



FISH AND WILDLIFE SERVICE PUBLICATIONS

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

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

- | Number | Title |
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| CFS- 863 | - Packaged Fish, 1952 Annual Summary (revised), 4 pp., |
| CFS-1006 | - Middle Atlantic Fisheries, Annual Summary 1952, 7 pp. |
| CFS-1009 | - Massachusetts Landings, May 1954, 8 pp. |
| CFS-1010 | - New Jersey Landings, May 1954, 2 pp. |
| CFS-1012 | - Florida Landings, April 1954, 6 pp. |
| CFS-1021 | - South Atlantic Fisheries, 1952 Annual Summary, 9 pp. |
| CFS-1023 | - Frozen Fish Report, June 1954, 8 pp. |
| CFS-1024 | - New York Landings, May 1954, 5 pp. |
| CFS-1025 | - Texas Landings, June 1954, 3 pp. |
| CFS-1026 | - Pacific Coast Fisheries, 1952 Annual Summary, 7 pp. |
| CFS-1028 | - Frozen Fish Report, July 1954, 8 pp. |
| CFS-1029 | - Maryland Landings, 1953 Annual Summary, 4 pp. |
| CFS-1030 | - Fish Meal and Oil, June 1954, 2 pp. |
| CFS-1033 | - Mississippi Landings, June 1954, 2 pp. |
| CFS-1034 | - Maine Landings, June 1954, 4 pp. |
| CFS-1035 | - New Jersey Landings, June 1954, 2 pp. |
| CFS-1036 | - New York Landings, June 1954, 4 pp. |
| CFS-1037 | - Alabama Landings, June 1954, 2 pp. |
| FL - 14 | - Pacific Salmon (revised March 1954), 8 pp., processed. |
| FL - 69 | - Markets and Recipes for Fresh-water Turtles (revised), 4 pp. |
| FL - 168 | - Commercial Fishery Laws and Regulations (revised), 8 pp. |
| FL - 176 | - Atlantic Salmon (<i>Salmo salar</i>), revised March 1954, 6 pp., processed. |
| FL - 400 | - List of Fishery Leaflets 301-400, 5 pp., processed. |

WHOLESALE DEALERS IN FISHERY PRODUCTS:

- SL - 3 - Massachusetts, 1954, 9 pp.
 SL - 4 - Rhode Island, 1954 (revised), 2 pp.
 SL - 5 - Connecticut, 1954 (revised), 1 p.
 SL - 13 - North Carolina, 1954 (revised), 6 pp.
 SL - 20 - Texas, 1954, 4 pp.

- Sep. No. 376 - Analysis of the Hawaiian Long-Line Fishery, 1948-52.
 Sep. No. 377 - Cold-Storage Life of Fresh-Water Fish--No. 1.
 Sep. No. 378 - Tech. Note No. 30 - Proposed Method for Estimating Amount of Solubles Added to Whole Fish Meal.
 Sep. No. 379 - The Development of Federal Specifications.

SSR-Fish. No. 116 - Progress in Pacific Oceanic Fishery Investigations, 1950-53, by O. E. Sette and the Staff of POFI, 76 pp., illus., processed, February 1954. Summarizes briefly and pictorially the findings of the Service's Pacific Oceanic Fishery Investigations as follows: (1) equatorial hydrographic cruises; (2) 1953 concept of equatorial circulation; (3) surface temperature and phosphate; (4) zooplankton abundance by latitude; (5) zooplankton abundance by longitude and season; (6) food of yellowfin tuna; (7) equatorial long-line fishing cruises; (8) yellowfin tuna catch/100 hooks (July-November); (9) yellowfin tuna catch/100 hooks (January-June); (10) relative abundance of yellowfin tuna in the western equatorial Pacific; (11) seasonal fluctuations in the long-line catch rate in the western Pacific; (12) comparison of catch rates from Japanese commercial and POFI experimental fishing; (13) abundance of yellowfin at 150° W. longitude on successive cruises; (14) tuna spawning near the equator; (15) distribution of tuna larvae in central Pacific; (16) index to racial difference of yellowfin between sample localities; (17) equatorial commercial fishing; (18) acceptance of Cavaliere long-line tuna for canning; (19) variation in size of yellowfin along the Equator; (20) known trans-Pacific distribution of yellowfin tuna; (21) bait resources in the central Pacific; (22) mid-winter sampan fishing in Line Islands; (23) search for bait substitutes; (24) distribution of skipjack catch around the Hawaiian Islands; (25) Hawaiian skipjack landings 1949-1952; (26) survey plan for Hawaiian hydrography; (27) winter sightings of skipjack; (28) the Hawaiian long-line fishery; and (29) the age and growth of yellowfin. To avoid the distraction of interspersing references to sources, a summary of the kind and quantity of data underlying the several charts, graphs, and statements is appended, together with a list of publications.

