

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 DESIG NATED AS FOLLOWS:

CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES

AND ALASKA.

L - FISHERY LEAFLETS.

SL - STATISTICAL SECTION LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.

SSR.- FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).

SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES PEVIFY.

REVIEW.

Number Title

CFS-963 - Fish Meal and Oil, January 1954, 2 p.

CFS-966 - New England Fisheries, 1952 Annual Summary, 8 p.

CFS-976 - Mississippi Landings, February 1954, 2 p.

CFS-977 - Maine Landings, February 1954, 5 p. CFS-979 - Fish Meal and Oil, February 1954, 2 p.

CFS-980 - Texas Landings, February 1954, 3 p. CFS-981 - Massachusetts Landings, February 1954, 8 p.

CFS-983 - Lake Fisheries, 1952 Annual Summary, 6 p.

CFS-984 - Frozen Fish Report, March 1954, 8 p. CFS-985 - Packaged Fish, 1953 Annual Summary, 4 p.

FL -243 - Aids for Small Business (revised), 6 p. FL-336t - Quarterly Outlook for Marketing Fish-

ery Products, April-June 1954, 32 p. FL -409 - Fish and Shellfish Preferences of Household Consumers-1951. Part III-Summary by Income Groups, 47 p.

Wholesale Dealers in Fishery Products (Revised): SL - 19 - Louisiana, 1954, 7 p. SL - 21 - California, 1954, 9 p. SL - 22 - Oregon, 1954, 4 p. SL - 23 - Washington, 1954, 9 p.

Canning Firms (Revised):

SL -102 - Maine Sardines (including sea herring), 1953, 2 p.

SL-102A - California Sardines (Pilchards), 1953, 1 p.

SL -116 - Food for Animals from Marine-Animal Products, 1953, 2 p.

SL -160 - Firms Manufacturing Menhaden Oiland Meal, 1953, 2 p.

Sep. No. 371 - Offshore Salmon Explorations Adjacent to the Aleutians Islands, June-July, 1953.

SSR-Fish. No. 115 - Weakfish Migration in Relation to its Conservation, by Robert A. Nesbit, 84 p., processed, January 1954. The complex movements of weakfish have been studied by comparing the stocks of fish at several localities as to abundance, size, age composition, and rate of growth, and by tagging experiments. As a result of this study the author presents a hypothesis concerning the movements of the fish during each year of their life. "The most important conclusion to be derived from this study, says the author, "is that the fishery apparently draws on a common stock which originates chiefly in southern waters. Consequently, any conservation policy for the weakfish industry must consider the effect of fishing intensity on the total yield of the Middle Atlantic Bight.

SSR-Fish, No. 117 - Seasonal Abundance of Clam Larvae in Rhode Island Waters, 1950-52, by Warren S. Landers, 31 p., processed, March 1954. Since 1948 the Fish and Wildlife Service has carried on a biological study of the soft clam (Mya arenaria) and the hard clam (Venus mercenaria) of the Atlantic Coast of the United States. Much of the research was done in Narraganset Bay in Rhode Island, where there is a considerable commercial fishery for the hard clam or quahaug. From collections of larvae of soft and hard clams at two locations in Narragansett Bay, quantitative data on seasonal abundance were compiled. This report presents these data.

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

Alaska Fishery and Fur Seal Industries: 1950, by Seton H. Thompson, Statistical Digest No. 29, 71 p., illus., printed, 35 cents, 1953. This report was compiled by the field staff of the Branch of Alaska Fisheries and from sworn statistical returns submitted by all fishery operators in Alaska. Detailed reports and statistical tables concerning the operation and yield of the various fishery industries are presented, with added data on certain related matters, particularly the condition of the fishery resources. Under the section on fishery industries, the following subjects are covered: court decisions; Alaska Department of Fisheries; research; exploratory fishing investigations; administration; management; and general statistics on salmon, herring, halibut, shellfish, and miscellaneous fishery products. The second section on the Pribilof Islands fur-seal industry covers administration, fur-seal population studies, and general statistics on the fur seals taken in 1950. A statement is also included on sealing privileges accorded aborigines.

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

Biotic Influences Affecting Population Growth of Planktonic Algae, by Theodore R. Rice, Fishery Bulletin 87 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 54), 23 pp., illus., printed, 25 cents, 1954. Describes experiments in which two species of fresh-water algae, Chlorella vulgaris and Nitzschia frustulum, were used. The purpose of this study was to ascertain whether the biological products of a species could influence its own growth as well as the growth of another species under conditions which could be tested in laboratory cultures, and to consider whether these materials actually do exert an effect under natural conditions. Describes the preparation of cultures, and discusses growth rates and interactions of Chlorella and Nitzschia, inhibition of growth rate in conditioned media, effect of varying the initial concentrations of Nitzschia and Chlorella, and effect of antagonistic substances on phytoplankton growth.

Determining Age of Atlantic Shad from Their Scales, by James P. Cating, Fishery Bulletin 85 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 54), 18 pp., illus., printed, 20 cents, 1953. Determining the age of shad (Alosa sapidissima) from scales has been considered difficult by many workers, and recent investigators have attempted to ascertain only the number of times of spawning. Much of the difficulty in reading scales arises in locating the first three annuli because accessory rings, or false annuli, sometimes are found in this area of the scale, and the annuli are not always clearly defined. A method of locating these annuli, using transverse-groove counts, is presented. After the positions of the first three annuli are known, the age of the fish can be determined by counting any additional annuli which usually are easy to see, and adding the number of spawning marks. Criteria for determining whether annuli have been obliterated by spawning marks and the number of times the fish has spawned when one spawning mark has eroded into another are also presented.

