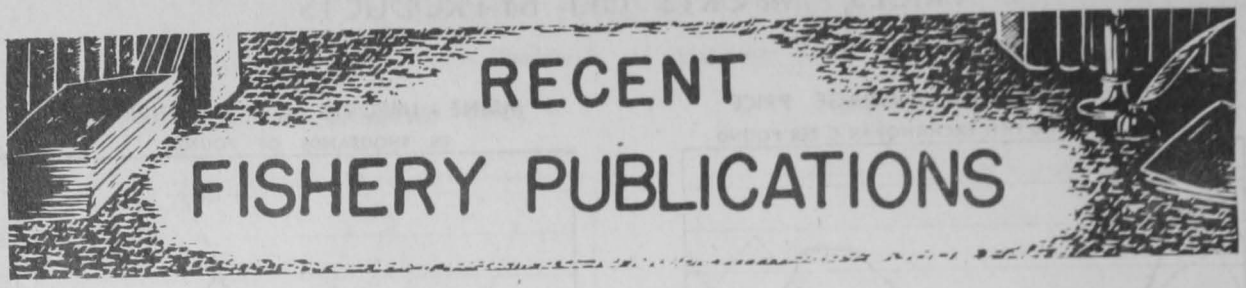


Recent publications of interest to the commercial fishing industry are listed below.

FISH AND WILDLIFE SERVICE PUBLICATIONS

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

CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES AND ALASKA.
FL - FISHERY LEAFLETS.
MDL - MARKET DEVELOPMENT SECTION LISTS OF DEALERS, LOCKER PLANTS, ASSOCIATIONS, ETC.
SL - STATISTICAL SECTION LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.
SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

Number	Title
CFS-431	- Massachusetts Landings, April 1948
CFS-432	- Massachusetts Landings, May 1948
CFS-435	- Frozen Fish Report, November 1948
CFS-436	- Fish Meal and Oil, September 1948
FL-296	- A Method for Evaluation of the Nutritive Value of a Protein
FL-316	- S. S. Pacific Explorer - Part III--Below Deck Arrangements and Refrigeration Equipment
SL-111 (Revised)	- Firms Canning Clam Products, 1947
SL-116 (Revised)	- Firms Canning Food for Animals, from Fishery Products, 1947
Sep. 220	- United States Per Capita Consumption of Fishery Products
Sep. 221	- Preliminary Study of Total Bacterial Plate Count Method for Fishery Products

ARTICLES BY FISH AND WILDLIFE SERVICE AUTHORS IN OTHER PUBLICATIONS

"Spawning of Pacific Tunas and its Implications to the Welfare of the Pacific Tuna Fisheries," by M. B. Schaefer, Transactions of the Thirteenth North American Wildlife Conference (March 8, 9, and 10, 1948, Hotel Jefferson, St. Louis, Missouri), 1948, $1.50 per copy, p. 365-71. (Entire book available from the Wildlife Management Institute, Investment Building, Washington 5, D. C.) Some of the findings by the Service's South Pacific Investigations are presented in this paper. The author in the conclusion states that the practical management of the tuna fishery depends in the very first instance on determining the geographical limits of the stocks involved. The application to Pacific tunas is formidable only in magnitude, not in method, and the problems presented by the tuna populations inhabiting the Pacific cannot be side-stepped if the commercial tuna fishery is to attain its maximum development on a sustained yield basis. The rational development of the industry, and the regulation of the high seas fishery both have as objectives the optimum, or sustained yield from the resource. In order to approach this optimum, or even in order to know how it may be approached, there must be obtained basic data on the biology and ecology of the tuna populations.

MISCELLANEOUS PUBLICATIONS

THE FOLLOWING PUBLICATIONS MAY BE OBTAINED, IN MOST INSTANCES, FROM THE AGENCIES ISSUING THEM.

Advance Report on the Fisheries of British Columbia, 1947, No. 12-1029, 12 p., processed, 10 cents a copy. Fisheries and Animal Products Statistics, Dominion Bureau of Statistics, Ottawa, Canada, 1948. Summaries of the statistics of the fisheries of British Columbia for 1947, and comparative statistics for the preceding years are contained in the tables which make up this report.

