Green, article, Foreign Trade, vol. 115, no. 2, January 28, 1961,

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

pp. 5-7, printed. Queen's Printer, Government Printing Bureau, Ottawa, Canada. Covers the evolution of the Organization for Economic Cooperation and Development (OECD) from the Organization for European Economic Cooperation (OEEC). Discusses functions, structure, and scope of OECD.

"U. S., Canada, and Members of OEEC Sign Convention Establishing Organization for Economic Cooperation and Development," article, The Department of State Bulletin, vol. 44, no. 1123, January 2, 1961, pp. 8-15, printed, 25 cents. Office of Public Services, Bureau of Public Affairs, Department of State, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) On December 14, 1960, the United States, Canada and the 18 member nations of the Organization for European Economic Cooperation signed at Paris a convention establishing the Organization for Economic Cooperation and Development, which replaces the OEEC. This article contains statements made by Under Secretary of State Dillon upon his arrival at Paris on December 11 and at the signing ceremony, a communique issued by the OECD ministerial meeting on December 13, and the text of the OECD Convention and supplementary instruments.

OYSTERS:

Pacific Oyster Seed Production (CRASSOSTREA GIGAS), by D. B. Quayle, 5 pp., processed. (Reprinted from Proceedings of the National Shellfisheries Association, vol. 49, 1959, pp. 54-58.) Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada.

"Physiology of the Oyster. II--Mode of Occurrence of Cytochrome in the Oyster," by T. Hoshi, article, Science Reports of the Tohoku University, Fourth Serial, vol. 24, 1958, pp. 131-136, printed. Faculty of Science, Tohoku University, Sendai, Japan.

Prediction of Oyster Setting in British Columbia (CRASSOSTREA GIGAS), by D. B. Quayle, 4 pp. processed. (Reprinted from Proceedings of the National Shellfisheries Association, vol. 49, 1959, pp. 50-53.) Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada.

PARASITES:

The Identity of the Species of LEPEOPHTHEIRUS (Copepoda) Parasitic on Pacific Salmon (Genus ONCORHYNCHUS) and Atlantic Salmon (SALMO SALAR), by L. Margolis, F.R.B. No. 543, 4 pp., printed. (Reprinted from Canadian Journal of Zoology, vol. 36, 1958, pp. 889-892.) Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada.

PERCH:

The Barred Surfperch (AMPHISTICHUS ARGENTEUS Agassiz) in Southern California, by John G. Carlisle, Jr., Jack W. Schott, and Norman J. Abramson, Fish Bulletin No. 109, 76 pp., illus., printed. Librarian, California State Fisheries Laboratory, Terminal Island, Calif., 1960.

PET FOOD:

"From Trash to Treasure," by J. R. Thompson and W. A. Haskell, article, Petfood Industry, vol. 2, no.

12, December 1960, pp. 10-13, illus., printed. Pet-food Industry, Garden State Publishing Co., Garden State Bldg., Sea Isle City, N. J. Describes the pet-food fishery of the north central Gulf of Mexico. Discusses the rise of the industry, initiated only eight years ago, to the point where it utilized most of the industrial fish landed in the region in 1959, exclusive of menhaden. This industry has changed the designation of a fishery resource from "trash" to "valuable raw material."

PHILIPPINES:

Fisheries Statistics of the Philippines, 1959, 70 pp., processed. Department of Agriculture and Natural Resources, Bureau of Fisheries, Quezon City, Philippines. A complete report covering all aspects of Philippine fishery production during 1959, with some comparative data for previous years. The tables are grouped together under the headings (1) production, consumption, and requirement; (2) commercial fishing vessels; (3) fish ponds; (4) foreign trade; and (5) other data. Subdivision of the tables is made according to gear, species caught, monthly production, and fishing grounds. The appendices include, among other items, information on the fishery districts, fishing grounds used by commercial fishing vessels, and forms used in collecting fishery statistics. Except for the table which shows fish production data since 1947, most of the information covers the five-year period 1955-59.

PHYSIOLOGY:

"A Study of Visual Perception in Fish, Especially on Resolving Power and Accommodation," by T. Tamura, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 33, no. 9, 1957, pp. 536-557, printed in Japanese with English summary. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

Thermal Requirements of Fish--Three Decades of Study, 1940-1970, by J. R. Brett, 8 pp., illus., printed. (Reprinted from the Transactions of the Second Seminar on Biological Problems in Water Pollution, April 20-24, 1959.) Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada.