"A Method for Cellulose Acetate Impressions of Fish Scales with a Measurement of Its Reliability," by Robert L. Butler and Lloyd L. Smith, Jr., article, The Progressive Fish-Culturist, vol. 15, no. 4 (October 1953), pp. 175-178, illus., processed (annual subscription \$1.25 domestic, US\$1.65 foreign). During recent years there has been a trend toward the use of cellulose acetate impressions of fish scales instead of the mounted scales themselves in age and rate-of-growth studies. Several difficulties have been encountered which cast doubt on the validity of the calculations made from impressions. Many presses either require excessive pressure or fail to record the thin edges of the scales on the plastic. When excessive pressure is used, there is a possibility that distortions may be introduced in the original impression or during subsequent storage. In order to minimize these difficulties, a press employing moderate pressure and considerable heat has been developed, and the reliability of calculations from the impressions has been checked in a series of experiments conducted over a two-year period. This article describes a pneumatic press designed to operate on the 80- to 100-pound air pressure that is available in most laboratories, method of operation, and accuracy of the impression method.

Population Heterogeneity in the Pacific Pilchard, by Frances E. Felin, Fishery Bulletin 86 (From Fishery Bulletin of the Fish and Wildlife Services, vol. 54), 28 pp., illus., printed, 30 cents. 1954. The possibility of heterogeneity in stocks of Sardinops caerulea along the Pacific Coast of the United States and Canada is examined through evidence from growth and vital statistics of the fished population(s). Growth characteristics of six year-classes sampled in Canada are compared with those from San Pedro. Significant difference in predicted size indicates lack of homogeneity in populations of adults as sampled by the fishery in Canada and in San Pedro. Evidence from qualitative and quantitative differences in individual scale and growth patterns indicates some independence in the fished stock of the Pacific Northwest and southern California. Bimodality in length composition of certain year-classes is evidence that pilchard populations are not homogeneous. Large long-ranging pilchard may arise from spawning stocks off California while more southern stocks, smaller in size and more shortlived, have limited migration.

Propagation and Distribution of Food Fishes for the Calendar Years 1949-1950, by Lee M. Duncan and O. Lloyd Meehean, Statistical Digest 28, 40 pp., printed, 20 cents, 1953. Describes the general program of the Federal hatchery system in the propagation and distribution of food fish and the compilation of fish distribution data. Also includes statistical data for the calendar years 1949-1950 on fish and fish eggs distributed, and assigned to Federal agencies and state fish commissions. Distribution of fish and fish eggs by stations, and distribution of fish by states are also covered.

Use of Impounded Water for Fish Culture, by Harlan E. Johnson and Richard F. Brice, Research Report 35, 37 pp., illus., printed, 1953, 20 cents. Describes tests made at Dorena Dam Experimental Laboratory, September 1950 to November 1952, to determine the suitability of impounded water for fish culture.

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.

Abstract of Commercial Fisheries Laws of California, 1953-1955, folder. Department of Fish and Game, Sacramento 14, Calif. Describes license provisions for catching, selling, and processing fish and shellfish; boat registration provisions; open and closed seasons for certain fish and shellfish; lawful fishing nets and gear that may be used in certain districts; and the

districts where commercial fishing is permitted. Lists 43 things regarding commercial fishing which are unlawful.

Arsberetning fra Fiskeriministeriets Forsøgslaboratorium for 1953 (Annual Report to the Danish Fishing Industry), 31 pp., printed, in Danish with English translation of the main experimental results. Fiskeriministeriets Forsøgslaboratorium, Øster Voldgade 10, København K, Denmark, 1954. Describes the results of the following experiments: storage of live lobsters; fat content of herring; freezing shrimp and salmon; breaded frozen fish; influence of the initial bacterial count on the keeping quality of herring tidbits; bacterial growth in herring tidbits and the distribution of bacteria in sauce and meat; effect of organic acids on the bacterial growth in herring tidbits; canned fish, salted fish, and fish silage.

The Black River Studies, The University of Missouri Studies, vol. XXVI, no. 2, 136 pp., illus., printed, \$2.50. The University of Missouri Studies, Columbia, Missouri, 1953. A study of the limnology and the fishery of the Black River, one of Missouri's principal Ozark streams. The findings of this research project are here presented in seven separate but related sections: (1) "The Black River Basin in Missouri," by Robert S. Campbell and John L. Funk. Describes the physical characteristics of the river and the river basin, and the chemistry, plankton, and rooted aquatic plants of Black River. (2) "The Benthos of Black River and Clearwater Lake, Missouri," by Timothy R. O'Connell, Jr., and Robert S. Campbell. A comparison of the variety and abundance of the bottom fauna in Black River with that of the same region after impoundment by Clearwater Lake. (3) "The Small Fishes of Black River and Clearwater Lake, Missouri," by Robert G. Martin and Robert S. Campbell. Describes the small-fish populations of Black River and Clearwater Lake. (4) "The Population of Larger Fishes in Black River, Missouri," by John L. Funk and Robert S. Campbell. Thirty-four species of fish were collected from three areas on the Black River in 1947 and 1948. The collections are analyzed by river section and by fishing methods. The limitations of the methods used and the effects of gear selectivity are discussed. (5) "Age and Rate of Growth of Five Species of Fish in Black River, Missouri," by Mercer H. Patriarche and Edward M. Lowry. The age and rate of growth of smallmouth bass (Micropterus dolomieui), rock bass (Ambloplites rupestris), longear sunfish (Lepomis megalotis), gizzard shad (Dorosoma cepedianum), and green sunfish (Lepomis cyanellus) are presented. (6) "Management and Utilization of the Fishery of Black River, Missouri," by John L. Funk. The purpose of this paper is to evaluate the management and the utilization of the fishery resource of the Black River before impoundment of Clearwater Lake, and to assist in the formulation of a sound management program. (7) "Appraisal of the Fishery of Black River, Missouri, "by Robert S. Campbell and John L. Funk. This appraisal brings together the major

findings of the various related studies conducted on Black River and Clearwater Lake, to demonstrate their interrelationship, and to present general conclusions. Descriptions of field stations and of methods are given in the appendix.

