



# 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.  
 FL - FISHERY LEAFLETS.  
 SL - BRANCH OF STATISTICS LIST OF DEALERS IN AN PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.  
 SEP. - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

- | Number   | Title  |
|----------|--|
| CFS-2569 | - Maine Landings, 1960 Annual Summary (by County, Gear, and Subarea), 17 pp. |
| CFS-2572 | - Massachusetts Landings, 1960 Annual Summary (by Ports), 16 pp.             |
| CFS-2573 | - Massachusetts Landings, 1960 Annual Summary (by Gear and Subarea), 14 pp.  |
| CFS-2591 | - Rhode Island Landings, March 1961, 3 pp.                                   |
| CFS-2595 | - Wisconsin Landings, March 1961, 2 pp.                                      |
| CFS-2598 | - Shrimp Landings, January 1961, 6 pp.                                       |
| CFS-2599 | - Fish Meal and Oil, April 1961, 2 pp.                                       |
| CFS-2604 | - Shrimp Landings, 1960 Annual Summary, 21 pp.                               |
| CFS-2607 | - South Carolina Landings, April 1961, 2 pp.                                 |
| CFS-2609 | - Maine Landings, April 1961, 3 pp.  |
| CFS-2610 | - Frozen Fish Report, May 1961, 8 pp.  |
| CFS-2611 | - Michigan Landings, April 1961, 2 pp.                                       |
| CFS-2613 | - Texas Landings, February 1961, 3 pp.                                       |
| CFS-2614 | - Maryland Landings, April 1961, 3 pp.                                       |
| CFS-2615 | - New York Landings, April 1961, 4 pp.                                       |
| CFS-2616 | - Massachusetts Landings, February 1961, 5 pp.                               |
| CFS-2617 | - Virginia Landings, March 1961, 3 pp.                                       |
| CFS-2618 | - Virginia Landings, April 1961, 3 pp.                                       |
| CFS-2619 | - California Landings, March 1961, 4 pp.                                     |
| CFS-2620 | - Minnesota Landings, April 1961, 2 pp.                                      |
| CFS-2621 | - Ohio Landings, April 1961, 2 pp.   |
| CFS-2622 | - Wisconsin Landings, April 1961, 2 pp.                                      |
| CFS-2623 | - Mississippi Landings, April 1961, 2 pp.                                    |
| CFS-2624 | - Alabama Landings, March 1961, 3 pp.  |
| CFS-2625 | - Rhode Island Landings, April 1961, 3 pp.                                   |
| CFS-2626 | - Massachusetts Landings, April 1961, 5 pp.                                  |
| CFS-2627 | - North Carolina Landings, May 1961, 4 pp.                                   |
| CFS-2629 | - Georgia Landings, May 1961, 2 pp.  |
| CFS-2632 | - Maryland Landings, May 1961, 3 pp.   |
| CFS-2638 | - Alabama Landings, April 1961, 3 pp.  |

FL-508 - Whirling Disease (Myxosporidia: Myxosoma) of Trout, by G. L. Hoffman, 2 pp., March 1961. Describes whirling disease of trout, a serious hatchery disease in Europe which has recently spread to Russia, Italy, and the United States.

FL-511 - The Sea Urchin Fishery, by Leslie W. Scattergood, 4 pp., illus., 1961. Describes the biology of the sea urchin, and the landings and value of the catch of this little-known fishery, centered in Lincoln County, Me.

FL-513 - Rains of Fishes, by Lola T. Dees, 5 pp., April 1961. Reports of fishes falling with rain have been recorded in many parts of the world since early times. A few instances are mentioned in this leaflet.

Wholesale Dealers in Fishery Products, 1961 (Revised):

- SL- 2 - New Hampshire.  
 SL- 5 - Connecticut.  
 SL- 6 - New York Coastal Area.  
 SL- 8 - Pennsylvania.  
 SL- 9 - Delaware.  
 SL-14 - South Carolina.  
 SL-15 - Georgia.  
 SL-16 - Florida.  
 SL-17 - Alabama (Coastal Area).  
 SL-18 - Mississippi (Coastal Area).  
 SL-22 - Oregon.  
 SL-23 - Washington.  
 SL-39 - Tennessee (Mississippi River and Tributaries).  
 SL-40 - Oklahoma (Mississippi River and Tributaries).  
 SL-41 - Arkansas (Mississippi River and Tributaries).  
 SL-43 - Alabama (Mississippi River and Tributaries).  
 SL-45 - Mississippi (Mississippi River and Tributaries).  
 SL-46 - Texas (Mississippi River and Tributaries).

Sep. No. 624 - A Study of Vessel and Gear Usage in the Shrimp Fishery of the Southeastern United States.

Sep. No. 625 - Report of "Jellied" Flounder from Gulf of Mexico.

Sep. No. 626 - Equipment Note No. 9 - The Surf-Clam Fishery of New Jersey.

Annual Report, Biological Laboratory, Woods Hole, Massachusetts, for the Year Ending June 30, 1960, by Herbert W. Graham, Circular 99, 64 pp., illus., December 1960. Discusses the facilities and activities of the Woods Hole Biological Laboratory during fiscal year 1960. Includes reports of investigations on cod, flounder, haddock, hake, and ocean perch. Also includes results of sea scallop, aquarium, and experimental, benthonic ecology, fish behavior, and plankton ecology studies. Covers the Laboratory's work in instrumentation--including underwater television observations and radiological monitoring; port sampling; fish tagging; and shellfish research. Studies relating to the management of the groundfish of the Northwest Atlantic, including mesh regulation inves-

tigations, continued to occupy an important place in the Laboratory program.