SSR-Fish. No. 120 - Creel Census and Expenditure Study, North Fork Sun River, Montana, 1951, 42 pp., illus., processed, May 1954.

SSR-Fish. No. 124 - Tests of Hatchery Foods for Salmon, 1952, by H. William Newman, David D. Palmer, and Roger E. Burrows, 13 pp., processed, April 1954.

SSR-Fish. No. 127 - Selected Bibliography on Applications of Electricity in Fishery Science, by Vernon C. Applegate, Paul T. Macy, and Virgil E. Harris, 57 pp., processed, April 1954. It is the purpose of this publication to present a selected list of technical, semi-popular, and popular reports, both published and unpublished, which may prove useful to those who are attempting to apply electricity to a specific fishery problem. This bibliography includes reports appearing through the calendar year 1953 which are directly or indirectly related to the application of electric current in or to the water for the purpose of influencing or controlling fish movement or for capturing fishes or other aquatic organisms. Similar uses of light and sound are not included. Coverage of the literature on fundamental researches of the reactions of fishes to electrical stimuli is comprehensive. A selection of references in the general field of electrophysiology and on the reactions of organisms other than fishes to electrical stimulation is included. Coverage of technical and popular accounts of specific applications of electricity in fishery science is likewise comprehensive; both engineering and biological considerations are contained in some of these reports. Further selected reports have been included which may be of aid in instrumentation or which describe useful test instruments. A few papers are cited which discuss the general subject of electrostatic fields; others describe the characteristics of electrical fields in fluid media. Articles dealing specifically with the characteristics of electrical fields in natural waters and the modifying effects of varying natural conditions on these fields appear non-existent. Some information may be gleaned, however, from several of the reports cited which are concerned primarily with other topics. A separate list is presented of patents granted by the United States Patent Office which are pertinent to the subject of this report.

SSR-Fish. No. 129 - Destruction of Undersized Haddock on Georges Bank, 1952, by Ernest D. Premetz, Robert L. Cory, James W. McKee, and Craig Slater, 39 pp., illus., processed, June 1954. This report on the analysis of haddock discarded at sea on Georges Bank during the 1952 haddock year continues a series of annual reports. During 1952 the destruction of undersized haddock on Georges Bank by the Boston and New Bedford fishing fleets (based on skippers' estimates as reported to port interviewers) was about 4.9 million pounds (4.4 million fish). Of this total, about 4.2 million pounds (3.8 million fish), or over 86 percent, was reported by the Boston fleet. The 1952 discard by the Boston fleet approximates the average annual destruction reported during the period 1947-1951. During the 1952 haddock year observers went to sea on 17 commercial trips to the Georges Bank area to analyze the catch. Skippers' estimates of pounds discarded were found to be within 6½ percent of estimates made by the Service observers at sea. In 1951 skippers' estimates were within 12½ percent of estimates made by observers at sea. Most of the destruction was reported during the summer months as in past years. At this time of the year two-year-old fish are attaining a size at which they are caught in quantity but are still not of mar-

ketable size. In 1952 the fishery was dominated by two-year-olds (1950 year class). Usually there is a heavy destruction of scrod when a dominant year class enters the fishery during its third year of life (two-year-olds are in their third year of life). In 1952, however, the destruction was not exceptionally large in spite of the fact that the two-year-olds were very abundant. Older fish were unusually scarce in 1952; the two-year-olds constituted over 62 percent of the total catch. For this reason fishermen tended to save most of them so that the 50-percent point on the cull curve was somewhat lower than in 1951 when the three-year-olds dominated the fishery.