"British Columbia Lingcod," article, <u>Trade News</u>, December 1953, vol. 6, no. 6, pp. 6-7, processed. Department of Fisheries, Ottawa, Canada. Discusses the value of the lingcod fishery of British Columbia, and describes briefly the characteristics of the lingcod, its maximum sizes, and fishing methods.

The Commercial Fisheries of Maryland (A Special Report to the General Assembly of Maryland), Educational Series No. 30, 45 pp., illus., printed. Board of Natural Resources, Department of Research and Education, Chesapeake Biological Laboratory, Solomons Island, Maryland, January 1953. This bulletin is intended to provide to the legislators and the public in general information concerning the fisheries of the State of Maryland, including facts relative to their past condition, their current status, and the possibilities they offer for future development. Briefly describes the nature and extent of the Chesapeake Bay and its tributaries, characteristics of the Chesapeake Bay fishery, the five types of gear used in the capture of commercial fish in Maryland waters, life history of the various species of commercial fish, causes of depletion, and problems of management. Also decribes the blue-crab industry of Maryland, its life cycle, causes of decline, and problems of management. The bulletin also discusses the oyster industry of Maryland, how oysters live and multiply, causes of depletion, and problems of management.

Commission on Foreign Economic Policy Minority Report, by Daniel A. Reed and Richard M. Simpson, 25 pp., printed, 15 cents. Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., January 1954. This report is divided into two parts: (1) an analysis and criticism of the Commission of Foreign Economic Policy Report to the President and the Congress; and (2) recommendations, as alternatives to those of the Commission, for a foreign economic policy.

(Connecticut) Report of the Shell Fish Commissioners (July 1, 1950-June 30, 1953), 22 pp., printed. Office of the Shell-Fish Commission, 185 Church Street, New Haven, Conn., 1953. Describes the establishement of spawning beds in various rivers and harbors in an endeavor to perpetuate the oyster industry of Connecticut. Also describes the starfish survey, formerly conducted by the U. S. Fish and Wildlife Service. In addition to a financial statement, this report gives an alphabetical list of individuals and vessels licensed to work on the natural oyster beds of Connecticut; a list of owners and acreages of grounds under perpetual franchise; State grounds; and town grounds. Included is a statement of how to lease grounds and excerpts from the State's shellfish laws. No data on production are given.

Consumption of Food in the United States, 1909-52, Agriculture Handbook No. 62, 253 pp., illus., processed, 70 cents. Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C., September 1953. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25. D. C.) This publication revises and brings up to date the detailed information on per-capita consumption of all major food commodities (including fish and shellfish) in continental United States, including the basic data on supplies and distribution from which the consumption estimates are derived. Sources and methods are described and evaluated; indexes of supply-utilization, production, and per-capita civilian consumption are developed; the nutritive value of the food supply is estimated and appraised; and some supplementary information useful for the analysis of the consumption of and the demand for food is presented.

Dealers in Trout and Pondfishes, 15 pp., processed.

Sport Fishing Institute, Bond Building, Washington 5, D. C. A list of dealers in trout and pondfish, compiled by the U. S. Fish and Wildlife Service. All names are arranged alphabetically by localities under the states in which they operate.

Federal Aid in Fish and Wildlife Restoration (Annual Reports of the Dingell-Johnson and Pittman-Robertson Programs for the Fiscal Year Ending June 30, 1953), 95 pp., illus., printed. Wildlife Management Institute, Wire Building, Washington 5, D. C. Describes the accomplishments of the Pittman-Robertson wildlife restoration work and the Dingell-Johnson fish restoration work for the fiscal year ending June 30, 1953. Under the section describing the accomplishments of the fish-restoration program are discussions of the fisheries investigations, fisheries development, acquisition of public fishing waters, coordination of fish-restoration projects, and fiscal aspects. Financial tables present a description of the individual fish and wildlife restoration projects by states, together with information concerning work proposed and the status of funds; apportionment of funds to each state for use in fish restoration projects; apportionment of federal aid in fish restoration funds, states' contributions, and grand total for fiscal years 1952-54; and summary of Federal aid in fish restoration apportionments, obligations, reversions, and balances for fiscal year 1953.

Fisheries Research Papers, vol. 1, no. 2 (March 1954), 51 pp., illus., printed. Washington Department of Fisheries, 1308 Smith Tower, Seattle, Wash. Contains the following articles: A Preliminary Study of the Population of English Sole, Parophrys vetulus, in Holmes Harbor, Washington, by A. T. Pruter and R. Van Cleve; Selectivity of Cod-end Mesh Sizes in Otter Trawling, by Jerry Jurkovich; Food of the Dogfish, Squalus ocanthias, by Kelshow Bonham; New and Little Known Fishes of the Eastern Pacific, by Arthur D. Welander and Dayton L. Alverson; Occurrence of the Eel-pout, Aprodon cortezianus, in Queen Charlotte Sound, B. C., by Arthur T.

Palmen; A Multiple-Depth Running Plankton Sampler, by Ronald E. Westley; a Newly Identified Oyster Predator, by Charles E. Woelke.

(Florida) <u>Summary of Florida Commercial Marine</u> <u>Landings for 1952</u> (Report to Florida State Board of Conservation), by Irving J. Cohen with the collaboration of Billy F. Greer, 27 pp., processed. The Marine Laboratory, University of Miami, Coral Gables, Florida, September 1953. Contains tables summarizing the total Florida commercial landings and value of food fish, nonfood fish, shellfish, and miscellaneous items by species for the year 1952; a breakdown of the landings between east coast and west coast; and landings and value by county by species. Compilation of Florida fisheries data is complicated by several factors. Throughout the State there are 400 to 420 wholesale fish dealers distributed over 1,200 miles of coastline and reporting from 33 counties. There are over 70 commercial species caught, the landings of which totaled over 256 million pounds in 1952. This represents more coastline, more dealers, and more species than any other state in the Nation. Florida's catch ranks about fourth to sixth in both production and value in the United States. The monthly collection of fish and shellfish landings in Florida is a cooperative undertaking between the U.S. Fish and Wildlife Service and the Marine Laboratory of the University of Miami on behalf of the Florida State Board of Conservation.