Advance Report on the Fisheries of New Brunswick, 1947, No. 12-1032, 12 p., processed, 10 cents a copy. Fisheries and Animal Products Statistics, Dominion Bureau of Statistics, Ottawa, Canada, 1948. Summaries of the statistics of the fisheries of New Brunswick for 1947, and comparative statistics for the preceding years are contained in the tables which make up this report.

Commercial Fishermen's Reference Book, Second Edition, 52 p. illus., printed. R. J. Ederer Company, Chicago 10, Ill., $2.50 per copy. This book gives an over-all picture of the use of fish netting. It does not cover all the different operational methods nor all the varieties of fish caught in the numerous fishing localities, but it shows general net diagrams. Included are sketches of various gill nets, seine nets, trawl nets, trap nets, and trammel nets; a short descriptive article on how to mend nets; the twine used for nets; and the knots used by men who use nets.

"Export Values of Fisheries Products," article, Fisheries Bulletin, October 1948, vol. 1, no. 3, p. 64-71. Food and Agriculture Organization of the United Nations, Washington, D. C. Presents a series of tables showing the value by market countries of fisheries exports from Denmark, Iceland, Newfoundland, Norway, and the United Kingdom. Some of the more important changes which occurred between the prewar year 1938 and the postwar years 1946 and 1947 are noted in the test preceding the tables.

Foreign Market Notes--Fish and Fish Products (Arthur M. Sandberg Reports on the Fish Situation in Germany, Austria, Italy, and Greece), Foreign Agriculture Circular, FFP-3-48, December 10, 1948, 6 p., mimeographed. Office of Foreign Agricultural Relations, U. S. Department of Agriculture, Washington, D. C., free. A third preliminary report of a study of market outlets in Germany, Austria, Italy, and Greece for and competition with United States fish and fish products, conducted under the provisions of the Research and Marketing Act. The first report, FFP-1-48, covered France, the United Kingdom, and Ireland; and the second report, FFP-2-48, covered the Netherlands, Belgium, and Switzerland.

Hemmed In (Þröngt Fyrir Dyrum), by Matth. Thordarson, Icelandic Publication, 32 p., printed. Adalútsalan Hjá h/f Leiftur, Reykjavik, Iceland, 1946. This booklet is an argument in support of the Icelandic viewpoint favoring greater control on Iceland's part of the fishing banks lying near its shores. In spite of the belief expressed by the author that an extension of the limits of Iceland's territorial waters to four miles would be "the most desirable solution," as a compromise he suggests that the three-mile limit be retained but that Iceland assume jurisdiction over the waters of all bays and fjords with entrances of twenty miles or less in width instead of the present ten miles. (Iceland passed a bill in 1948 specifying that it will maintain control over all fisheries within the boundaries of the coastal shelf.) Since the edges of the coastal shelf are clearly marked on the chart contained in this booklet, it is apparent that the mode of measurement defined in the bill would give Iceland jurisdiction over a marginal belt which in many places would be more than fifty miles wide. Numerous geographical, historical, and economic reasons why foreign vessels should be kept at a greater distance from Iceland's coast than is now the case are given by the author.

A Symposium of Fish Populations, composite authorship, vol. XI, art. 4, 283 p. with tables and graphs, $4.25 per copy. Bulletin of The Bingham Oceanographic Collection, Peabody Museum of Natural History, Yale University, New Haven, Conn., May 1948. This is a report on the symposium held at The Royal Ontario Museum of Zoology, Toronto, Canada, January 10 and 11, 1947. The following papers were presented:

1. "Fishing and Assessing Populations," by A. G. Huntsman, p. 5-21. States that facile apparent solutions of fishery problems, due to their complexity, have not proved to be effective. Increased fishing intensity will have different effects upon populations of at least one kind of fish (such as Hippoglossoides), depending upon whether or not the fish have a short life and rapid growth, growth over many years to a great size, or are stunted from very slow growth. Greatly increased fishing intensity on Passamaquoddy herring, finally involving all ages starting with yearlings, resulted in the take being doubled, with no failure in maintenance but with marked decrease in the large fish. Regulations to permit small fish to become large for a greater take seem to have no basis in fact, to judge from mortality of salmon freed as grilse. Restriction in fishing to give more spawning seems unwise until there is clear evidence that more spawning is required. According to the author, various fishery conditions have been confused under the terms "overfishing" and "depletion." Assessment of the populations is possible only through capture of the fish, and can be accurate only by proper interpretation of the given capture.