SSR-Fish. No. 132 - Zooplankton Volumes off the Pacific Coast, 1953, 40 pp., processed, June 1954.

SSR-Wild. No. 12 - A Population Study of the Alaska Fur-Seal Herd, by Karl W. Kenyon, Victor B. Scheffer, and Douglas G. Chapman, 82 pp., illus., processed, June 1954.

Selected List of Fish and Wildlife Materials for Conservation Education, 2 pp., processed.

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

Receipts of Fishery Products at New York City, 1952, by Henry M. Bearse, 17 pp., processed. (Available free from the Market News Service, U. S. Fish and Wildlife Service, 155 John Street, New York 38, N. Y.) Contains an analysis of fishery products receipts for 1952 and marketing trends at New York City. The author discusses in the first part of this report the salt-water market receipts; marketing trends; receipts by shipping areas; receipts by species; trends in method of transportation; imports of fresh and frozen fishery products through the New York customs district; and fresh-water market receipts. The tables present data for receipts in the salt-water section of Fulton Market by months, species, and points of origin.

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"The Alewife in Fresh Water," by Joseph J. Graham, article, The Progressive Fish-Culturist, vol. 16, no. 3 (July 1954), pp. 128-130, processed (annual subscription \$1.25 domestic, US\$1.65 foreign).

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.

The Bay Clams of Oregon--Their Economic Importance, Relative Abundance, and General Distribution, by Lowell D. Marriage, Contribution No. 20, 47 pp., illus., printed. Fish Commission of Oregon, Portland, Oregon, May 1954. The purpose of this paper is to present

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data on distribution, approximate abundance, and habitat of the common bay clams of Oregon with general observations of their life histories. The commercial harvest of bay clams is composed of the gaper, cockle, and soft-shell clams. The recreational, or noncommercial, harvest of bay clams is composed mainly of the gaper, cockle, soft-shell, butter, and littleneck clams, and occasionally the bent-nose, sand, geoduck, and bodega tellen clams. A description of the bay clam-producing areas in the Nehalem, Tillamook, Netarts, Nestucca, Salmon, Siletz, Yaquina, Alsea, Siuslaw, Umpqua, Coos, and Coquille Bays is presented. The condition of the stocks of the gaper, cockle, and softshell clams is discussed.

(Canada) Journal of the Fisheries Research Board of Canada, vol. XI, no. 4, illus., printed, July 1954. Fisheries Research Board of Canada, Ottawa, Canada. Contains, among others, the following articles: "On the Relation of Adult Sockeye Salmon (*Oncorhynchus nerka*) Returns to Known Smolt Seaward Migrations," by R. E. Foerster; "Preparation of Cod Liver Residues and Vitamin B₁₂ Concentrates," by Beryl Truscott, D. G. Gage, and P. L. Hoogland; "Stream Studies on Planted Atlantic Salmon," by H. R. McCrimmon; and "Effect of Olfactory Occlusion on Migrating Silver Salmon (*O. kisutch*)," by Warren J. Wisby, and Arthur D. Hasler.

(Ceylon) Administration Report of the Acting Director of Fisheries for 1953 (Part IV--Education, Science and Art), by E. R. A. de Zylva, 40 pp., illus., printed. Government Publications Bureau, Colombo, Ceylon, June 1954. Progress reports for the year 1953 are presented by the Department of Fisheries' Administration Division, Socio-Economic Division, Development Division, and Research Division. Among the subjects covered are: enforcement of fisheries regulations; improvement of harbor facilities; cooperative development of the fisheries; loans granted to individual fishermen, unregistered fishing groups, and registered cooperative fishing societies; rescue services and relief to fishermen in distress; mechanization of local fishing industry; brackish and freshwater fisheries; fish marketing; curing of fishery products; manufacture of fishery byproducts; and refrigeration and transportation facilities. Statistical data are also included on the production of fresh and cured fish, and imports and exports of fishery products and byproducts.