Fisheries Year-Book and Directory 1953-54 (International Reference Book and Directory of the Fishing and Fish Processing Industries), edited by Harry F. Tysser, 441 pp., illus., printed. British-Continental Trade Press Ltd., London, England. (Available in the United States from John D. Griffiths, American Sales Director, British-Continental Trade Press Ltd., 3606 Parkwood Drive, Greensboro, N. C.) A valuable reference on the commercial aspects of the fisheries and a book with a wide scope. All phases of the fisheries of the world are touched upon--catch, processing, vessels, gear, research, edible products and byproducts, and recent developments and techniques in various countries. The first part of the book has articles on various phases of the fishery industries and the second part is an extensive directory of firms engaged in the various branches of those industries. The chapter "Around the World" is a survey of the fisheries, fish processing, and trade in Argentina, Australia, Belgium, British West Africa, Canada, France, Greenland, Ireland, Israel, Italy, Morocco, Netherlands, New Zealand, Portugal, South Africa, Sweden, United States, and U.S.S.R. The fishery industries of Great Britain, Iceland, Denmark, and the German Federal Republic are treated more extensively in separate articles. Other chapters discuss English fishery research, migrations of mackerel, quick freezing of fish, and modernizing the fishing fleet. One chapter -- "Fish Varieties on the Market"--describes and illustrates 90 varieties of fish in all the principal markets of the world. Most of the statistics are for 1952. A fish supply calendar is included, tabulated by

type of fish, area of catch, and months of supply. Among the lists included are: organizations and trade associations, trade journals of interest to the fishery industries, and a Who's Who of the fishing industry. A dictionary of fish names gives the scientific, French, German, Norwegian, Danish, Swedish, and Dutch names of a considerable number of fish and shellfish.

The second part of the book consists of a directory divided into industry classifications, with the names of firms grouped by countries. Included are: (1) exporters and curers, quick freezers, and trawler owners; (2) importers and wholesalers; (3) fish canners and preservers; (4) machinery and equipment for fish processing, refrigeration, etc.; (5) packing machinery, materials, etc.; (6) ship builders and repairers, ship chandlers, nets and cordage, instruments, and other equipment; (7) fishery byproducts -meal, oil, vitamins, etc.; and (8) cold storage and transportation. Although these directories do not list many United States firms, the listings for other countries seem to be fairly extensive. Also included is a list of trade marks, descriptions of the products and merchandise under them, and the producers and distributors using them. The final list in the book is a 'Buyers' Guide and Classified List of Advertisers. This handbook incorporates the "World Fisheries Year-Book," "North Atlantic Fisheries Year-Book," and the "Herring Exporters Manual."

"Flying for Menhaden," by James Wharton, article,
The Commonwealth, vol. XXI, no. 1, January
1954, pp. 12-13, 36, illus., printed. Virginia State Chamber of Commerce, 111 N. Fifth Street, Richmond 19, Virginia. Describes the use of planes, usually independently owned, in the search for menhaden from North Carolina to Long Island. The number of planes serving the fish factories that dot the coast all the way to Texas has been showing a gradual increase through the years. Even before the days of the radiotelephone, planes were sent out. But the only method then feasible was to drop buoys when schools were discovered, leaving the boat to find the buoy. This was a tedious and uncertain procedure and was discontinued. Now communications are even being made with the purse boats (the small boats launched from the mothership to spread the net) from the plane by walkietalkie. The use of planes in the menhaden fishery cuts down operating expenses by curtailing the often aimless wandering of the boats when no fish are visible. That alone, say the pilots, is enough to warrant their services. The captains and plant operators agree that plane spotting is here to stay. The catch, in the area from Long Island to North Carolina, for the season that closed in October 1953, passed the billion-fish mark.

Food and Agriculture Organization

The Food and Agriculture Organization has published reports describing that Agency's activities under the Expanded Technical Assistance Program for developing the fisheries of many countries.

These reports have not been published on a sales basis, but have been processed only for limited distribution to governments, libraries, and universities. Food and Agriculture Organization, Viale delle Terme di Caracalla, Rome Italy.

Report to the Government of India on the Present and Prospective Activities of the Pilot Deep Sea Fishing Station in Bombay, FAO Report No. 117, 31 pp., illus., processed, May 1953. The objective of the program, the work accomplished, and recommendations for developing the fisheries of India appear in this report.

Report to the Government of Yugoslavia on the Handling, Collection, Transport, Storage and Refrigeration of Fish, FAO Report No. 220, 61 pp., illus., processed, January 1954. Objective of the program; fishing operations (bluefish, non-migratory, and trawler fisheries); handling, collection and transport of bluefish; refrigeration facilities; marketing and distribution; and continuing assistance to the fishery are the subjects covered by the report.

Report to the Government of India on the Development of Inland Fisheries in West Bengal, FAO Report No. 226, 30 pp., processed, January 1954. Describes the fresh waters of West Bengal and their present use and work accomplished during the assignment; presents recommendations for developing the inland fisheries of West Bengal.

Report to the Government of Israel on Fishing
Methods, FAO Report No. 227, 16 pp., 1
plate of photographs, processed, January 1954,
Discusses the Mediterranean fisheries, fisheries of Lake Tiberias, and potential fisheries on the Gulf of Aqaba. Presents recommendations on fishing methods.