POISONOUS FISH:

"Application of the Paralytic Shellfish Poison Assay to Poisonous Fishes," by E. F. McFarren and A. F. Bartsch, article, Journal of the Association of Official Agricultural Chemists, vol. 43, August 1960, pp. 548-554, printed. Association of Official Agricultural Chemists, Box 540, Benjamin Franklin Station, Washington 4, D. C.

Biochemistry and Pharmacology of Compounds Derived from Marine Organisms, by Ross F. Nigrelli, 334 pp., illus., printed, \$5. (Reprinted from New York Academy of Science, Annals, vol. 90, art. 3.) New York Academy of Science, 2 E. 63rd St., New York 21, N. Y.

POLLUTION:

Effects of Pulp and Paper Mill Wastes on the Marine Environment, by Michael Waldichuk, 17 pp., illus., printed. (Reprinted from the Transactions of the Second Seminar on Biological Problems in Water

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

Pollution, April 20-24, 1959.) Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada.

"Fission Products and Aquatic Organisms," by W. L. Templeton, paper presented at a Symposium on the Effects of Pollution on Living Material, held by the Institute of Biology in London, September 1958, Institute of Biology, 41 Queen's Gate, London SW1, England, 1958.

PROCESSING:

A Candling Table for the U. K. Fish Processing Industry, 1 p., illus., printed. (Reprinted from Frozen Foods, November 1957.) Frozen Foods, MacLaren House, 131 Great Suffolk St., London SE1, England.

PROTEIN:

"Determination of Tryptophans, Arginine, and Phenylalanine in the Protein of the Mollusks of the Peruvian Coast," by Herminio M. Almendras, article, Anales de la Facultad de Farmacia y Bioquímica, Universidad Nacional Mayor de San Marcos (Lima), vol. 8, 1957, pp. 129-135, printed in Spanish. Universidad Nacional Mayor de San Marcos, Apartado 1760, Lima, Peru.

PURSE SEINING:

"Purse Seining with Lights During 1960," by A. Ben-Tuvia, article, Fishermen's Bulletin, vol. 3, no. 6 (26), December 1960, pp. 21-24, illus., printed in Hebrew with English abstract. Fishermen's Bulletin, P.O.B. 996, Haifa, Israel.

QUALITY:

"Improvement of Quality of Yellowfin by Chlortetracycline (CTC) Treatment Aboard Ship and CTC Residue of Tissues Before and After Boiling," by Yasuo Yone and Tetsuo Tomiyama, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 26, January 1960, pp. 49-54, printed in Japanese with English abstract. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

"The Picric Acid Turbidity Test: A Possible Practical Freshness Test for Iced Shrimp," by Caroline H. Kurtzman and Donald G. Snyder, article, Food Technology, vol. 14, July 1960, pp. 337-342, printed. Food Technology, The Garrard Press, 510 North Hickory, Champaign, Ill.

"Studies on the Influence of Treatments Immediately after Catching upon the Quality of Fish Flesh. V--Determination of Lactic Acid in Fish Muscle," by Yasuhiko Tsuchiya and Kiyoshi Kunii, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 26, March 1960, pp. 284-288, printed in Japanese with English abstract. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

RADIOACTIVE WASTES:

Containment of Radioactive Waste for Sea Disposal and Fisheries off the Canadian Pacific Coast, by Michael Waldichuk, F.R.B. No. 630, 21 pp., illus., printed. (Reprinted from Disposal of Radioactive Wastes, pp. 57-77.) Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada.

RADIOACTIVITY:

"Penetration of Radioactive Strontium-90 from the Water into the Body of the Fish," by O. P. Danil'chenko, article, Rybnoe Khoziaistvo, no. 2, February 1958, pp. 28-32, printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

RETAILING:

Sales Promotion Pointers for Small Retailers, by Bernard W. Smith, Small Marketers Aids No. 60, December 1960, 4 pp., processed. Small Business Administration, Washington 25, D. C. A pamphlet with pointers on sales promotion for small retailers. The points covered are: determining the sales promotion policy; analyzing the market; deciding what to promote; picking the medium--newspapers, direct mailing, radio, and television; budgeting for the campaign; and planning the schedule for promoting a product.