2. "North American Attempts at Fish Management," by T. H. Langlois, p. 33-54. Following a brief statement of the history and growth of the North American fisheries, the paper contains a discussion of the present biological concept of the effects of fishing on fish stocks and the actual inapplicability of this concept to the major fisheries. The new movement, particularly on the part of fishery biologists in the mid-western and eastern states and Canada, exclusive of the U. S. Fish and Wildlife Service, attributes major fluctuations of fish abundance to effects of an environment which fluctuates in its suitability for larval fish rather than to depletion by overfishing. The author offers the suggestion that other bodies of water may have "key areas" like that described for Lake Erie, wherein the cycle leading to fish production is either started or kept from starting. Recent efforts of trying to improve fishing in mid-western inland waters are reviewed.

3. "European Studies of the Populations of Marine Fishes," by J. R. Dymond, p. 55-80. This paper covers the study of the fish populations of European waters developed chiefly in the Scandinavian countries and in Great Britain largely as a result of the economic importance of the fisheries of these countries. Outstanding discoveries include the facts that some year-classes are fifty or sixty times as abundant as others, that such wide fluctuations characterize most of the important commercial species, that even when fish are abundant there are wide fluctuations in availability due to hydrographic conditions, and that great fluctuations in abundance also characterize the fauna of the sea bottom. Demonstration of considerably increased mortality due to fishing has led to action designed to prevent overfishing. The International Council for the Exploration of the Sea has contributed materially towards the study of these problems and in initiating international action to meet situations uncovered. The discovery that the age of fish and certain characteristics of their life histories could be read from the scales has been basic to many phases of population work. The organization of statistics, especially those on an international scale, has also been an indispensable tool in population studies. The understanding of populations and of the factors affecting them has reached the stage where in some species fishing probabilities have been attempted with considerable success, according to the authors.

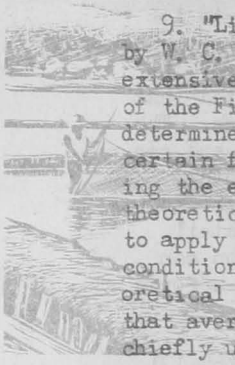
4. "Fluctuation in Abundance of Pacific Halibut," by M. B. Burkenroad, p. 81-129. This paper, an analysis of data published by the International Fisheries Commission, indicates that the decline in abundance of halibut on the Pacific Coast west of Cape Spencer between 1915 and 1930, and the increase since that date may both have been much greater than can be accounted for by the changes in amount of fishing. According to the author, it, therefore, seems possible that the major fluctuations in abundance of this stock of fish should be attributed to natural causes, perhaps of a regularly cyclical sort. In view of these results, it is suggested that the desirability of applying current theories of biological management to marine fisheries remains to be demonstrated.

5. "Studies on the Marine Resources of Southern New England (VII. Analysis of a Fish Population)," by Daniel Merriman and H. E. Warfel, p. 131-164. This is a study of the species taken in the winter flounder trawl fishery off Rhode Island and Connecticut and is based on monthly representative samples of the catch from August 1943 to July 1946. It is an analysis of the population as a whole, with particular reference to its seasonal and annual organization and the relationships of its components. The history of the fishery and its present status are outlined. Of the total catch by weight during the three-year period, it is estimated that 55 percent was actually marketed and 45 percent discarded as trash. The adequacy of this method of sampling the population, the relative and seasonal abundance of the different species, and the evidence for interspecific relationships (particularly between the two dominant elements of the catch, winter flounder and skate) are discussed in some detail. The study provides a framework upon which more precise information can be constructed, as well as a basis for future comparison, and so affords an approach to the question of overfishing and related problems.

