



RECENT FISHERY PUBLICATIONS

Recent publications of interest to the commercial fishing industry are listed below.

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.
- MDL - MARKET DEVELOPMENT SECTION LISTS OF DEALERS, LOCKER PLANTS, ASSOCIATIONS, ETC.
- SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.
- SSR.-FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).

Number	Title
CFS-601	- Massachusetts Landings, September 1950, 14 p.
CFS-604	- Fisheries of the United States and Alaska, 1948 Annual Summary, 14 p.
CFS-606	- Frozen Fish Report, 1950 Annual Summary, 14 p.
CFS-607	- Frozen Fish Report, Final, January 1951, 10 p.
CFS-610	- Fish Meal and Oil, December 1950, 2 p.
CFS-611	- Massachusetts Landings, October 1950, 14 p.
CFS-613	- Florida Landings, December 1950, 4 p.
CFS-618	- Maine Landings, December 1950, 4 p.

Refrigerated Locker Plants:

MDL-3 (Revised)	- Tennessee, 4 p.
MDL-7 (Revised)	- Indiana, 9 p.
MDL-17 (Revised)	- Kansas, 12 p.
MDL-20 (Revised)	- Illinois, 13 p.
MDL-23 (Revised)	- Rhode Island, 1 p.
MDL-26 (Revised)	- Colorado, 6 p.
MDL-28 (Revised)	- Vermont, 2 p.
MDL-29 (Revised)	- Virginia, 3 p.
MDL-36 (Revised)	- Arkansas, 3 p.
MDL-39 (Revised)	- Florida, 2 p.
MDL-44 (Revised)	- South Dakota, 7 p.

Number	Title
MDL-45 (Revised)	- Utah, 4 p.
MDL-46 (Revised)	- West Virginia, 1 p.

- Sep. 270 - Preliminary Fisheries Survey of the Hawaiian-Line Islands Area, Part II - Notes on the Tuna and Bait Resources of the Hawaiian, Leeward, and Line Islands.
- Sep. 271 - Preliminary Fisheries Survey of the Hawaiian-Line Islands Area, Part III - The Live-Bait Skipjack Fishery of the Hawaiian Islands.
- Sep. 272 - Effect of Fluctuating Storage Temperatures on Quality of Frozen Fillets.
- SSR-Fish. No. 55 - Natural History of the Sea Lamprey (PETROMYZON MARINUS) in Michigan, by Vernon C. Applegate, 259 p., December 1950.
- SSR-Fish. No. 57 - Survey of the Columbia River and its Tributaries - Part VIII, Area VII - Snake River, above Payette River to upper Salmon Falls, by Zell E. Parkhurst, 19 p. illus., December 1950.

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

Bacteriological Studies of Philippine Fishery Products, by John A. Clague and Crisanto Almario, Research Report 27, 12 p., printed, 10 cents, 1950. To obtain information on the bacteriological quality of Philippine fishery products, tests were made on oysters and overlying waters from oyster farms, and on fresh and processed fish and shellfish from the Manila markets in the Philippines. The data gathered is presented in this publication. In addition, the authors present recommendations for improving the bacteriological quality of Philippine fishery products.

cussed in this publication. Also included are results of tests on the relative value of preservatives when used on gear submerged in Philippine waters. Comparative costs of the various treatments are shown.

Fishing Gear Preservatives for Philippine Waters, by John A. Clague and Bienvenido Datingaling, Research Report 22, 23 p., illus., printed, 15 cents, 1950. The types of gear preservatives most commonly used and the method of applying them are briefly dis-

Liver Oil Properties of Philippine Sharks and Rays, by William S. Hamm, Research Report 23, 5 p., printed, 10 cents, 1950. The Philippine Fishery Program obtained numerous samples of shark and other fish livers to assay as potential sources of vitamin A. While this assay work was underway, certain other physical and chemical properties of shark oils were also determined on as many samples as time permitted and these data are presented in this report. These values are of interest if the oils are to be used for industrial purposes.

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Outlook for Development of a Tuna Industry in the Philippines, by Herbert E. Warfel, Research Report 28, 40 p. illus., printed, 20 cents, 1950. The tuna resources of the Philippine seas are relatively unexploited at present and represent the largest single opportunity for the expansion of the fisheries of that nation. The results of 2½ years of study and exploration of this resource and the prospects for developing it are presented in this bulletin. A tuna-canning industry of modest proportions could be established, using the long line-trawl technique to capture the fish. Limitations of the supply of bait fishes preclude extensive development of live-bait fishing. American tuna-fishing techniques have not been successful in the Philippines to date and are probably too expensive, since Philippine waters are probably less than one-half as productive as those of the eastern Pacific. Included in this report is a discussion of the Philippine tunas; the history of the Philippine tuna fishery; recent exploration for tuna (including live-bait fishing experiments, long-line trawl experiments, trolling

experiments, and the trap fishery); and production. The author also gives a number of recommendations regarding the development of a Philippine tuna fishery.