Channels for Trading Abroad, 30 pp., printed, 25 cents. Bureau of Foreign Commerce, U. S. Department of Commerce, Washington 25, D. C. (For sale by Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) This booklet is designed particularly for businessmen who are planning to enter the field of exporting or importing for the first time or to expand their trade abroad. It gives a quick picture of the principal channels through which successful foreign traders export or import their goods. It suggests methods of selecting these representatives and gives sources of in-

formation about them. And it outlines services in this field which are available from the Bureau of Foreign Commerce and Department of Commerce Field Offices throughout the United States.

Cooking Frozen Meats, Poultry, Game, and Fish, by Faith Fenton, Cornell Extension Bulletin 906, 16 pp., illus., printed. New York State College of Home Economics at Cornell University, Ithaca, New York, February 1954. This bulletin attempts to answer some of the questions homemakers most frequently ask about frozen foods. It explains clearly several ways of handling and cooking frozen meats, poultry, game, and fish and shellfish.

Fish-Culture in Indonesia, edited by A. E. Hofstede, R. O. Ardiwinata, and F. Botke, Indo-Pacific Fisheries Council Special Publications No. 2, 146 pp., illus., printed. Food and Agriculture Organization of the United Nations, Rome, Italy, 1953. Contains papers of the seminar on brackish-water fish-culture held in Indonesia from April 11 to May 23, 1951, under the auspices of the Indo-Pacific Fisheries Council. It is divided into three sections. The first section gives an account of the seminar itself and shows the general program of the instruction given by laboratory work, field trips, and lectures. Section two gives an account of the field work of the seminar. This section gives a clear idea of the different types of fish-culture operations in Indonesia. The third section presents the main papers which were given during the seminar, each of which deals with some special aspect of the subject. The first paper in this series gives a brief general account of the inland fisheries of Indonesia, and the next three papers deal with special aspects of brackish-water fish culture. Two other papers deal with special aspects of fresh-water fish culture and, finally, there is a paper on special problems raised by foreign participants.

Foods and Food Processing (Selected Industrial Films), SIF-No. 6, 21 pp., processed, 50 cents. U. S. Department of Commerce, Washington 25, D. C., April 1954. A list and description of films (including certain fishery films) available to business from industrial, commercial, and government sources.

(FOA) Monthly Operations Report (Data as of April 30, 1954), 93 pp., illus., processed. Division of Statistics and Reports, Foreign Operations Administration, Washington 25, D. C. In addition to the usual tables and data, describes the FOA program in Korea.

Informaciones Estadísticas sobre Pesca, 1952, 56 pp., illus., printed. Departamento Técnico-Económico, Dirección General de Pesca y Caza, Valparaiso, Chile, 1954. Presents data on the fisheries of Chile for 1952 by species, areas, and months. Some historical tables and data on utilization, number of fishermen, number of boats, consumption, products produced, whaling statistics, etc. are also included.

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An Investigation of the Effect of Baker Dam on Downstream-Migrant Salmon, by J. A. R. Hamilton and F. J. Andrew, Bulletin VI, 78 pp., illus., printed. International Pacific Salmon Fisheries Commission, New Westminster, B. C., Canada, 1954.

Memoirs of the Faculty of Fisheries, Kagoshima University, vol. 3, no. 1, 290 pp., illus., printed in Japanese with summaries in English. The Faculty of Fisheries, Kagoshima University, Kagoshima, Japan, November 1953. Contains among others the following articles: "An Experiment on the Tuna Fishery by Long-Line in the Sea off Mangole and Timor Islands;" "A Study on the Characteristics of the Tuna Long-Line of Kanebian (Vinylon) Twine;" "Study on the Electric Fishing-net--X. About the Fish-Screen by the Three-Phase Electric Shocks;" "Variation in Free-Tyrosine Content of Fish Meat in the Course of Decrease of its Freshness;" "Development of the Principle of Freedom of Fisheries in the High Seas;" and "On the Problems of Continental Shelf Theory in Connection with Fisheries in the High Seas."