Annual Report of the Fish and Wildlife Service, Bureau of Commercial Fisheries, Bureau of Sport Fisheries and Wildlife, for the fiscal year 1960, 49 pp., illus., printed. (Reprinted from the Annual Report of the Secretary of the Interior, for the fiscal year ended June 30, 1960, pp. 319-367.) Summarizes the various activities of the Service. Describes the activities of the Bureau of Commercial Fisheries: biological research (shellfish, anadromous, inland, and marine fisheries); industrial research; resource development services; Pribilof Islands fur-seal harvest; and Columbia River fishery development program. Bureau of Sport Fisheries and Wildlife activities discussed include, among other projects, Federal aid to the states for the restoration of fish and wildlife; fish hatcheries; fishery management services; and river basin studies.

Wildlife Research Progress in the Fiscal Year 1960, by Daniel L. Leedy, Circular 104, 33 pp., illus., January 1961.

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-53	Fisheries of Honduras, 1961.
MNL-54	Fisheries in British Borneo, 1960.
MNL-55	Brazilian Shrimp Processing Companies, 1961.

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

(Baltimore) Monthly Summary - Fishery Products, April 1961, 8 pp. (Market News Service, U. S. Fish and Wildlife Service, 103 So. Gay St., Baltimore 2, Md.) Receipts at Baltimore by species and by states and provinces for fresh- and salt-water fish and shellfish; total receipts by species and comparisons with previous years; and wholesale prices on the Baltimore market; for the month indicated.

California Fisheries, 1960, by V. J. Samson, 42 pp., illus. (Market News Service, U. S. Fish and Wildlife Service, Rm. 208, Post Office Bldg., San Pedro, Calif.) A review of 1960 trends and conditions in the California fisheries, including a historical review of California fish meal prices, 1930-60. Among the subjects discussed are the tuna industry and cannery receipts; domestic tuna fishery--economic recovery effected by conversion of clippers to purse seiners; albacore fishery--including ex-vessel prices; other tuna prices; canned pack; and imports. Also discussed are the sardine industry and canned pack; mackerel fishery, pack, and prices; anchovy fishery; canned pet food pack; whaling industry; and seasons in major fisheries. Included in the statistical tables are data on tuna and tunalike fish--canners' receipts, domestic landings, cannery receipts of frozen imported tuna, and canned pack, 1958-60; sardine landings, canned pack, and meal and oil produced, 1960 and 1959 seasons; and the cannery receipts and pack of mackerel and jack mackerel, 1958-60. Also included are data on cannery receipts of raw materials and production of anchovies, herring, squid, pet food, and meal and oil; freezings and cold-storage

holdings of fish and shellfish; landings in the Eureka and San Pedro-Santa Monica areas; and imports of fishery products into Arizona and California Customs Districts, 1959-60.

California Fishery Products and Byproducts Brokers and Importers, 1961 (Partial List, Revised April 15, 1961), SP List 1, 6 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) Contains the names and addresses of primary receivers of various types of imported fishery products and byproducts in the Los Angeles, San Diego, and San Francisco areas.

California Fishery Products Monthly Summary, Part I - Fishery Products Production and Market Data, May 1961, 15 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) California cannery receipts of tuna and tunalike fish and other species used for canning; pack of canned tuna, tunalike, mackerel, and anchovies; market fish receipts at San Pedro, Santa Monica, and Eureka areas; California and Arizona imports; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; Oregon and Washington receipts of fresh and frozen tuna and tunalike fish; for the month indicated.

(Chicago) Monthly Summary of Chicago's Fresh and Frozen Fishery Products Receipts and Wholesale Market Prices, June 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, May 1961, 8 pp. (Market News Service, U. S. Fish and Wildlife Service, 609-611 Federal Bldg., New Orleans 12, La.) Gulf States shrimp, oyster, finfish, and blue crab landings; crab meat production; LCL express shipments from New Orleans; fishery imports at Port Isabel and Brownsville, Tex., from Mexico; wholesale prices of fish and shellfish on the New Orleans French Market; Gulf menhaden landings and production of meal, solubles, and oil; and sponge sales; for the month indicated.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, June 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, Chincoteague, and Lower Eastern Shore; the Maryland areas of Crisfield, Cambridge, and Ocean City; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data; for the month indicated.

New England Fisheries--Monthly Summary, May 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-

ter, 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; Atlantic Ave., Boston, Mass., landings and ex-vessel prices; 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 England Importers and Brokers of Imported Fishery Products, 1961, 9 pp. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston 10, Mass.) Contains the names and addresses of primary receivers of various types of imported fishery products and byproducts in Boston, Mass., and vicinity; other Massachusetts areas; Connecticut; Maine; and Rhode Island.

New York City's Wholesale Fishery Trade--Monthly Summary for May 1961, 24 pp. (Market News Service, 155 John St., New York 38, N. Y.) Includes summaries and analyses of receipts and prices on wholesale Fulton Fish Market; imports entered at New York City; primary wholesaler prices for fresh, canned, and frozen products; and landings at Fulton Fish Market docks and Stonington, Conn.; for the month indicated.

New York City's Wholesale Fishery Trade, 1960 (Includes Statistics and Marketing Trends), by T. J. Risoli, 58 pp. (Market News Service, U. S. Bureau of Commercial Fisheries, 155 John St., New York 38, N. Y.) The first part of this annual summary discusses fishery products receipts and marketing trends in the salt-water section of New York's wholesale Fulton Fish Market during 1960. The second part covers marketing trends and receipts in the wholesale fresh-water fish market for 1960. The third part consists of a series of statistical tables giving monthly overland and vessel receipts; receipts by species, methods of transportation, states, and provinces, 1960; and imports of fishery products at New York City, 1960.