Temperature and Salt Purity Effects on the Manufacture of Fish Paste and Sauce, by William S. Hamm and John A. Clague, Research Report 24, 13 p., illus., printed, 10 cents, 1950. Bagoong (fish paste) and patis (fish sauce) are two of the primary preserved fish products prepared in the Philippines. Similar products are prepared in other countries of southeast Asia. The Philippine Fishery Program experimented with the manufacture of these products under various controlled conditions in order to investigate the possibility of reducing costs by accelerating the aging process. The investigation included a study of some bacteriological, chemical, and physical changes which occur in the mixture during fermentation and storage. The results of these experiments and investigations are presented in this bulletin.

MISCELLANEOUS PUBLICATIONS

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

"An Easy Method of Separating King and Silver Salmon," by Fred B. Hagerman, article, California Fish and Game, January 1951, vol. 37, no. 1, pp. 53-4, illus., printed. Division of Fish and Game, State Fisheries Laboratory, Terminal Island Station, San Pedro, Calif. Explains a simple efficient method of distinguishing between the king salmon (Oncorhynchus tshawytscha) and the silver salmon (Oncorhynchus kisutch).

"An Investigation of the California Sand Dab, Citharichthys sordidus (Girard)," by Harbans Lal Arora, article, California Fish and Game, January 1951, vol. 37, no. 1, pp. 3-42, illus., printed. Division of Fish and Game, State Fisheries Laboratory, Terminal Island Station, San Pedro, Calif. An investigation of the California sand dab (Citharichthys sordidus) is presented in this report. The general morphology and systematic characters of the species are described on the basis of the literature and from material obtained from Monterey Bay and the fishing grounds off San Francisco. Included is a discussion of methods employed, maturation and spawning period, age and growth, age and size at first maturity, length-weight relationship, relationship between total and standard length, and a description of the species.

Annual Report of the Secretary of the Interior (Fiscal Year Ended June 30, 1950), 438 p., printed, indexed, \$1.00. U. S. Department of the Interior, Washington, D. C. (For sale by the Superintendent of Documents, Washington, D. C.) Contains the annual reports of the various agencies of the Department of the Interior, including the Fish and Wildlife Service. Included in the latter report are summaries of the various activities of the Service. Specifically covered are the Pacific Oceanic Fishery Investigations; utilizing the fishery resources (which includes the activities of the Branch of Commercial Fisheries); administration of Alaska fisheries; research in fishery management (marine, coastal, and inland fisheries); maintaining the inland fisheries; international cooperation in conservation (international conservation agreements, international technical cooperation, and rehabilitation of Philippine fisheries); and administration of Federal statutes for protection of fish and wildlife. The

wildlife activities of the Fish and Wildlife Service are also covered.

Australian Journal of Marine and Freshwater Research, December 1950, vol. 1, no. 2, 115 p., plus plates, illus., printed, 7s6d per issue (approx. 85 cents). Commonwealth Scientific and Industrial Research Organization, 314 Albert Street, East Melbourne, C2, Victoria. Published as a medium for the publication of the results or original investigations on sea, estuarine, and fresh-water fisheries and related subjects. In this issue the following articles appear: The Tasmanian Whitebait, Lovettia zeali (Johnston), and the Whitebait Fishery, by M. Blackburn; The Effect of a Period of Increased Legal Minimum Length of Sea Mullet in Western Australia, by J. M. Thomson; Studies on the Age, Growth, and Life History of the Pilchard, Sardinops neopilchardus (Steindachner), in Southern and Western Australia, by M. Blackburn; Shell Movements of the Freshwater Mussel, Hyridella australis Lam. (Lamellibranchiata), by I. D. Hiscock.

Biennial Report for 1949-1951 of the Fisheries Experimental Commission of Alaska, 8 p., processed. Fishery Products Laboratory, U. S. Fish and Wildlife Service, Ketchikan, Alaska. The Fisheries Experimental Commission was created by Territorial law in 1937. The basic aim of the Commission as established by the legislative act is to aid in the development of the unutilized resources of the Territory. This includes the improvement of existing fishery products and processes, the development of new fishery products from existing fisheries, and the development of new fishery industries, especially those which will support the economy of the Territory during the off-season. This report discusses the expenditures and activities of the Commission during the 1949-51 biennium. Included is a report on the cooperative activities with the Fish and Wildlife Service, cooperation with other government agencies, and technological activities (occurrence of toxicity in Alaskan butter clams; freezing and storing Alaska pink salmon fillets; utilization of salmon cannery waste; survey of

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commercial fishery possibilities of the Seward Peninsula and adjacent areas; and a list of the publications issued covering the investigations.