Report to the Government of Yugoslavia on the Fish Canning Industry, FAO Report No. 106, 12 pp., processed, April 1953. Discusses objective of assignment, summarizes work accomplished and results of a survey, and presents principal recommendations for future action for developing the fish-canning industry in Yugoslavia.

Report to the Government of Libya on the Fisheries of Libya, FAO Report No. 18, 65 pp., map, and 16 plates of photographs, processed, November 1952. Discusses the sponge fishery, fishing (including inshore, tuna, possibility of developing the marine resources, and productivity of the Libyan sea), and presents recommendations for expansion of the fisheries. The map which is included shows the Libyan sponge and fishing grounds,

Report to the Government of Chile on Food
Fishes of Chile, FAO Report No. 45, 88 pp.
and 3 plates of photographs, processed, November 1952. Describes working conditions,
work carried out, observations on environment in the sea, presents studies on the biology
of the various marketable fishes, and plans for
future work.

(FOA) Monthly Operations Report (Data as of August 31, 1953), 67 pp., illus., processed. Division of Statistics and Reports, Foreign Operations Administration, Washington 25, D. C. This issue, which contains data through August 31, 1953, summarizes the activities of the Mutual Security Agency and the Technical Cooperation Administration consolidated under the Foreign Operations Administration as of August 1, 1953. Charts and appendix tables on the European Program cover operations beginning with April 3, 1948. Charts and appendix tables on the Far East Program cover MSA/ECA operations under the China Area Aid Act of 1950. A section of the report deals with materials development.

(FOA) Monthly Operations Report (Data as of December 31, 1953), 60 pp., illus., processed. Monthly Operations Report (Data as of January 31, 1954), 98 pp., processed. Division of Statistics and Reports, Foreign Operations Administration, Washington 25, D. C. In order to make the Monthly Operations Report a more useful document, a number of advance statements have been added covering FOA allotments, authorizations, and expenditures. This practice, initiated with the December issue, will be continued in future releases of the report. Reflecting the inclusion of later statistics, the report will bear the date of the advance statistical statements. For example, the December 31 issue is dated December 1953, and there will be no Monthly Operations Reports dated September, October, or November 1953. Charts and appendix tables on the European Program, included in these issues, cover operations beginning with April 3, 1948. Charts and appendix tables on the Far East Program cover MSA/ECA operations under the China Area Aid Act of 1950. Charts and tables on the operations of the Technical Cooperation Administration in Latin America, the Near East and Africa, and South Asia, now consolidated in the Foreign Operations Administration, are included in a special section of this report. The January 1954 issue describes the FOA program in India.

Gulf Stream North, by Earl Conrad, 253 pp., printed, \$3.50. Doubleday & Co., Inc., 575 Madison Ave., New York 22, N. Y., 1954. Menhaden fishing is the subject of this novel. It is the story of how fishermen of the Atlantic coast net the menhaden--the leading species of fish and shellfish caught by United States fishermen. In 1953 the United States catch of menhaden totaled about 1.7 billion pounds -- 350 million pounds more than in 1952 and about 200 million pounds above the 1936 record catch of 1.5 billion pounds. Menhaden is not well known because it is not an edible species of fish and is utilized entirely for making fish meal, oil, and solubles. How the fishery grew up is brought out in this novel. There have been magazine articles on the menhaden fishery and a U. S. Fish and Wildlife Service educational film ("The Story of Menhaden"), but this is the first time that it has been made the subject of a novel. The story describes life aboard a purse seiner vessel, the setting and hauling of the enormous purse-seine net,

the use of striker boats, and the use of airplane spotting for locating the fish. An exciting five days off the coast of Georgia is the scope of the novel. It is the fictional account of an old menhaden vessel that has already brought in millions of fish in its time. Woven around an outline of the menhaden industry's development, the novel relates the tale of those who fish for menhaden with the large purse seine nets. Sighting the fish, the life among the fishermen, some of the chants that they sing while hauling in the net, the heartbreaking sight of tons of fish diving and breaking the enormous expensive purse-seine net, and a storm at sea are realistically portrayed. The author has captured the salty language of the menhaden fishermen. It is a book for those interested in fisheries and those who just want a good story.

-- J. Pileggi

"The Impact of Science in the Fishing Industry-I," by Daniel P. Norman, article, Monthly Review Federal Reserve Bank of Boston, vol. 35, no. 12 (December 1953), pp. 6-7, printed. Federal Reserve Bank of Boston, Boston, Mass. Innovations originating in electronics, biology, chemistry, and other fields are accelerating changes in the traditional methods of catching, processing, and marketing fish. This article discusses such electronic devices as echo sounders, which are coming into wider use for navigation and also for the accurate measurement of the depth and density of schools of fish. Other types of electronic equipment used in the fishing industry are also discussed.

(India) Annual Administration Report of the Department of Fisheries, Bombay State, for the Year 1952-53, 67 pp., illus., printed. Government Book Depot, Charni Road Gardens, Bombay 4, India, 1954. Reports on the marine fisheries, fish-curing yards, fisheries schools, socioeconomic work, fresh-water fisheries, and technological studies. Statistics are also included on the different varieties and quantities of fish landed in 1952/53.

Inter-American Tropical Tuna Commission Annual Report for the Year 1952 (Comision Interamericana del Atuna Tropical Informe Anual Correspondiente al Ano 1952), 61 pp., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif., 1953. Included in this report are: the recommended program of investigations; progress on investigations; membership changes; and a short resume of the Commission's regular annual meeting at San Jose, Costa Rica, on August 13. An appendix to the report describes the investigations conducted by the Commission during 1952, and discussed in this section are the compilation of current statistics of total catch; compilation of detailed data respecting current fishing operations; derivation of measures of success of fishing and abundance of the fish populations; collection and analysis of historical data respecting the development of the fishery; investigations of the biology and ecology of bait species; investigation of the general oceanography of the Eastern

Pacific; investigations of biology and ecology of tunas. The Commission, established by a Convention between the United States and Costa Rica, has as its purpose the collection and interpretation of information which will facilitate maintaining, at levels of maximum sustained yield, the populations of tropical tunas in the Eastern Pacific and of the bait species used in their capture. The Commission, organized in 1950, is directed by the Convention to undertake investigations of the tunas and bait species, and to make recommendations for joint action by the member governments designed to attain the objectives of the Convention.