Seattle, Washington, Brokers and Importers of Fishery Products, 1960, 6 pp. (Market News Service, U. S. Fish and Wildlife Service, Pier 42, So., Seattle 4, Wash.) Contains the names and addresses of primary receivers of various types of imported fishery products and byproducts and the country of origin.

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"Additional Notes on the Maintenance of Immature Sea Herring in Captivity," by H. C. Boyar and C. J. Sindermann, article, Progressive Fish-Culturist, vol. 21, no. 4, 1959, pp. 185-187, processed, 25 cents a copy.

"Rapid Measurement of Fish," by Leonard L. Joeris, article, Progressive Fish-Culturist, vol. 21, no. 4 1959, pp. 190-191, processed, 25 cents a copy.

## MISCELLANEOUS PUBLICATIONS

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

### ANCHOVIES:

Estudio Preliminar sobre la Biometria, Biologia y Variacion del Contenido Graso del Boqueron, ENGRAULIS ENCRASICHOLUS L., de Malaga (Preliminary Study on the Biometrics, Biology, and Variation in Oil Content of the Anchovy, Engraulis encrasicolus L., at Malaga), by R. F. Crehuet and M. J. del V. Cordon, Boletin del Instituto Espanol de Oceanografia, no. 99, June 1960, 28 pp., illus., printed in Spanish. Instituto Espanol de Oceanografia, Alcala, 27, Madrid, Spain.

### ANTIBIOTICS:

"In Vitro Effects of Chlortetracycline on Bacteria Indigenous to Gulf Shrimp and Oysters," by Arthur F. Novak, Ernest A. Fieger, and Keith A. Stolze, article, Food Technology, vol. 14, November 1960, pp. 585-586, printed. Food Technology, The Garrard Press, 510 No. Hickory St., Champaign, Ill.

### ANTIOXIDANTS:

Hydrolysis of Fish Materials, by Robert H. Bedford, U. S. Patent No. 2,806,790, September 17, 1957, printed. U. S. Patent Office, Washington 25, D. C.

"Improvement of the Keeping Quality of Fresh Fish by Treatment with Antioxidants," by A. Liljemark, H. W. Aas, and R. Marcuse, article, Fette Seifen Anstrichmittel, vol. 61, 1959, pp. 465-468, printed in German. Fette Seifen Anstrichmittel, Industrie-verlag von Herhausen K. G., 24 Rodingsmarkt, Hamburg 11, Germany.

"Refractive Index of Crystalline Guanine from Marine Fish," by Tadashi Ueda, and Jogoro Matsuzawa, article, Norinsho Suisan Koshusho Kenkyu-Hokoku, vol. 6, 1956, pp. 97-100, printed in Japanese. Norinsho Suisan Koshusho Kenkyu-Hokoku, Ministry of Agriculture and Forestry, Marine Products Training Center, Shimonoseki, Japan.

"Utilization of Fish Liver Residues," by C. Gunasekera, article, Indo-Pacific Fisheries Council Proceedings, vol. 8, no. 2, 1960, pp. 89-92. Indo-Pacific Fisheries Council Secretariat, Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Far East, Bangkok, Thailand.

### ARGENTINA:

Camara Marplatense de Industriales del Pescado - Memoria y Balance, Periodo 1959-1960 (Association of Mar del Plata Fish Processors - Report and Financial Statement, 1959-1960), 14<sup>o</sup> Ejercicio, 19 pp., printed in Spanish. Camara Marplatense de Industriales del Pescado, Calle 11 de Septiembre No. 2843, Mar del Plata, Argentina.

### BALEARIC ISLANDS:

Carta de Pesca de las Baleares. II--Norte de Mallorca y Menorca y Este de Mallorca (Chart of the Balearic Islands' Fishery. II--North of Majorca and Minorca and East of Majorca), by Miguel Oliver, no. 29, illus., printed in Spanish. Instituto Espanol de Oceanografia, Alcala, 27, Madrid, Spain, 1960.



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## BIOCHEMISTRY:

"Amino Acid Composition of the Muscle Extracts of Aquatic Animals," by K. Ito, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 23, nos. 7 and 8, 1957, pp. 497-500, printed in Japanese with English summaries. Japanese Society of Scientific Fisheries, Tokyo University of Fisheries, Shiba-Kai-gandori 6-chome, Minato-ku, Tokyo, Japan.

"The Separation and Determination of Sugar Phosphates, with Particular References to Extracts of Fish Tissue," by N. R. Jones and J. R. Burt, article, Analyst, vol. 85, November 1960, pp. 810-814, printed. Analyst, W. Heffer and Sons, Ltd., 3/4 Petty Curry, Cambridge, England.

"Studies on the 'Kamaboko', Fish Jelly, and Fish Sausage Products. VII--Influence of Added Salt Upon the Water Intake of Fish Flesh (Parts 1 and 2)," by Kazuhiro Okamura, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 26, January 1960, pp. 60-74, printed in Japanese with English abstract. Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-ku, Tokyo, Japan.

## BRAZIL:

Pesca, 1959, Estrutura e Producao (Fisheries, 1959, Industry Data and Production), 42 pp., processed in Portuguese. Ministerio da Agricultura, Servico de Estatistica da Producao, Rio de Janeiro, Brazil, March 1961.