SALMON:

"Acclimatization of Far-Eastern Salmon in the Basin of the Bering Sea," by M. S. Lazarev, article, Rybnoe Khoziaistvo, no. 2, February 1958, pp. 20-22, printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

"Biochemical Studies on Sockeye Salmon during Spawning Migration. VII--Steroid Hormones in Plasma," by D. R. Idler, A. P. Ronald, and P. J. Schmidt, article, Canadian Journal of Biochemistry and Physiology, vol. 37, October 1959, pp. 1227-1238, printed. Canadian Journal of Biochemistry and Physiology, Division of Administration, The National Research Council, Sussex St., Ottawa, Canada.

"Comparative Absorption of Calcium-45 and Strontium-90 by Young Salmon," by N. P. Rudakov, article, Rybnoe Khoziaistvo, no. 4, April 1958, pp. 19-20, printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

"The Evolution of the Freshwater Races of the Atlantic Salmon (Salmo salar L.) in Eastern North America," by G. Power, article, Arctic, vol. 11, no. 2, 1958, pp. 86-92, printed. Arctic Institute, 3485 University St., Montreal 2, Canada.

Forecast of Bristol Bay Red Salmon Run in 1961, Memorandum No. 1, 21 pp., illus., processed. Commercial Fisheries Division, Alaska Department of Fish and Game, Juneau, Alaska, February 1, 1961. The return of red salmon in 1961 into Bristol Bay rivers is estimated at 22.0 million fish. The forecast was prepared jointly by the Alaska Department of Fish and Game, the U.S. Bureau of Commercial Fisheries, and the Fisheries Research Institute of the University of Washington. The methods of forecast discussed include cycle analysis, smolt and return relationship, early returns of certain year groups, abundance of immature salmon at sea, and oceanographic conditions and weather. The report includes forecasts of the run by rivers and from high-seas operations such as purse-seining and gill-netting. Contains a number of statistical tables presenting data on these topics.

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

"On Measures of Increasing the Stock of Far-Eastern Salmon," by K. I. Popov, article, Rybnoe Khoziaistvo, no. 8, August 1958, pp. 9-10, printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

"New Data on the Migration of Humpback Salmon in the Sakhalin Region," by P. A. Dvinin, article, Rybnoe Khoziaistvo, no. 1, January 1958, pp. 12-16, printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

"The Origin and Speciation of *Oncorhynchus*," by Ferris Neave, article, Transactions of the Royal Society of Canada, sect. 5, ser. 3, 1958, 52-25-39, printed. Royal Society of Canada, National Research Bldg., Ottawa, Canada.

"On Salmon Reproduction," by N. D. Nikiforov, article, Rybnoe Khoziaistvo, no. 5, May 1958, pp. 19-20, printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

"Salmon of the River Shannon (1952-56)," by Eileen Twomey, article, Journal du Conseil Permanent International pour l'Exploration de la Mer, vol. 23, no. 1, 1957, pp. 89-96, printed. Conseil Permanent International pour l'Exploration de la Mer, Charlottenlund Slot, Denmark.

"Salmon Studies, 1951," by J. W. Jones, article, Fishery Investigations, ser. 1, vol. 5, no. 6, 1953, pp. 1-16, printed. Ministry of Agriculture and Fisheries, Chester Terrace, Regents Park, London NW1, England.

Some Radiographic Observations on the Gastro-Intestinal and Urinary Systems of Anesthetized Pacific Salmon (ONCORHYNCHUS), by Gordon R. Bell and Jack E. Bateman, F.R.B. No. 588, 6 pp., illus., printed. (Reprinted from Canadian Journal of Zoology, vol. 38, 1960, pp. 199-202.) Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada.

(State of Maine) Biennial Report of Atlantic Sea Run Salmon Commission, for Period July 1, 1958 to June 30, 1960, 12 pp., illus., printed. Atlantic Sea Run Salmon Commission, Fisheries Bldg., University of Maine, Orono, Me. Discusses the Narraguagus River Research Project, utilization of hatchery-reared Atlantic salmon, and other work of the Atlantic Sea Run Salmon Commission. Also includes statistical tables giving data on the Atlantic salmon stocking program, October 1951 through November 1960.