Interim Report on Mullet Research, by G. C. Broadhead and H. P. Mefford, Special Research Bulletin No. 8, 9 pp., illus., processed. The Marine Laboratory, University of Miami, Coral Gables, Fla., January 1954. A preliminary report on a study begun in 1948 to evaluate the economic and biological status of the Florida mullet fishery. According to the concensus in the industry this valuable fishery was declining due to the lack of proper management. The industry felt that supplies of mullet were dwindling because of overfishing and the taking of spawning and undersized fish. This report discusses briefly (a) the grave marketing problems facing the industry, (b) the high fishing intensity and high natural mortality revealed by tagging and other means, (c) the relatively short migrations undertaken by Florida west coast mullet and the somewhat longer migrations taking place on the Florida east coast, and (d) the different sizes and times of maturity in various subpopulations.

Maryland's Commercial Fishing Gears: I. The Fin-Fish Gears, by Coit M. Coker, Educational Series No. 18, 37 pp., illus., printed. Board of Natural Resources, Department of Research and Education, Solomons Island, Md., February 1949. Presents brief descriptions of the five major types of gears used to catch fish commercially in Maryland. Indicates how each gear is fished and what it catches. The five types in use are the pound net, gill net, fyke net (including eel pot), haul seine, and otter trawl. The purse seine is mentioned, although it is now barred in Maryland.

(Colony of Mauritius) Annual Report of the Fisheries Branch, 1952, No. 16 of 1953, 31 pp., processed. Fisheries Branch, Colony of Mauritius, 1953. The activities of the Fisheries Branch during 1952 are described, and the results of two cruises by the refrigerated fishing vessel Silverlord are presented. Deep-sea fishing, the systematic study of fish species, sharkfishing, production by major ports and banks, and other catch data on a monthly and annual basis are discussed. An appendix lists the scientific and common French name of the fishes of Mauritius.

The Minimum Shrimp Size Regulation in South Carolina, by G. Robert Lunz, Contribution from Bears Bluff Laboratories No. 16, 14 pp., illus., printed. Bears Bluff Laboratories,

Wadmalaw Island, South Carolina, February 1954. This is part of a report based on a study of the shrimp and shrimp industry of South Carolina. This section deals entirely with the minimum size restriction on shrimp and, in effect, simply shows that the "55 Count" law is impracticable. The author states that "It is evident that the minimum size restriction at fifty-five count heads off is wasteful and will serve no purpose in protecting shrimp. In fact, no minimum size regulations seem useful or necessary. However, if South Carolina must have a minimum restriction law, that restriction should be placed at the four-inch size, which is approximately a ninety count shrimp heads off, or a fifty-five count shrimp heads on. It is pointed out that even if such a law is passed, with the present gear in use otter trawls will still take shrimp under four inches. In order to comply with the law, these shrimp will simply be culled out at sea and thrown away. Ultimately, it is hoped that some type of selective gear can be recommended which will eliminate the catch of the majority of shrimp under four inches, but much further work must be done before such recommendations can be made.

(New Jersey) Annual Report of Division of Fish and Game (For the Fiscal Year Commencing July 1, 1952, and ending June 30, 1953), 51 pp., printed. Division of Fish and Game, Department of Conservation and Economic Development, Trenton, N. J. Describes the activities of the New Jersey Division of Fish and Game. The first section deals with the Fish and Game Council, legislation, and the Fish and Game Code. The part dealing with fish reports on the hatchery operations, fish distribution and reclamation, fish distributed by the Federal Government, pound fisheries, the 1952 pound catch by species, menhaden and food fish licenses, special netting licenses, fisheries management, the number of fish by species landed in New Jersey for fiscal year 1952/53, and the Delaware River and Hudson River shad industries. There is also a section on game and finances, as well as a chapter on stocking of New Jersey waters.

Observations on the Early Life History of the Giant Scallop (PECTEN MAGELLANICUS), by Frederick T. Baird, Jr., Research Bulletin No. 14, 7 pp., illus., printed. Department of Sea and Shore Fisheries, Vickery-Hill Bldg., Augusta, Maine, August 1953. Describes a study of the spawning and rearing of the giant scallop. For three successive years spawning was successfully induced during a two-month period, although at no time could scallops be reared successfully beyond the trochophore stage. These experiments corroborated the observations made previously by other investigators, since their efforts to rear scallops had been unsuccessful. Also describes the experimental fishing operations in search of young scallops of the first and second year-classes. The author states that: "From the data presently available from three years' records it is evident that juvenile scallops average approximately 2 mm. at the end of the first growing season. At the end of the second growing season the attained growth ranges from

5-12 mm. This attained growth appears to be dependent on the growth attained during the first growing season. In aging scallops the second annulus or winter ring indicates a scallop approximately one and one-half years old."

Oyster Bulletin, vol. II, no. 1 (April 9, 1954), 2 pp., processed. Chesapeake Biological Laboratory, Department of Research and Education, Solomons Island, Md. This year a series of oyster bulletins again will be issued by the Chesapeake Biological Laboratory. There bulletins will contain items of interest to oyster producers with special emphasis upon spatfall and fouling of test shells exposed in various areas. The bulletins will appear more frequently during the summer and early fall months when oyster setting is in progress. This first bulletin presents data on exposed test shells and background information on development of oysters in the Chesapeake Bay area.