## CALIFORNIA:

A Preliminary Report on the Fishery Resources of California in Relation to the Central Valley Project, by Willis H. Rich and others, 22 pp., processed. Stanford University, Calif., August 19, 1944.

## CANADA:

Journal of the Fisheries Research Board of Canada, vol. 18, no. 2, March 1961, 148 pp., illus., printed. Journal of the Fisheries Research Board of Canada, Queen's Printer and Controller of Stationery, Ottawa, Canada. Includes, among others, the following articles: "Artificial Drying of Cambodian Fish," by R. Legendre; "Probable Effects of Proposed Passamaquoddy Power Project on Oceanographic Conditions," by R. W. Trites; "Herring Movements in the Bay of Fundy and Gulf of Maine, 1957 and 1958," by R. A. McKenzie and S. N. Tibbo; "Correlation of Morphological and Intra-Ocular Measurements in the Atlantic Salmon (Salmo salar) Yearling," by M. A. Ali, P. Copes, and W. R. Stevenson; "Occurrence of Two Species of Juvenile Rockfish in Queen Charlotte Sound," by C. R. Hitz; "Abnormalities in Lake Erie Whitefish," by G. H. Lawler; and "Biosynthesis of Trimethylammonium Compounds in Aquatic Animals. II--Role of Betaine in the Formation of Trimethylamine Oxide by Lobster (Homarus americanus)," by E. Bilinski.

Sport Fish Resources of British Columbia. Part IV--A General Evaluation, by Roderick L. Haig-Brown, 10 pp., processed. British Columbia Game Commission, 567 Burrard St., Vancouver, B. C. Canada, 1956.

## CANNING:

Maquina para Coccion del Pescado Dentro de su Envase--Primera Instalada en Espana (Machine for Processing Fish in the Container--First Installation

in Spain), by Braulio Alfigame de Riva, 4 pp., illus., printed in Spanish. (Reprinted from IDE--Informacion de Embalaje, no. 18.) Instituto Espanol del Envase y Embalaje, Breton de los Herreros, 67, Madrid (3), Spain.

## CARP:

"Influence of Motor Agitation on the Amount of Corticosteroids in the Plasma of a Teleost: The Carp (Cyprinus carpio)," by Jeanine Leloup-Hatey, article, Journal de Physiologie (Paris), vol. 52, 1960, pp. 145-146, printed. Journal de Physiologie, Librairie Masson et Cie, 120 Blvd. St. Germain, Paris 6<sup>e</sup>, France.

"Myogens of the Carp and Plaice," by J. G. Henrotte, article, Biochimica et Biophysica Acta, vol. 39, 1960, pp. 103-121, printed in French. Biochimica et Biophysica Acta, Elsevier Publishing Co., 215 4th Ave., New York 3, N. Y.

Spawning and Development of Common Carp (CYPRINUS CARPIO) in Egyptian Ponds, by A. E. Imam and M. T. Hashem, Notes and Memoirs No. 54, 14 pp., illus., printed in English and Arabic. Ministry of Agriculture, Hydrobiological Department, Serow Fish-Farm, Gammalia, Dakahlia, Egypt, 1960.

## CHLORTETRACYCLINE:

"The Determination of Chlortetracycline in Tissues. Parts I and II," by Tetuo Tomiyama, Atsushi Tsuda, and Yasuo Yone, article, Food Research, vol. 25, January-February 1960, pp. 97-112, printed. Food Research, The Garrard Press, 510 No. Hickory St., Champaign, Ill.

"Stability and Bacteriostatic Effect of Chlortetracycline in Sea Water," by Yasuo Yone, Seiya Fuzino, and Tetuo Tomiyama, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 26, May 1960, pp. 514-519, printed. Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-ku, Tokyo, Japan.

## CHOLESTEROL:

"The Effect of Marine Products on the Blood Cholesterol Levels in Man and in Animals. A Review," by J. D. Wood, article, Journal of the Fisheries Research Board of Canada, vol. 17, December 1960, pp. 903-912, printed. Journal of the Fisheries Research Board of Canada, Queen's Printer and Controller of Stationery, Ottawa, Canada.

## COD:

"The Acid-Soluble Nucleotides of Codling (Gadus callaria) Muscle," by N. R. Jones and J. Murray, article, Biochemical Journal, vol. 77, December 1960, pp. 567-574, printed. Biochemical Journal, Cambridge, University Press, 200 Euston Rd., London NW1, England.

"Studies on the North Sea Cod. III--Effects of Starvation," by R. M. Love, article, Journal of the Science of Food and Agriculture, no. 9, September 1958, pp. 617-620, printed. Journal of the Science of Food and Agriculture, Society of Chemical Industry, 14 Belgrave Sq., London SW1, England.

## COMPOSITION:

"Marine Sterols. VI--Sterol Biosynthesis in Molluscs and Echinoderms," by U. H. M. Fagerlund and D. R.

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Idler, article, Canadian Journal of Biochemistry and Physiology, vol. 38, September 1960, pp. 997-1002, printed. Canadian Journal of Biochemistry and Physiology, Division of Administration, National Research Council, Sussex St., Ottawa, Canada.

"Marine Sterols. VII--The Synthesis of 29-Isofucosterol and the Attempted Synthesis of 17-Dehydrocholesterol," by U. H. M. Fagerlund and D. R. Idler, article, Journal of the Fisheries Research Board of Canada, vol. 17, July 1960, pp. 597-599, printed. Journal of the Fisheries Research Board of Canada, Queen's Printer and Controller of Stationery, Ottawa, Canada.