"The Technique in Catching Baltic Salmon," by S. A. Kalinkin, article, Rybnoe Khoziaistvo, no. 2, February 1958, pp. 43-45, printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

Toxicity of a DDT Forest Spray to Young Salmon, by D.F. Alderdice and M. E. Worthington, F.R.B. No. 560, 8 pp., illus., printed. (Reprinted from The Canadian Fish Culturist, No. 24, February 1959, pp. 1-8.) Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada.

SALT FISH:

"Effect of the Chemical Composition of Salt on the Salting Process and Quality of Salted Roe," by Ya. V. Mikulich, article, Izvestiia Tikhookeanskogo Nauchno-Issledovatel'skogo Instituta Rybnogo Khoziaistva i Okeanografii, no. 45, 1957, pp. 213-217, printed in Russian. Izvestiia Tikhookeanskogo Nauchno-Issledovatel'skogo Instituta Rybnogo Khoziaistva i Okeanografii, Vladivostock, U.S.S.R.

"Effect of Salt Purity on the Salting Process and Quality of Salted Fish," by Ya. V. Mikulich, article, Izvestiia Tikhookeanskogo Nauchno-Issledovatel'skogo Instituta Rybnogo Khoziaistva i Okeanografii, no. 44, 1957, pp. 209-221, printed in Russian. Izvestiia Tikhookeanskogo Nauchno-Issledovatel'skogo Instituta Rybnogo Khoziaistva i Okeanografii, Vladivostock, U.S.S.R.

SARDINE:

"A Method for Distinguishing the Sex of the Oil-Sardine, *Sardinella longiceps* Val. in the Field," by K. C. George, article, Indian Journal of Fisheries, vol. 6, no. 2, October 1959, pp. 322-326, illus., printed. Editorial Committee, Central Marine Fisheries Research Station, Mandapam Camp, South India.

"Notes on the Spawning Habits and Early Life-History of the Oil-Sardine, *Sardinella longiceps* Cuv. & Val.," by R. Velappan Nair, article, Indian Journal of Fisheries, vol. 6, no. 2, October 1959, pp. 342-359, printed. Editorial Committee, Central Marine Fisheries Research Station, Mandapam Camp, South India.

SEAWEED:

"Furcellaran, a Versatile Seaweed Extract," by Ralph E. Schachat and Martin Glicksman, article, Economic Botany, no. 13, 1959, pp. 365-370, printed. Economic Botany, New York Botanical Gardens, Bronx Park, New York 58, N. Y.

"Riboflavine Content of Dried Seaweeds," by Kihetji Tanaka, article, Eiyo to Shokuryo, vol. 8, 1955-56, pp. 143-144, printed in Japanese. Eiyo to Shokuryo, Charles E. Tuttle Co., Tokyo, Japan.

SHRIMP:

La Distribucion Geografica de los Camarones del Noroeste de Mexico, y el Problema de las artes Fijas de Pesca. (The Geographic Distribution of Shrimp of Northwestern Mexico and the Problem of Weir Fishing), by Hector Chapa Saldana, 85 pp., illus., printed in Spanish. Secretaria de Marina, Direccion General de Pesca e Industrias Conexas, Mexico, D. F., 1960. Deals primarily with the distribution of four species of shrimp (*Penaeus vannamei*, *P. stylirostris*, *P. californiensis*, and *P. brevis*) taken by the Mazatlan trawl fleet during the 1953-54 to 1956-57 seasons. Contains maps of the fishing grounds and species distribution for the west coast of Baja California from Punta San Juanico to Cabo Falso and for the mainland from Guaymas to San Blas. An interesting key, based on the coloration of the abdomen of fresh shrimp, is given for identifying the four species.

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

"Preservation of Prawns in Ice and the Assessment of Their Quality by Objective Standards," by N. K. Velankar and T. V. Govindan, article, Indian Journal of Fisheries, vol. 6, no. 2, October 1959, pp. 306-321, printed. Editorial Committee, Central Marine Fisheries Research Station, Mandapam Camp, South India.

Synoptic Rationale of Existing Florida Shrimp Regulations, by Robert M. Ingle, 8 pp., processed. Florida State Board of Conservation, W. V. Knott Bldg., Tallahassee, Fla., 1960.