"Point Four Activities in Fishery Technology in Peru," by Norman D. Jarvis, article, Food Technology, vol. 8, no. 4 (April 1954) pp. 177-179, printed, single copies: domestic \$1, foreign \$1.25. Institute of Food Technologists, Chicago, Ill. (Available from Business Manager, 176 West Adams St., Chicago 3, Ill.) An idea of the Point 4 program in fisheries as it works in Peru is given in this article by the author. In addition, the work in fishery technology described is an example of the breadth of the field the food technologist may be called on to cover in the so-called "underdeveloped" countries. Discussed in the article are the background factors in the development of the Peruvian fishery industry, and the development of a technological laboratory and training program. The nature and scope of the program is described. "The Peruvian technological laboratory has made good progress, " states the author. The technologists have learned to work independently and have found means for increasing the production of fresh, frozen, cured, and canned fishery products in the domestic market and are showing the fishing industry of Peru how to produce products of better quality.

Quarterly Report on Fisheries Research, (Deember 1953), 6 pp., processed. The Marine Laboratory, University of Miami, Coral Gables, Florida. A report of the work carried out for the Florida State Board of Conservation on the following research projects: shrimp, mullet, blue crab, sailfish, scallop, swordfish, and red tide.

Report to Congress on the Mutual Security Program (For the Six Months Ended December 31, 1953), 70 pp., illus., printed, 45 cents. Mutual Security Agency, Washington, D. C., December 31, 1953. (For sale by Superintendent of Documents, Washington 25, D. C.) Covers the operations of the Mutual Security Program during the six months ended December 31, 1953.

The Status of the Alewife Fishery in Maine, by Frederick T. Baird, Jr., Fisheries Circular

No. 13, 9 pp., printed. Department of Sea and Shore Fisheries, Vickery-Hill Building, Augusta, Maine, August 1953. A summary of existing conditions in the alewife fishery in Maine and an outline of the changes which have taken place in the past ten years. Describes briefly the life history of the alewife, spawning ground accessibility, and potential areas capable of supporting alewife runs. Recommendations for maintaining and improving the alewife fishery are also presented.

"The Striped Bass in New York Waters," by Edward C. Raney, article, The New York State Conservationist, vol. 8, no. 4 (February-March 1954), pp. 14-16, illus., printed, single copy 25 cents. New York State Conservation Department, Albany, N. Y. (Available from the Conservationist, Room 515, Arcade Bldg., Albany 1, N. Y.) This is a summary of what is known about the striped bass as it pertains particularly to New York State and the relation of the New York State stocks to striped bass found elsewhere along the Atlantic Coast. The author points out that the New York State Conservation Department, under the Dingell-Johnson Federal Aid program, is about to embark on an investigation which will reveal badly needed facts about the basic biology of striped bass in New York waters.

"Trolling the Pacific," article, <u>Trade News</u>, February 1954, vol. 6, no. 8, pp. 6-7, 22, illus., processed. Department of Fisheries, Ottawa, Canada. Describes the modern British Columbia trolling boats and the trolling gear used by these boats to catch silver and coho salmon. In recent years between 4 and 5 thousand troll licenses have been issued each year in British Columbia, points out the article.

Tuna--A Saga of the Sea, 35 pp., illus., printed.

Tuna Research Foundation, 19 Pine Ave., Long Beach 2, Calif. Presents a collection of easy-to-prepare canned tuna recipes. After a short history of the tuna industry, the booklet discusses the nutritional value of canned tuna. The recipes feature canned tuna in oven specialties, salads, top-of-the-range dishes, sandwiches, soups, and hors d'oeuvres. The booklet is very attractively printed with many color plates.

"En Undersøgelse af Anvendeligheden af Elektrolytfortinnet Blik til Dansk Fiskeog Grøntkonserves," by Knud Nielsen, reprint, Konserves, vol. 11, no. 11, 5 pp., illus., printed, in Danish with summary in English. Fiskeriministeriets Forsøgslaboratorium, Oster Voldgade 10, Kø-benhavn K, Denmark, November 1953. Describes experiments in the packing of canned fish in electrolytic tinned cans. According to the author, "the experiments proved that none of the products can obtain a satisfactory keeping quality in unlacquered tinplate, and only relatively few products, such as sardines in oil and mackerel in oil, can be packed in lacquered electrolytic tinplate. Canned fish in tomato and other more corrosive products cannot be packed in electrolytic tinned cans lacquered with the lacquers available in Denmark at present."

"Underwater Sound Production and Concurrent Behavior of Captive Porpoises, <u>Tursiops truncatus</u> and <u>Stenella plagiodon</u>, "by F. G. Wood, Jr., article, Bulletin of Marine Science of the Gulf and Caribbean, vol. 3, no. 2, Sept. 1953, p. 120-133, illus., printed, \$2 for individual numbers. University of Miami Press, Coral Gables, Florida. Characteristic sounds in the sonic range made by captive dolphins, or porpoises, were heard and recorded using underwater listening gear. The phonations described include those elicited by strange objects, those which accompany feeding activity, a distinctive sound heard during the mating season, and others less clearly associated with particular circumstances or stimuli. Tursiops truncatus is highly vocal, a characteristic which may apparently be related to certain behavioral traits and to its usual coastal or inshore environment. On the other hand, only two types of phonation have definitely been attributed to Stenella plagiodon, an offshore species whose behavior differs in many respects from that of Tursiops. Previous accounts of porpoise sounds and the circumstances attending their production are reviewed.

(Union of South Africa) Fishing Industry Research
Institute Sixth Annual Report of the Director
(1st April, 1952--31st March, 1953), 27 pp.,
printed. Fishing Industry Research Institute,
Cape Town, South Africa. Summarizes briefly:
(1) the general activities of the Institute, (2) progress on research investigations, and (3) the results of routine inspections and analyses. Research projects reported upon include studies on fresh stockfish, salting and drying of stockfish,
frying, freezing, rock-lobster canning, fish canning, and fish meal.