"Sulfhydryl Groups of Tuna Myoglobins and Hemoglobins, Whale Hemoglobin, Tobacco Mosaic Virus, and Ovalbumin," by W. Duane Brown, Marino Martinez, and Harold S. Olcott, article, Journal of Biological Chemistry, vol. 236, January 1961, pp. 92-95, printed. Journal of Biological Chemistry, American Society of Biological Chemists, 428 East Preston St., Baltimore 2, Md.

#### COOKERY:

Seafood Cookery in North Carolina, compiled by Frank B. Thomas, 48 pp., illus., printed, 25 cents. Public Information Office, North Carolina Department of Conservation and Development, Raleigh, N. C., September 1960. Outlines the forms in which fish are marketed and contains instructions for preparing fin-fish, shrimp, oysters, clams, crabs, and scallops. Also included are recipes for sauces, canapes, and hors d'oeuvres, soups and chowders, and stuffings made or to be served with fish.

#### CUTTLEFISH:

"Biochemical Studies on the Viscera of Cuttlefish Ommastrephes sloani pacificus. III--On the Proteolytic Enzymes of Viscera (Part I)," by Takashi Takahashi, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 26, May 1960, pp. 500-503, printed. Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-ku, Tokyo, Japan.

#### DENMARK:

Fisheries Ministry's Research Laboratory Annual Report for 1959, 51 pp., printed in Danish and English. Fisheries Ministry's Research Laboratory, Copenhagen, Denmark, 1960.

"Main Experimental Results," article, Beretning fra Fiskeriministeriets Forsogslaboratorium for 1959 (Annual Report to the Danish Fishing Industry), pp. 41-49, printed in Danish and English. Fiskeriministeriets Forsogslaboratorium, Copenhagen, Denmark, 1960.

#### DIETARY FAT:

Dietary Fat and Its Relation to Heart Attacks and Strokes (Report of the Ad Hoc Committee on Dietary Fat and Atherosclerosis), 4 pp., printed. Dietary Fat and Its Relation to Heart Attacks and Strokes (Report by the Central Committee for Medical and Community Program), 5 pp., printed. (Reprints of the same article in Circulation, vol. 23, January 1961--the second reprint also contains a list of questions and answers based on the report and designed to interpret the meaning and application of the report for the general public). American Heart Association, 44 E.

23rd St., New York 10, N. Y. Reduced fat consumption, combined with reasonable substitution of vegetable oils and other unsaturated fats for animal fats in the diet, is recommended in this report as a possible means of preventing atherosclerosis (hardening of the arteries) and lessening the risk of heart attacks and strokes. Recommendations are based on the best scientific information available at the present time. However, there is no final proof that dietary changes can prevent heart attacks and strokes. The Committee preparing the report states that, "Not all fats in the diet have the same effect on the amount of cholesterol in the blood. In the usual diet eaten in the United States, a large part of the fat is of the saturated type... which tends to increase the cholesterol in the blood. In contrast... many natural vegetable oils, such as corn, cotton seed, and soya, as well as the fat of fish, are relatively low in saturated fats and high in fats of the poly-unsaturated type. When these fats are substituted for a substantial part of the saturated fats without increasing calories, blood cholesterol decreases." In conclusion, the Committee called for intensified research into the causes and prevention of atherosclerosis. "This is essential to obtain more complete information on which more definite recommendations can eventually be based."

#### DOLPHINS:

"Sounds Emitted by the Bottlenose Dolphin," by John C. Lilly and Alice M. Miller, article, Science, vol. 133, no. 3465, May 26, 1961, pp. 1689-1693, illus., printed. Science American Association for the Advancement of Science, 1515 Massachusetts Ave. NW, Washington 5, D. C.

#### ECOLOGY:

Ecology of Inland Waters and Estuaries, by George K. Reid, 375 pp., printed, \$7.50. Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y.

Experimental Ecology of the Feeding of Fishes, by V. S. Ivlev, 302 pp., printed, translated from Russian, \$7.50. Yale University Press, 143 Elm St., New Haven, Conn., 1961. Summary of the results of investigations undertaken to establish experimentally the fundamental laws of the trophic ecology of fish, of selective feeding, indirect food relations of fish, and ecology of starvation.

#### EELS:

PARACONGER, a New Genus with Three New Species of Eels (Family Congridae), by Robert H. Kanazawa, 14 pp., illus., printed. (Reprinted from Proceedings of the United States National Museum, vol. 113, no. 3450, 1961, pp. 1-14.) Smithsonian Institution, Washington, D. C.

#### EGYPT:

The Fishery Grounds Near Alexandria. XIX--Mollusca, by Adolf Steuer, Notes and Memoirs No. 33, 151 pp., illus., printed. Ministry of Commerce & Industry, Fouad Institute of Hydrobiology and Fisheries, Alexandria, Egypt, 1939.

#### ELECTRIC FISHING:

"Electronic Fishing With Underwater Pulses," by Harry P. Dale, article, Electronics, vol. 32, no. 4, 1959, printed. Electronics, McGraw-Hill Book Co., 330 W. 42nd Street, New York 36, N. Y.

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An Investigation into the Effects of Electric Fishing Equipment on Salmon and Sea Trout within the Area of the Lancashire River Board, by L. Stewart, 21 pp., illus., printed. Lancashire River Board, 18a Great John St., Lancaster, England.

#### ELECTRONIC FISHING:

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Experience in Fishing Boat Building Applicable to the Indo-Pacific Region (Indo-Pacific Fisheries Council, 9th Session), by J. O. Traung, 26 pp., illus., printed. Indo-Pacific Fisheries Council Secretariat, Food and Agriculture Organization of the United Nations, Regional Office for Asia and the Far East, Bangkok, Thailand, January 1961.