6. "Estimating Fishing Intensities," by A. W. H. Needler, p. 165-171. The paper deals with two principal points: (1) the distinction between availability as indicated by catch-per-unit-of-effort and population as indicated by fishing mortality and catch, and (2) the decline, as fishing intensity increases, in the value of availability as an indication of changes in abundance and the corresponding increase in the importance of knowing fishing mortalities and populations. The latter are essential to any clear understanding of intensive fisheries and whether or how to manage them.

7. "Computation of Fish Production," by W. E. Ricker and R. E. Foerster, p. 173-211. This paper defines the annual production of a fish population as the product of the average population on hand and the instantaneous rate of growth, summed over the whole of the year. A computation of production has been made for the young sockeye salmon of Cultus Lake, British Columbia, where it proved satisfactory to divide the year into half-month periods for this purpose. According to the author, production is concentrated in the summer months and falls to zero in winter. The fraction of the total production which appears as "yield" (seaward migrants) has varied. The mortality rate is greatest while the sockeye are very small, and the prolongation of this period of small size (hence greater vulnerability) in years when many fry are present appears to be a part of the mechanism whereby the total size of the population is regulated. Insofar as mortality is the result of predation, the instantaneous mortality rate is a direct measure of the activity of the predators, and rather small changes in amount of predation suffice to produce large changes in the percentage of the fish which survive, when that percentage is not large. No evidence is available that other causes of death are of any great importance to young sockeye, though that possibility cannot be wholly excluded. Computations of the production of other species of fish in other bodies of water will usually be more difficult than for the Cultus sockeye, but very likely it will often be possible to obtain data from which they can be estimated with sufficient accuracy to be of real usefulness.

8. "Prospects for Managing our Fisheries," by R. E. Foerster, p. 213-227. The author states in this paper that fisheries management is practicable only where adequate information is available. Prediction of sizes of populations, based on knowledge of existing stocks and effect of new-age classes, is suggested as a valuable feature of management. Many basic factors still have to be studied; e. g., relationship of spawning to recruitment, factors limiting early survival, mortality rates in the ocean, adequate statistics, interspecific relationships, variation in oceanographic conditions. Setting up of quotas may be a useful means of regulation provided that these are allowed flexibility to be altered as new data indicate. Limitation of fishermen may be required, the author continues. Fisheries management policies to provide maximum sustained yield are the objectives of all fisheries. Progress is being made but the rate is dependent on the extent to which pertinent data can be accumulated. In conclusion, the author states that it seems highly desirable that some measure of fisheries management should be developed to maintain a high sustained yield for our commercially-important fisheries.



9. "Limiting Factors of Fish Populations (Some Theories and an Example)," by W. C. Herrington, p. 229-283. The purpose of this paper, which draws extensively upon results of the work carried on by the Haddock Investigations of the Fish and Wildlife Service under the direction of the author, is to determine the factors having most influence on the average productivity of certain fish populations; to develop the theoretical relationships expressing the effect of these factors on fish stocks; to test the validity of the theoretical relationships by using actual data for certain fisheries; and to apply the conclusions to the problems of explaining the present poor condition of the haddock population and how it can be improved. The theoretical relationships developed indicate, under the conditions considered, that average relative recruitment to the usable stock of fish is dependent chiefly upon the size of the spawning stock and of the competitive stock. The conclusion that recent supplies of food available to haddock have been reduced materially is supported by independent evidence from studies of adult stock distribution on the fishing grounds and from growth rates. Increases in the population of other species have not been sufficient to explain the decrease in haddock food. This study shows that the recent scarcity of haddock resulted from reduced food supplies for haddock and from underfishing during the war. It also indicates that recruitment should increase during 1947-48, and that to maintain a high yield in the future, the adult population must be held within the limits required for good spawning and minimum intraspecific competition.