California Cooperative Sardine Research Program (Progress Report 1950), by California Academy of Sciences, California Division of Fish and Game, Scripps Institution of Oceanography, and U. S. Fish and Wildlife Service, 54 p., printed, illus. Marine Research Committee, California Department of Natural Resources, State of California, Pier 47, Foot of Jones Street, San Francisco 11, Calif. This report presents an over-all picture of the California Cooperative Sardine Research Program, which has been under way for almost three years. The aim of the Program is to seek out the underlying principles that govern the Pacific sardine's behavior, availability, and total abundance. Included is a summarization of the work done on this program since its inception through 1950 and a statement of plans for work in 1951.

(ECA) Tenth Report to Congress of the Economic Cooperation Administration (For the quarter Ended September 30, 1950), 158 p., illus., printed, 40 cents. Economic Cooperation Administration, Washington, D. C., February 1951. (For sale by Superintendent of Documents, Washington 25, D. C.) Reports on the activities under the Economic Cooperation Act of 1948 as well as the programs of economic aid to Korea and the general area of China. Edible fishery products and whale and fish oils are listed as a group in some of the tables. Included is an appendix summarizing the status of the United States Foreign Relief Program and the U. S. Foreign Aid Program.

Fisheries Research Program of Japan, by Willis H. Rich, Preliminary Study No. 42, 40 p., processed. Natural Resources Section, Supreme Commander for the Allied Powers, Tokyo, Japan, January 1951. (Reports may be purchased only in photostat or microfilm from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.) This is a report prepared by the author while serving as visiting expert consultant in Japan in the Fisheries Division of SCAP's Natural Resources Section. The primary purpose of the study was to aid the Japanese in developing a sound, modern fisheries research program. The first part of this report treats of the general features of the Japanese fisheries research program, including the structure of the program, the nature of research, some current problems (shortage of research manpower; inadequacy of library facilities; need for accurate and adequate statistics; and need for continuing long-term research programs), and a summary of recommendations. The second part examines in detail four important research programs: (1) herring fishery; (2) salmon fishery; (3) inland sea fishery; (4) and trawl fishery of East China Sea. (A short summary of this report appears in the February 1951 issue of Commercial Fisheries Review, pp. 61-2.)

Fiskeri-Beretning for Aret 1949, 170 p., printed in Danish with English foreword. I Kommission Hos G. E. C. Gad, Copenhagen, Denmark, 1950. This report contains detailed statistics on the Danish fisheries for the year of 1949. Included in the report are data on number of fishermen, number of fishing craft, value of fishing vessels, the catch by species, the landed value of the catch, resumes by fisheries, imports and exports of fishery products, and a summary of the trends in the fishery industries.

Laws for the Oyster Farmer, by G. Robert Lunz, Contributions from Bears Bluff Laboratories No. 10, 14 p., printed, illus. Bears Bluff Laboratories, Wadmalaw Island, S. C., January 1951. This is a non-technical summary of the existing South Carolina oyster laws. It covers leases, planting requirements, regulations, taxes and licenses, and restrictive measures. The last part of the pamphlet discusses suggestions for changes in the oyster laws.

Peruvian Fisheries Number, Andean Air Mail & Peruvian Times, Supplement to the Issue of December 1-8, 1950, 84 p., printed, \$7.00 (about 50 U. S. cents). Andean Air Mail & Peruvian Times S. A., Jiron Carabaya 928, Lima, Peru. This is a special supplement devoted to the Peruvian fisheries. Most of the articles are in English and some in Spanish. These are some of the more important articles in English: Peruvian Fishing Industry and the Bureau of Fish and Wildlife; The Hundred Fathom Curve; Canned Peruvian Bonito in the United States; Peruvian Fish Hatcheries; Swordfish Heaven; and Big Shipment of Swordfish Arrives at New York. In addition, there are two lists of Peruvian industrial fishing companies--one alphabetical and one by zones.

Salmon Fisheries of the Coastal Rivers of Oregon South of the Columbia, by John T. Gharrett and John I. Hodges, Contribution No. 13, 31 p., illus. Oregon Fish Commission, Portland, Oregon, December 1950. This report is the first of a series dealing with the fisheries management on rivers south of the Columbia. In addition to a discussion of the past regulation of the fisheries, the booklet discusses each individual species of salmon (chinook, silver, and chum), factors affecting the population, and management programs. In their conclusions, the authors state that "in spite of the progressive restrictions of the commercial river fishery during the past fifty years, the trend of the salmon populations of the coastal rivers has been downward. It is almost impossible to isolate and analyze separately the causes of this decline, and any attempt to saddle one factor with the responsibility is an oversimplification of the facts." The report points out that the stream surveys and other observations indicate that the coastal rivers and their salmon populations are not beyond redemption, and that under proper management can be made to yield annually several times their present production.