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32 pp., processed. U. S. Department of Health, Education, and Welfare, Food and Drug Administration, Washington 25, D. C. Covers a survey conducted in March 1958-June 1959 of the frozen precooked foods industry to determine the need for and feasibility of establishing bacterial limits or standards for certain products. It deals with the relationship between plant operation and microbial content of the finished product. Foods are categorized in four major groups. Fish and shellfish products appear in three of the four groups. Bacteriological findings on all the finished products samples are summarized in tables. The fishery products specifically listed are: shrimp-burger, crabburger, macaroni and tuna, shrimp chow mein, shrimp rolls, lobster rolls, fried halibut, fried shrimp, haddock in wine sauce, lobster newberg, fried clams, fish sticks, fish cakes, crab cakes, deviled crab, stuffed crab, cream of shrimp soup, oyster stew, tuna pie, lobster pie, and raw breaded shrimp.

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intervals, as research is completed. The Department of Mollusks, Academy of Natural Sciences of Philadelphia, Philadelphia, Pa. Indo-Pacific Mollusca is a series of taxonomic monographs of the marine mollusks found from the east coast of Africa to the East Indies, southern Japan, northern Australia and eastward through Polynesia. Each number covers all the known recent and tertiary species of a genus or family, and includes full synonymies, full descriptions, measurements, types, ranges, locality records, comparative remarks, and a condensation of anatomical, ecological, and economic information. All species are illustrated either in full color, black-and-white photographs, or line drawings.

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Growth and Migration of the Tortugas Pink Shrimp, *PENAEUS DUORARUM*, and Changes in the Catch Per Unit of Effort of the Fishery, by E. S. Iversen and A. C. Jones, Technical Series No. 34, 29 pp., illus., printed. Florida State Board of Conservation, W. V. Knott Bldg., Tallahassee, Fla., January 1961. Growth and migratory behavior of tagged pink shrimp were studied on the Dry Tortugas fishing grounds, December 1957-September 1959. The average rate of recovery of tagged shrimp was about 10 percent. There is apparently little difference between winter and summer growth rates. Using both sexes, small shrimp (67 count or 25 mm. carapace length) increased about 10-11 count per month; medium shrimp (33 count or 33 mm. carapace length) increased about 2-3 counts per month; and large shrimp (20 count or 40 mm. carapace length) increased about 0-½ count per month. On the fishing grounds, tagged shrimp moved a maximum of 5 miles per day and in all directions from the point of release. The majority moved to deeper water in a northwesterly direction. Despite increased fishing effort, the trend line of total production is approximately level. The catch per boat night has declined over the years 1950-1959.

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Growth is essential to the long-term success of any small firm. "The starting point for sustained growth is in building growth-mindedness into your associates and employees," states the author. The owner-manager can accomplish this by stressing such benefits as greater profits, greater stability, stronger competitive position, and greater opportunities for advancement. Activities by a firm which almost inevitably lead to growth include reducing costs, improved product quality, engaging in creative marketing, planning to use new developments, and seeking expansion through merger and acquisition.

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#### TEXAS:

Marine Resources of the Corpus Christi Area, by Arvid A. Anderson, Research Monograph No. 21, 54 pp., illus., printed, \$1.50. Corpus Christi Chamber of Commerce, Corpus Christi, Tex., June 1960.

#### TILAPIA:

Age, Growth and Breeding Season of TILAPIA ZILLII Gervais in Egyptian Experimental Ponds, by A. R. El Bolock and R. Koura, Notes and Memoirs No. 49, 41 pp., illus., printed in English and Arabic. Ministry of Agriculture, Hydrobiological Department, Institute of Freshwater Biology, Gizira--Cairo, Egypt, 1960.

Age, Growth and Survival of TILAPIA MOSSAMBICA (Peters) in Egyptian Ponds, by R. Koura and A. R. El Bolock, Notes and Memoirs No. 41, 21 pp., illus., printed in English and Arabic. Ministry of Agriculture, Hydrobiological Department, Institute of Freshwater Biology, Gizira--Cairo, Egypt, 1958.

Notes on the Breeding Behavior, Embryonic and Larval Development, of TILAPIA ZILLII Gervais, by A. E. Imam and M. T. Hashem, Notes and Memoirs No. 51, 21 pp., illus., printed in English and Arabic. Ministry of Agriculture, Hydrobiological Department, Serow Fish-Farm, Gammalia, Dakahlia, Egypt, September 1959.

"Some Marking Experiments with the Tilapia Fish," by C. F. Hickling, article, Malayan Agricultural Journal, vol. 42, no. 1, 1959, pp. 21-30, printed. Department of Agriculture, Kuala Lumpur, Federation of Malaya.

#### TOXICITY:

"Toxicologic Studies on Paralytic Shellfish Poison," by G. S. Widberg and N. R. Stephenson, article, Toxicology and Applied Pharmacology, vol. 2, 1960, pp. 607-615, printed. Toxicology and Applied Pharmacology, Academic Press, Inc., 111 Fifth Ave., New York 3, N. Y.

#### TRADE LISTS:

The Bureau of Foreign Commerce, U. S. Department of Commerce, Washington 25, D. C., has published the following mimeographed trade lists. Copies may be obtained by firms in the United States from that office or from Department of Commerce field offices at \$1 a copy.

Canneries--India, 16 pp. (April 1961). Lists the names and addresses of canneries, size of firms, and types of products handled by each firm. Includes fish canneries.