"Observations of Pelagic Fishes of the Tropical Atlantic," by Frank J. Mather III and C. Godfrey Day, article, Copeia, No. 3, July 29, 1954, pp. 179-188, illus., printed. The American Society of Ichthyologists and Herpetologists, Mt. Royal and Guilford Aves., Baltimore 2, Md.

"The Relation of Total Rainfall of the State and Catch of the Marine Shrimp (*Penaeus setiferus*) in Texas Waters," by Gordon Gunter and Henry H. Hildebrand, article, Bulletin of Marine Science of the Gulf and Caribbean, vol. 4, no. 2, June 1954, pp. 95-103, printed. University of Miami Press, Coral Gables, Florida. According to the authors, the catch of white shrimp, *Penaeus setiferus*, along the Texas Coast from 1927 to 1952, inclusive, shows a strong statistical correlation with the total rainfall of the State. The young shrimp grow up in low salinity, estuarine areas and there are some indications that the correlation depends upon salinity per se rather than other factors, such as nutrient salts brought in from land. There is a lag effect in the shrimp catch-rainfall correlation in that the catch is correlated with rainfall of the previous year and the year before that. There are some indications that this may be due in part to a lag in the rise and fall of salinity of bay and offshore waters following wet and dry spells; it may also be due in part to the life history of the shrimp, for part of the population lives over from one year to the next. General inspection indicates that other possible factors influencing the shrimp catch, such as technological improvements, the shrimp price, general price index and economic cycles, are not correlated with the white shrimp catch during this period, whether or not trends are removed. These matters were not statistically analyzed.

"Shad in the Hudson," by G. B. Talbot, article, The New York State Conservationist, April-May 1954, pp. 17-19, illus., printed, single copy 25 cents. New York State Conservation Depart-

ment, Albany, N. Y. This article describes the different types of gear used in the shad fishery in the Hudson River. Modern mechanization has not influenced this fishery--the shad fishermen are still using gill nets with hickory poles which are driven into the river bottom, stake nets, drift gill nets, and some haul seines. The author also describes the various research projects which have been conducted to aid the shad fishery. A research project, sponsored by the Atlantic States Marine Fisheries Commission, was begun in 1950 on the Hudson River by the U. S. Fish and Wildlife Service in cooperation with the New Jersey and New York Departments of Conservation to determine methods of increasing and stabilizing the catch. In 1951, with the help of the New York Health Department, a water-quality study was undertaken of the river between Troy dam and the mouth of the river. Coincidentally the New York State Water Pollution Control Board has completed an intensive pollution study of the Hudson River. The author states that "with the aid of scientific research, proper regulation, and conservation measures, it would appear that this old and picturesque fishery can continue to compete with modern civilization and will continue to produce for countless years to come."

The Sponges of the West-Central Pacific, by M. W. de Laubenfels, Studies in Zoology No. 7, 332 pp., illus., printed, \$4.00. Oregon State College, Corvallis, Oregon, 1954. An intensive study of the sponges of the West-Central Pacific. The area covered extends from 130° to 180° east longitude and from the equator to 20° north latitude, including four large groups of islands--the Marianas, the Palaus, the (eastern) Carolines, and the Marshalls. Only shallow-water sponges are treated here. A few of the specimens were dredged from Bikini and Eniwetok, but not from very deep water. The discussion is divided into two parts. The first is a description of the Porifera which were studied. The second describes the regions, and the ecological relationships of the sponges. The collections which are discussed aggregate some 183 species. For each species a camera lucida drawing is included as a text figure to provide maximum assistance to nonspecialists. In addition, some 25 species are illustrated by photographs.

"The Surface Current Field in the Western Part of the North Atlantic," by Ilmo Hela, reprint, Bulletin of Marine Science of the Gulf and Caribbean, vol. 3, no. 4, February 1954, pp. 241-272, illus., printed. Marine Laboratory, University of Miami, Coral Gables, Fla. By means of the equation of continuity, in the area chosen for this study, the divergence at each quadruple of square degree of latitude and longitude has been computed from the average surface currents, separately for all the four seasons and also for the whole year. On the right-hand side of the axis of the Gulf Stream there seems to be a rather continuous area of divergence. This is shown to be consistent with the vorticity equation.