MELT:

"Smelt Catching Gear for the Great Lakes," article, Trade News, vol. 13, no. 6, December 1960, pp. 14-16, illus., processed. Information and Educational Service, Department of Fisheries, Ottawa, Canada. Describes the work of the Canadian Department of Fisheries in experimental trawling for smelt in Lake Erie during 1959-60. The construction, operation, and feasibility of the "western" trawl are covered. Good results in winter fishing were obtained with this type of gear.

SOUTH CAROLINA:

List of Marine Fishes Recorded from South Carolina, by Charles M. Bearden, 13 pp., processed, Bears Bluff Laboratories, Wadmalaw Island, S. C., January 16, 1961.

TEREDO:

"The Teredo," by Charles E. Lane, article, Scientific American, vol. 204, no. 2, February 1961, pp. 132-140, 142, illus., printed. Scientific American, Inc., 415 Madison Ave., New York 17, N. Y. Otherwise known as the shipworm, the teredo--a distant relative of the clam--destroys submerged wood by honeycombing it with burrows. Its way of life is predicated on its unusual ability to digest cellulose.

TEXAS:

"Salinity Relations of Some Fishes in the Aransas River, Texas," by William C. Renfro, article, Tulane Studies in Zoology, vol. 8, no. 3, 1960, pp. 83-91, printed. Tulane University, New Orleans, La.

TILAPIA:

"Notes on Experiments to Determine Methods of Restricting Population Growth of Tilapia mossambica (Peters) under Pond Culture Conditions," by J. S. Kenny, article, West Indies Fisheries Bulletin, no. 5, September/October 1960, pp. 1-8, processed. The Federal Fisheries Adviser, Ministry of Natural Resources and Agriculture, Federal House, Port-of-Spain, Trinidad.

TRADE LISTS:

"The Office of Economic Affairs, 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 a copy.

Oils (Animal, Fish, and Vegetable)--Importers, Dealers, Producers, Refiners, and Exporters--Norway, 8 pp. (January 1961). Lists the names and addresses, size of firms, and types of products handled by each firm. Includes firms dealing in fish oils, fish liver oils, seal oils, and whale oils.

TRAWL NETS:

"Studies on the Kinematic Behaviour of the Ground Rope of the Trawl Net. II," by Otohiko Suzuki and Tasae Kawakami, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 26, March 1960, pp. 204-206, printed in Japanese with English abstract. Japanese Society of Scientific Fisheries, c/o Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Tokyo, Japan.

TRAWLERS:

"Application des Procèdes Rickmers a la Peche par l'Arriere" (Use of the Facilities of Rickmers Ship-builders for Constructing Stern Trawlers), article, La Peche Maritime, vol. 39, no. 993, pp. 857-860, illus., printed in French. La Peche Maritime, 190, Blvd. Haussmann, Paris (8^e), France.

TRAWLING:

Further Midwater Trawl Developments in British Columbia, by W. E. Barraclough and W. W. Johnson, Bulletin No. 123, 45 pp., illus., printed. Fisheries Research Board of Canada, Biological Station, Nanaimo, Canada, 1960.

TRAWLS:

Trawl Performance, A Study Relating Models to Commercial Trawls, by W. Dickson, Marine Research No. 1, 48 pp., illus., printed, 18 s. (about US\$2.55). Department of Agriculture and Fisheries for Scotland, Edinburgh, Scotland. (For sale by Her Majesty's Stationery Office, 13A Castle St., Edinburgh 2, Scotland.) A report on the trawl research project carried out at the Marine Laboratory at Aberdeen, Scotland, 1954-58. Discusses the use of model trawls, modeling theory and procedure. Also presents details on improving the shape of nets and measurement of drag, spread, and speed. A standard technique for dealing with models was evolved and a team trained to use it. The procedure included underwater observations, measurement of the principal operational dimensions, underwater photography, and measurement of drag, spread, and speed at the surface.

TROUT:

"Area of Distribution, and Movement of the Western Subspecies of the Australian 'Salmon,' Arripis trutta esper Whitley," by W. B. Malcolm, article, Australian Journal of Marine and Freshwater Research, vol. 2, no. 3, December 1960, pp. 282-325, illus., printed. Australian Journal of Marine and Freshwater Research, Commonwealth Scientific and Industrial Research Organization, 314 Albert St., East Melbourne C2, Australia.

TUNA:

Effect of Water Clarity on Albacore Catches, by G. I. Murphy, 8 pp., illus., printed. (Reprinted from Limnology and Oceanography, vol. 4, no. 1, January 1959, pp. 86-93.) Limnology and Oceanography, Woods Hole Oceanographic Institution, Woods Hole, Mass.