Canneries and Frozen Foods--Producers and Exporters--Japan, 26 pp. (May 1961). Lists the names and addresses, size of firms, and types of products handled by each firm. Includes fish and shellfish canneries, freezers, and exporters.

Canneries and Frozen Foods--Producers and Exporters--El Salvador, 5 pp. (May 1961). Lists the names and addresses, size of firms, and types of products

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handled by each firm. Several fishing companies operate modern shrimp boats along the Salvadoran Pacific Coast. Some of them maintain plants where shrimp are processed and frozen, then exported by air--principally to the United States.

#### TRAWLING:

"Recherches Concernant le Chalutage Pelagique a un Seul Bateau" (Researches into Midwater Trawling with One Boat), by J. Ancellin and C. Nedelec, article, *Science et Peche*, no. 81, May 1960, 5 pp., illus., printed in French. Science et Peche, L'Institute Scientifique et Technique des Peches Maritimes, 59 Avenue Raymond-Poincare, Paris 16<sup>e</sup>, France.

#### TRAWLS:

"Les Modeles Reduits de Chaluts" (Scale Models of Trawls), by C. Nedelec, article, *Science et Peche*, no. 79, March 1960, 6 pp., printed in French. Science et Peche, L'Institute Scientifique et Technique des Peches Maritimes, 59 Avenue Raymond-Poincare, Paris 16<sup>e</sup>, France.

#### TROUT:

Fishing Fun with Your Own Trout Pond, 16 pp., illus., printed, 50 cents. U. S. Trout Farmers Assn., 110 Social Hall Ave., Salt Lake City, Utah. Discusses the basic requirements for growing trout, the selection and construction of a fish pond, restocking, and kinds of trout desired. Also includes landscaping of a trout pond, weed control, and a list of reference literature. Detailed illustrations provide a complete outline of location and construction of trout ponds.

"Osmo-Regulatory Adaptation of Steelhead Trout (*Salmo gairdneri* Richardson) to Sea Water," by Arthur Hillier Houston, article, *Canadian Journal of Zoology*, vol. 37, no. 5, 1959, pp. 729-748, printed. Canadian Journal of Zoology, Division of Administration, National Research Council, Sussex St., Ottawa 2, Canada.

"Some Effects of Oxygen in Relation to Temperature on the Development of Lake Trout Embryos," by E. T. Garside, article, *Canadian Journal of Zoology*, vol. 37, no. 5, 1959, pp. 689-698, printed. Canadian Journal of Zoology, Division of Administration, National Research Council, Sussex St., Ottawa 2, Canada.

#### TUNA:

"Stomach Contents and Organ Weights of Some Bluefin Tuna (*Thunnus thynnus* Linnaeus), Near Bimini, Bahamas," by Louis A. Krumholz, article, *Zoologica Scientifica Contributions of the New York Zoological Society*, vol. 44, part 3, nos. 6-8, 1959, pp. 127-131, printed. New York Zoological Society, Zoological Park, Bronx Park, New York 60, N. Y.

"Studies of an Unknown Factor in the Pyloric Caeca of Skipjack. I--Discovery of an Unknown Factor as a Substitute for the Citrovorum Factor," by Daiichi Kaki-moto, article, *Bulletin of the Japanese Society of Scientific Fisheries*, vol. 26, August 1960, pp. 759-764, printed. Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-ku, Tokyo, Japan.

#### UNION OF SOUTH AFRICA:

29th Annual Report (April 1, 1957-March 31, 1958), 160 pp., printed. Department of Commerce and Industries, Division of Fisheries, Beach Road, Sea Point, Cape Town, Union of South Africa, 1960.

#### UNITED KINGDOM:

Report of Committee on Salmon and Freshwater Fisheries, Cmnd. 1350, 159 pp., illus., printed, 8s. (about US\$1.15). Her Majesty's Stationery Office, York House, Kingsway, London WC2, England, May 1961. The report to Parliament of the Salmon and Freshwater Fisheries Committee appointed by the Minister of Agriculture, Fisheries and Food in October 1959 to review the Salmon and Freshwater Fisheries Acts, 1923-35, and their operations, taking into account the River Boards Act, 1958; and to make recommendations. Conclusions and recommendations of the Committee are presented under the following subjects: conservation of fisheries; obstructions to the passage of migratory fish; removal and diversion of water; pollution of rivers and lakes; constitution and functions of River Boards; and authority of the Minister of Agriculture, Fisheries and Food. Other topics covered include fishery finance and licenses; authority of enforcement officers; sale of fish; penalties and legal procedures for violation of fishery laws; and local provisions covering Scottish border rivers, Thames and Lee Rivers, and estuaries falling within the jurisdiction of two or more River Boards.

Scottish Sea Fisheries Statistical Tables, 1960, 48 pp., printed, 5s. (about 70 U. S. cents). Department of Agriculture and Fisheries for Scotland, St. Andrew's House, Edinburgh 1, Scotland, June 2, 1961. (Available from Her Majesty's Stationery Office, 13a Castle St., Edinburgh 2, Scotland). Contains 27 statistical tables showing quantity and value of fish landed and cured, number of vessels and fishermen, and creek returns. Tables 1 through 19 cover quantity and value of fish landed by British and foreign vessels; landings of British vessels according to method of fishing, 1938-60; quantity, value, and average value of each kind of fish landed by British vessels in 1913, 1938, and 1953-60; and quantity and value of each kind of fish landed in specific districts by British vessels of various types. They also cover quantity of each kind of fish landed and expenditure of fishing effort in each fishing region by British vessels; quantity of each kind of fish landed by foreign vessels from each fishing region and quantity and value of fish landed by each nationality; and seasonal landings of herring. Tables 20 through 22 show quantity of herring cured, 1913-60, and quantity and value of white fish and herring cured in each district, according to method of cure. Tables 23 through 26 show fishing vessels by type and district; fishermen employed; and greatest number of vessels and persons employed in each district in any week. Table 27 shows number of vessels and fishermen and quantity and value of fish landed in creeks.