A History of Fishes, by J. R. Norman. 463 p. with plates and figures, printed, A. A. Wyn, Inc., New York, N. Y., $6.50. A comprehensive indexed reference book of facts, life history, evolution, distribution, and environment of the fishes of the world. Includes chapters on the fisheries of the world, fishing methods, and fishery research which give the relationship of fishes to the life of mankind. However, most of the book covers the definition of fishes and their position in the animal kingdom, their shapes, fins, skin, scales, spines, teeth, internal organs, senses and sense organs, color, food, distribution, migrations, breeding, development, classification, fish as food for man, and myths and legends concerning fish. First published in 1931, this new edition differs from the original only in the addition of a foreword.

Problems Connected with the Management of the Sardine Fishery," by F. N. Clark, article, Transactions of the Thirteenth North American Wildlife Conference (March 8, 9, and 10, 1948, Hotel Jefferson, St. Louis, Missouri, 1948, $1.50 per copy, pp. 339-347. Entire book available from the Wildlife Management Institute, Investment Building, Washington 5, D. C. This paper summarizes the history of the West Coast sardine industry, and the available information on the biology of the sardine. According to the author, plans for the management of the West Coast sardine fishery must be based on the information at hand which indicates a population at a low level of abundance subjected to heavy fishing intensity, an inadequate catch of sardines, and heavy financial loss to the industry.

Seventh Annual Report of the Atlantic States Marine Fisheries Commission, (To the Congress of the United States and the Governors and Legislators of the Fourteen Compacting States), 48 p., printed. Atlantic States Marine Fisheries Commission, New York, N. Y., December 1, 1948. In this report, the Commission discusses many fisheries matters, some originated by the Commission, others originated by Federal, State, interstate, and other agencies, during 1948. Reports on meetings of the various sections and committees of the Commission; a brief summary of the discussions regarding lobster, clam, shrimp, haddock, shad, and crab problems; and a table of legislative action needed in each of the fourteen member states to put into effect the various recommendations duly made by the Commission or one of its sections or committees are included.

"Surveys of World Fisheries," article, Fisheries Bulletin, 25 cents a copy, November 1948, vol. 1, no. 4, p. 86-91. Food and Agriculture Organization of the United Nations, Washington, D. C. This article covers the Aden Colony and Protectorate, Eritrea, British Somaliland Protectorate, Zanzibar Protectorate, Tanganyika, and Uganda.

Unda Maris 1947-48, Nordisk Fiskebatbyggarekongress 1947 (Northern Fishing Vessel Building Congress 1947), Swedish publication, 298 p., illus., printed. Jan-Olof Traung, Gothenburg, Sweden. A report of the Northern Fishing Vessel Building Congress held at Gothenburg, Sweden, June 1-4, 1947. The following are titles of some of the leading chapters: "Shipbuilding Progress in Iceland," "Construction of Modern Fishing Boats in Norway," "Stability Problem of Fishing Vessels," "Propeller Problem of Fishing Boats," "The Hydraulic Winch," "Use of Light Metal in Fishing Vessels (Aluminum-Magnesium Alloy)," and "Standardized Building and Construction Techniques for 300-ton Wooden Schooner."

Yearbook of Fisheries Statistics--1947, 368 p. with 229 tables, processed. Food and Agriculture Organization of the United Nations, Washington, D. C., 1948, $4.00. Experts look upon three-fourths of the earth's surface which is ocean, lakes, rivers, ponds, reservoirs, and streams as potentially a fruitful source of increased world food supply for the world's growing population. As a forward step in the exploration of this possibility, FAO has just published a comprehensive statistical review of world fisheries. This book gives details of the fisheries of 61 countries. It is the first in a series which, FAO hopes, will eventually record every important fact and development connected with world fishing. Quantities are stated in metric tons or metric quintals; values in monetary unit of each country. The tables, which make up the major part of the book, give details concerning many important aspects of the fishing industry, including imports, exports, landings, craft, gear, labor, fishery products, aquiculture, whaling, and processing. The preface is printed in English, French and Spanish. It contains also a tabular index in English and French. FAO sales agents throughout the world now have the book in stock. In the U. S., it may be purchased from the FAO Documents Sales Service, Food and Agriculture Organization, 1201 Connecticut Avenue, N. W., Washington 6, D. C.

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