"Estudos sobre a Biologia dos Atuns em Portugal, 1958-1960," (Studies on the Biology of the Tunas of Portugal, 1958-1960), by H. Vilela, article, Boletim da Pesca, vol. 13, no. 69, December 1960, pp. 11-29, illus., printed in Portuguese with English abstract. Boletim da Pesca, R. S. Bento, 644, 4. -Esq., Lisbon, Portugal.

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

"On the Fisheries of Tuna and the Oceanographical Conditions in the Sawu Sea," by Sumio Enami and Toyotake Tanque, article, Memoirs of the Faculty of Fisheries, Kagoshima University, vol. 3, no. 2, 1954, pp. 1-8, printed in Japanese with English abstract. Faculty of Fisheries, Kagoshima University, Kagoshima, Japan.

"Los Grandes Rebanos de Atunes, Errantes a Traves de los Oceanos" (The Great Schools of Tuna Migrate Across the Oceans), by Pierre de Latil, article, Puntal, vol. 7, no. 81, December 1960, pp. 16-21, illus., printed in Spanish. Puntal, Apartado de Correos 316, Alicante, Spain.

"Postlarval Form of the Skipjack (Katsuwonus pelamis) from the Phoenix Islands, by R. Ishiyama and K. Okada, article, Journal of the Shimonoseki College of Fisheries, vol. 7, no. 1, 1957, pp. 141-146, printed in Japanese with English summary. Ministry of Agriculture and Forestry, Marine Products Center, Shimonoseki, Japan.

"Progress in Observing Tuna Underwater at Sea," by Donald S. Strasburg and Heeny S. H. Yuen, article, Journal du Conseil, vol. 26, no. 1, December 1960, pp. 80-93, illus., printed. Andr. Fred. Host & Son, Bredgade, Copenhagen, Denmark. Equipment for studying tuna behavior underwater on the high seas is described. Starting with a ladder and diver, the staff of the U. S. Bureau of Commercial Fisheries Honolulu Biological Laboratory has progressed to a shielded ladder, an overside caisson, stern and bow blisters, and underwater television. Future plans involve a small, fast submarine. The principal faults and virtues of each device are noted.

UNION OF SOUTH AFRICA:

The South African Fishing Industry Handbook and Buyers' Guide, 1960/61, 217 pp., illus., printed, L2 2s. (about US\$5.90). Odhams Press, South Africa (Pty.) Ltd., Trust House, Thibault Square, P.O. Box 80, Cape Town, Union of South Africa. The fifth edition of this handbook reviews the progress of the South African and South-West African fishing industry from 1958 to 1960 and gives details of the record catches. Included is information on recent developments in the fishing industry; fish-processing factories; canning industry; legal minimum size limits of South African fish; commercial fish, shellfish, and aquatic flora; and organizations serving the fishing industry. Also included is material on leading personalities in the industry; South and South-West African fishing companies; fishery products; buyers' guide; details of fishing vessels; motor fishing boats; motor and steam trawlers; details of marine engines; and suppliers of fuels and lubricants.

UNITED KINGDOM:

"Britain's Fishing Industry," article, British Affairs, vol. 4, no. 4, December 1960, pp. 198-202, printed. British Information Services, 45 Rockefeller Plaza, New York 20, N. Y. Discusses fishing as one of Britain's major industries, and its development in the twentieth century. It discusses the white fish fleet, herring fishery, international problem of conservation, modernization of vessels, and introduction of quick-freezing processes and factoryships.

Report of the Committee of Inquiry into the Fishing Industry, 181 pp., printed, 8 s. (about US\$1.15).

Her Majesty's Stationery Office, York House, Kingsway, London WC2, England, January 1961. Presents the findings, conclusions, and recommendations of a committee appointed November 27, 1959, to assess, in relation to developments in fishing and the marketing of fish, the size, pattern, and implications of an economic fishing industry in the United Kingdom. This report gives a detailed picture of the fishing industry and its problems, considers whether the industry can be made economic at its present or even a higher level rather than at a lower level, and stresses the need to provide a versatile and flexible fishing fleet. Topics covered include major developments in recent years, fish stocks and fishing grounds, the fishing fleet, officers and crews of fishing vessels, and fish docks and dockside sales at the major ports. Also discussed are the inshore fishing industry; inland distribution; processing; demand, price, and quality; research and development; and organization of the industry.