#### UNITED NATIONS:

Annual Report of the Technical Assistance Board to the Technical Assistance Committee, Supplement No. 5 to the Official Records of the 32nd session of the United Nations Economic and Social Council, 354 pp., illus., processed, limited edition. Information Center, United Nations, New York, N. Y., May 1, 1961. Among other topics, covers training of government officers in the protection and improvement of inland fishery resources, shellfisheries in Sudan, and changes in small-craft fishing in India and Ceylon.

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#### U.S.S.R.

"Ob Obogashchenii Kormovoy Bazy Ryb Vodokhranilishch Kryma" (On Enriching the Food Supply for Fishes in Crimean Reservoirs), by P. A. Zhuravel', article, Dopovidi Akademii Nauk Ukrain, vol. 4, 1958, pp. 456-458, printed in Russian. Dopovidi Akademii Nauk Ukrain, Kiev, Ukraine, U. S. S. R.

#### VESSELS:

"The Maintenance of Wooden Vessels," by A. Swinfield, article, South Pacific Bulletin, vol. 10, no. 3, July 1960, pp. 33-35, illus., printed. South Pacific Commission, Box 5254, G. P. O., Sydney, Australia.

Outline and Index of a Study of Casualties Among U. S. Commercial Fishing Vessels: Causes, Effect, Corrective Measures, by D. T. Adams, 132 pp., illus., processed. U. S. Coast Guard, Washington 25, D. C., 1956.

#### WATER RESOURCE DEVELOPMENT:

The Conflict of Fish and Power: A Problem in the Water Resource Development of the Pacific Northwest, by W. R. D. Sewell, 81 pp., illus., processed, limited distribution. (A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts). Library, University of Washington, Seattle, Wash., 1956.

#### WHALE OIL:

"Production of Fatty Alcohols from Sperm Whale Oil," by P. S. Ugryumov, article, Zhurnal Prikladnoi Khimii, vol. 32, 1959, pp. 2324-2329, printed in Russian. Zhurnal Prikladnoi Khimii, Izdatel'stvo Akademii Nauk SSSR, Moscow, U. S. S. R.

"Vacuum Pyrolysis of Whale-Liver Oil," by Yoshimori Omote and Hiroshi Sumiyama, article, Shinku Kagaku, vol. 7, 1959, pp. 106-112, printed in Japanese. Shinku Kagaku, Japan Society of Vacuum Chemistry, Jissen Women's College, 101 Tokiwamatsucho, Sibuyaku, Tokyo, Japan.

#### WHALES:

"A Question in Whale Behavior," by Carleton Ray, article, Natural History, vol. 70, no. 6, June-July 1961, pp. 46-53, illus., printed. The American Museum of Natural History, Central Park W. at 79th St., New York 24, N. Y. Discusses the characteristics of whales, dolphins, and porpoises, and the reason for their voluntary stranding. Most solitary strandings

seem to be in response to sickness. Some of these mammals have been captured and observed under aquarium conditions.

"Utilizing the Whale," by Kjell Roed, article, Konkylien, vol. 5, December 1960, pp. 27-29, printed in Norwegian. Konkylien, Stord Marin Industri A.S., Bergen, Norway.

#### WORLD TRADE:

The following World Trade Information Service Reports, published by the Bureau of Foreign Commerce, U. S. Department of Commerce, Washington, D. C., are for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at 10 cents a copy.

Basic Data on the Economy of the United Kingdom, Economic Report No. 59-26, Part 1, 17 pp., illus., printed, March 1959.

Import Tariff System of Norway, Operations Report No. 61-24, Part 2, 2 pp., printed, March 1961.

Import Tariff System of the United Kingdom, Operations Report No. 60-43, Part 2, 2 pp., printed, September 1960.

Marking and Labeling Requirements of Federal Republic of Germany and West Berlin, Operations Report No. 61-11, Part 2, 4 pp., printed, March 1961.

#### WYOMING:

Annual Report--A Report of Activities of the Wyoming Game and Fish Commission, 1959, 103 pp., illus., printed. Wyoming Game and Fish Commission, Cheyenne, Wyo., January 1, 1960. Includes among others, a section on the operations of the Commission's Fish Division. Discusses the collection of fish eggs, principally trout, from wild stock, propagation of fish at hatcheries and rearing stations; distribution of fish by trucks and airplanes; regulations for protecting and expanding wild fish stocks; fisheries management, including assistance in propagation, surveys and investigations, and action programs in the various river systems. Action programs consisted of lake rehabilitation, development of fishing areas, access to fishing waters, maintenance of fishing areas screening irrigation ditches, and pollution control. Other activities were public relations programs, field biological investigations, and laboratory studies.



### VITAMIN A CONCENTRATE FROM FISH-LIVER OIL

Acid clay weakened with a definite amount of a water solution of ammonia, urea, or NaOH was used as a material to adsorb impurities from the sample by normal column chromatography, shaking, and stirring. Under certain conditions, it was possible to concentrate Vitamin A by the use of weakened acid clay, but constant activity could not be secured with these adsorbents. (Bulletin of the Japanese Society of Scientific Fisheries, vol. 25, no. 3, 1960, pp. 196-203.)