Scientific and Common Names Applied to Tunas, Mackerels and Spear Fishes of the World with Notes on Their Geographic Distribution, 246 p., processed. Food and Agriculture Organization of the United Nations, Washington, D. C., December 1950. This is a progress report on the compilation of scientific and common names of important food fishes. The first Conference of the Food and Agriculture Organization held at Quebec in 1945 recommended that a study be made of the names, both common and scientific, of important food fishes of the world with a view to clarifying or at least analyzing some of the difficulties in nomenclature. This present work represents a first step in such a study. Because the tunas, mackerels, and spearfishes include species with wide and varied distribution, and because they are becoming increasingly important as food fish and in world trade, and also because there exists a variety of opinions as to nomenclature or taxonomic position of its members, this group was examined first. This study is in no way an attempt at taxonomic revision but is rather a survey and a compilation of existing information on the names and naming of the species. All names, both

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scientific and common, which occur in the literature referring to the same or very similar species have been extracted and placed together and indexed for quick identification. The authors' notes or quotations from experts in taxonomy in this field are often given in order to point out relationships, or difficulties. The geographic distributions included have been worked out from actual records of occurrence as cited in the literature, and are recorded with their limits for each species or at least closely related species.

Seasonal Patterns of Food Consumption, City Families, 1948

(Based on Food Consumption Surveys of 1948-1949), Special Report No. 3, 19 p., processed. Bureau of Human Nutrition and Home Economics, U. S. Department of Agriculture, Washington 25, D. C., February 1951. Season patterns in food consumption (including fish and shellfish) of United States urban families are presented in this report. The patterns were derived from data on types and quantities of foods consumed by housekeeping families in four cities in diverse sections of the country during various seasons of 1948 and 1949. For the group "meat, poultry, and fish" consumption, as a whole, is stable the year round, but for fish consumption is low in the summer and highest in the winter, the report indicates.

Third Annual Report of the Pacific Marine Fisheries Commission for the Year 1950, (To the Congress of the United States and to the Governors and Legislatures of Washington, Oregon and California), 24 p., printed.

Pacific Marine Fisheries Commission, Portland, Oregon. The activities and a short resume of the meetings of the Commission during 1950 are given in this report. Also, there is a short summary of the reports submitted by the participating States and cooperating agencies on the research conducted in 1950 on the following marine species and fisheries: ocean salmon, albacore tuna, sardine (pilchard), soupfin shark, sablefish (black cod), and the otter trawl fishery.

Trade Lists

The Commercial Intelligence Branch, Office of International Trade, U. S. Department of Commerce, has pub-

lished the following mimeographed trade lists. Copies of these lists may be obtained by firms in the United States from that office or from Department of Commerce field offices at \$1.00 per list.

Canneries - Argentina, 8 p. (December 1950); lists, among others, firms canning fishery products. Name, address, products handled, and, in some cases, size of firm are indicated.

Frozen Foods - Processors and Exporters--Denmark, 3 p. (January 1951); lists the names, addresses, and size of about 10 firms processing and exporting frozen fishery products.

Oils (Animal, Fish, and Vegetable) Importers, Dealers, Producers, and Refiners, Argentina, 11 p., (January 1951); lists the names and addresses, products handled, and size of Argentina producers of and dealers in animal, fish, and vegetable oils.

Oils (Animal, Fish, and Vegetable) Importers, Dealers, Producers, Refiners and Exporters--Brazil, 56 p., (January 1951); lists the names and addresses, products handled, and size of Brazilian producers of and dealers in animal, fish, and vegetable oils. Includes a few dealers in fish oils, mainly importers.

Oils (Animal, Fish, and Vegetable) Importers, Dealers, Producers, Refiners, and Exporters--The Netherlands, 20 p., (February 1951); lists the names and addresses, products handled, and size of producers of and dealers in animal, fish, and vegetable oils in The Netherlands.



PACKAGING FROZEN FISHERY PRODUCTS

New packages and methods of packaging can help in merchandising frozen fishery products. Self service makes it easier for the consumer to decide for himself which product he will choose. Quality of product and the use of attractive packages and informative labeling can aid materially in furnishing the customer the required incentives for purchasing.

With the development of improved packaging and freezing techniques will come the expansion of markets for fishery products. These products can be frozen when supplies are plentiful and held until needed by the consumer. By packaging and quick freezing immediately, they are preserved at their peak of quality.

—Fishery Leaflet 324