U.S.S.R.:

Rybnaiia Promyshlennost' SSSR (Fishery Industry of the U.S.S.R.) by V. M. Shparlinskii, 53 pp., printed in Russian. Vsesoiuznyi Nauchno-Issledovatel'skii Institut Morskogo Rybnogo Khoziaistvo i Okeanografii (VNIRO), Gosplan SSSR, Moscow, U.S.S.R., 1959.

THE FOLLOWING ENGLISH TRANSLATIONS OF FOREIGN LANGUAGE ARTICLES ARE AVAILABLE ONLY FROM THE FISHERIES RESEARCH BOARD OF CANADA, BIOLOGICAL STATION, NANAIMO, B.C., CANADA.

The American System of Fishery Management, by F. I. Baranov, Translation Series No. 70, 7 pp., processed, 1960. (Translated from Rybnoe Khoziaistvo, no. 12, 1946, pp. 31-34.)

Causes of the Decrease in Abundance of Sakhalin Pink Salmon in 1958, by P. A. Dvinin, Translation Series No. 267, 2 pp., processed, 1960. (Translated from Rybnoe Khoziaistvo, vol. 35, no. 8, 1959, pp. 8-9.)

The Effect of Regulation of the Flow of the Kura River on the Behaviour and Abundance of Fishes in the Region Below the Mingechar Hydroelectric Station, by Yu. A. Abdurakhmanov, Translation Series No. 258, 4 pp., processed, 1960. (Translated from Rybnoe Khoziaistvo, vol. 34, no. 12, 1958, pp. 13-15.)

Hydro-Electric Constructions and Fish-Passing Facilities, by S. M. Kipper, Translation Series No. 268, 8 pp., processed, 1960. (Translated from Rybnoe Khoziaistvo, vol. 35, no. 6, 1959, pp. 15-22.)

The Kuro-Sio and the Abundance of Amur Autumn Chum Salmon (ONCORHYNCHUS KETA (Walb.) Infrasp. AUTUMNALIS), by I. B. Birman, Translation Series No. 265, 8 pp., illus., processed, 1960. (Translated from Voprosy Ikhtiologii, no. 8, 1957, pp. 3-7.)

More About the Influence of the Kuro-Sio on the Dynamics of Abundance of Salmon, by I. B. Birman, Translation Series No. 269, 4 pp., illus., processed, 1960. (Translated from Voprosy Ikhtiologii, no. 13, 1959, pp. 16-18.)

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

VESSELS:

"L'Evolution du Navire de Peche Moderne" (The Development of the Modern Fishing Vessel), article, La Peche Maritime, vol. 39, no. 993, December 1960, pp. 818-844, illus., printed in French. La Peche Maritime, 190, Blvd. Haussmann, Paris (8^e), France.

VIETNAM:

Motorization of Fishing Junks in Vietnam, by Robert J. Schoettler, 33 pp., illus., printed. United States Operations Mission to Vietnam, Saigon, Vietnam, 1960. An illustrated booklet describing the United States Operations Missions program of motorizing Vietnam's 35,000 "bamboo bottom" fishing junks. Included is information on the development of these unique, teredo-resistant, craft; their construction; wind propulsion; problems of motorization; types of motors used; and increased fish catches resulting from motorization. About half of the booklet consists of photos and drawings showing details of construction and operation of the vessels, unloading the catch, and types of fish landed.

WHALE OIL:

"Sperm Oil Production, 1960-61," article, Norsk Hvalfangst-Tidende (The Norwegian Whaling Gazette), vol. 50, no. 1, January 1961, p. 23, printed in Norwegian and English. Norsk Hvalfangst-Tidende, Sandefjord, Norway.

WHALE MEAT:

"Drip from Frozen Whale Meat Affected by Freezing Rate and Air Temperature in Air Defrosting," by Kazuo Tanaka and Takeo Tanaka, article, Journal of the Tokyo University of Fisheries, vol. 43, March 1957, pp. 19-23, printed. Tokyo University of Fisheries, Shiba-kaigandori 6-chome, Minato-ku, Tokyo, Japan.