(Union of South Africa) The Marine Oils Industry of the Union, Report No. 337, 114 pp., processed. Board of Trade and Industries, Department of Commerce and Industries, Pretoria, Union of South Africa, 1953. This is a report of an investigation which is part of the general inquiry into the manufacturing industries of the Union of South Africa. It deals with the industries producing crude whale oil and whale meal, crude fish body oils and fish meal, and processed fish body oil as well as vitamin oils. The report points out that the whaling companies at present only produce crude oil and certain byproducts, of which whale-meat meal is by far the most important. The further processing of the oil is undertaken by the industries using it as a raw material. The crude fish oil, on the other hand, is to a large extent being processed for further use in other industries. Although most of the members of the fish-oil industry also engage in canning of fish, this phase has been excluded from this investigation. The scope of the report methods used for the investigation, and a discussion of fats and oils in general make up the Introduction. Part I (The Whaling Industry) deals with the size and organization of the industry, including the products produced and their uses; international regulation of whaling; world production, trade, and prices; investment and employment in the Union industry; the products of the local industry and their disposal. Under

operating results, the report discusses the capital structure and profits of the whaling industry, external factors bearing on the fortunes of the industry, and internal efficiency. Part II describes the fish-oil industries, and discusses the size and organization of the fish body oils industry. Under size and organization of the fish body oils industry, the report discusses the general background, rise and significance of the Union industry, and the organization of the industry. Under efficiency and operating results of the fish body oils industry is included external efficiency, internal efficiency, and operating results. A chapter on Public Policy deals with conservation, monopolistic conditions, and protection for the fish body oils industry. Another chapter describes the vitamin oils industry. A summary and recommendations make up the last chapter.

"Use of Gill Nets in Studying Fish Populations, Clear Lake, Iowa, "by Kenneth D. Carlander, 5 pp., reprint from Iowa Academy of Science, vol. 60 (1953). Department of Zoology and Entomology, Iowa State College, Ames, Iowa. Standard experimental gill nets were used to take fish samples for age and growth studies. This report is an attempt to derive, from the catch records, information on changes in abundance of the various species of fish. This is part of Project 39 of the Iowa Cooperative Fisheries Research Unit, sponsored by the Iowa State Conservation Commission and by the Industrial Science Research Institute of Iowa State College, with the cooperation of the U.S. Fish and Wildlife Service.

(Virginia) Fifty-fourth and Fifty-fifth Annual Reports of the Commission of Fisheries of Virginia (Fiscal Years Ending June 30, 1952 and June 30, 1953), 64 pp., illus., printed. Commission of Fisheries, Newport News, Va., 1954. Describes the oyster, crab, and fishery industries of Virginia and gives statistical data on the number of bushels of oyster shells planted by the Commission of Fisheries in its repletion program. Includes reports of the Superintendent of Hatcheries covering the shad-hatching work on the Chickahominy, Mattaponi, and Pamunkey Rivers for 1952 and 1953. A report from the Virginia Fisheries Laboratory describes its activities for the period July 1951 through June 1953, with special reference to the oyster, blue crab, croaker, and shad research studies. Also shows the revenue derived by the State from the fish and shellfish industries under supervision of the Commission of Fisheries of Virginia and also the expenditures of the Commission.

What About the Wage Gap?, Publication No. 134, 7 p., printed. The American Tariff League, Inc., 19 West 44th St., New York 36, N. Y., 1954. The gap between what the average United States worker earns and what the foreign worker earns is of considerable interest to the United States fishing industry because of the large amounts of fishery products imported into this country. This publication presents a study of the wage gaps for 13 foreign countries and the United States. In the report it is pointed out

that "A main reason for tariff in the United States is to offset in some degree, and where necessary, the wage gap between domestic and foreign workers, so that foreign producers compete fairly in the United States market with American producers who pay the American scale of wages."

-- J. Pileggi

What's the Answer? (A Brief Guide to Sources of Business Statistics), 30 pp., printed, 50 cents. Committee on Business Statistics, Chamber of Commerce of the United States, Washington 6, D. C., 1953. This pamphlet outlines how to acquire and organize a low-cost statistical library, and suggests other valuable reference works for the less modest budget. It includes several general publications in each of many fields, but is not intended to be a complete listing for any particular field.

TRADE LISTS

The Office of Intelligence and Services of the Bureau of Foreign Commerce, U. S. Department of Commerce, has published 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:

Commercial Fishing Companies and Fish Exporters - Brazil, 6 pp. (March 1954). Lists

the names and addresses, size of firm, and type of products handled. The report includes a brief summary of basic data on the fisheries of Brazil, and comments: "Although the coasts of Brazil abound with fish, the commercial fishing industry is in the initial stage of development. Primitive methods of fishing still prevail throughout the country. Only a limited number of fishing companies are pioneering in this field on a commercial scale."

Feedstuffs - Importers, Dealers, Manufacturers, and Exporters - Philippines, 7 pp. (March 1954). Includes firms handling fish meal and oil. Lists the names and addresses, size of firm, and type of products handled by all dealers in feedstuffs in the Philippines.

Oils (Animal, Fish and Vegetable) - Importers, Dealers, Producers, Refiners and Exporters - Chile, 11 pp. (February 1954). Lists the names, address, and size of the various firms handling fish and whole oils and their U. S. representatives, if any. The report points out that due to the low production of oil-seeds in Chile, imports of edible and industrial oils have been necessary in recent years--only fish and olive oil are usually exported from Chile.

Provisions - Importers and Dealers - Spain, 17 pp. (February 1954). Includes firms landing fishery products --includes the size of the firm and the type of products and their U. S. representatives, if any.



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