WHALES:

"Immunogenetic and Marking Approaches to Identifying Subpopulations of the North Pacific Whales," by

K. Fujino, The Scientific Reports of the Whales Research Institute, no. 15, November 1960, pp. 85-142, illus., printed. Whales Research Institute, Geirui Kenkyusho, 12-4, Tsukishim-Nishigashi-dori, Chuo-ku, Tokyo, Japan.

"Ryukyuan Humpback Whaling in 1960," by M. Nishiwaki, article, The Scientific Reports of the Whales Research Institute, no. 15, November 1960, pp. 1-15, illus., printed. Whales Research Institute, Geirui Kenkyusho, 12-4, Tsukishim-Nishigashi-dori, Chuo-ku, Tokyo, Japan.

WHALING:

"Catch Statistics, Antarctic Season 1959/60," article, Norsk Hvalfangst-Tidende (The Norwegian Whaling Gazette), vol. 49, no. 11, November 1960, p. 544; and vol. 49, no. 12, December 1960, pp. 580-584, printed in Norwegian and English. Norsk Hvalfangst-Tidende, Sandefjord, Norway.

The Emerald Whaler, by William J. Laubenstein, 239 pp., printed, \$3.95. Bobbs-Merrill Co., 1720 E. 38th St., Indianapolis 6, Ind., 1960.

Salted Tories (The Story of the Whaling Fleets of San Francisco), by Lloyd C. M. Hare, 114 pp., printed, \$2. The Marine Historical Association, Mystic, Conn., 1960.

Whale Ships and Whaling, by Albert Cook Church, 187 pp., illus., printed, \$8.50. W. W. Norton & Co., 101 Fifth Ave., New York 3, N. Y., 1960

WHITE PERCH:

"Selection of Body Site for Scale Samples in the White Perch, Roccus americanus," by Romeo J. Mansueti, article, Chesapeake Science, vol. 1, no. 2, June 1960, pp. 103-109, illus., printed. Maryland Department of Research and Education, Chesapeake Biological Laboratory, Solomons, Md.



COOKING SARDINES WITH INDIRECT HEAT

In Spain and Portugal, the conventional method of cooking sardines with direct steam heating is being changed to indirect heat. Steam coils are installed inside the lateral walls of the conventional fish cookers. To get a uniform distribution of heat there are fans. By using this method a more even heating is obtained; at the same time the fish does not have grill marks or broken skin. The cooking period is practically the same as in other methods and the oil obtained is of better quality and without water. Among the different indirect cookers there are some models that permit continuous operation.

--World Fisheries Abstracts
March-April 1956, vol. 7, no. 2

FLOUNDER--A UNIVERSAL FAVORITE

In discussing the merits of their favorite fish, a westerner may praise his rockfish, an easterner his shad, and a southerner his pompano, but all will agree that no matter where you live, flounder is a universal favorite.

Flounder is nationally-known because it is caught in all our coastal waters and is not only sold fresh but is also filleted, frozen, and shipped to all parts of the United States.

Flounder, a white meated fish with a sweet, rich flavor, is in plentiful supply. It may be prepared by any of the basic cooking methods of frying, baking, broiling, boiling, or in an endless variety of combination dishes.

The home economists of the U. S. Department of the Interior's Bureau of Commercial Fisheries suggest using flounder fillets in "Flounder Turbans."



Flounder turbans.

FLOUNDER TURBANS

2 pounds flounder fillets, fresh or frozen	Dash pepper
1 teaspoon salt	Bread stuffing
	$\frac{1}{4}$ cup butter or other fat, melted

Thaw frozen fillets and skin if necessary. Sprinkle fillets with salt and pepper. Line 12 well-greased muffin tins with fillets, overlapping ends of fillets. Place ball of stuffing in center of each. Brush tops with butter. Bake in a moderate oven, 350° F., for 25 to 30 minutes or until fish flakes easily when tested with a fork. Serves 6.

BREAD STUFFING

$\frac{1}{4}$ cup chopped onion	1 teaspoon thyme, sage, or savory seasonings
$\frac{3}{4}$ cup chopped celery	Dash pepper
$\frac{1}{3}$ cup butter or other fat, melted	1 Quart soft bread cubes
1 teaspoon salt	

Cook onion and celery in butter for 10 minutes or until tender. Combine all ingredients; mix thoroughly. If stuffing seems very dry, add 1 tablespoon water or milk to moisten.