



FISH AND WILDLIFE SERVICE PUBLICATIONS

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

- CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES AND ALASKA.
 FL - FISHERY LEAFLETS.
 SEP. - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW

Number	Title
CFS-1041	- Fish Meal and Oil, August 1954, 2 pp.
CFS-1042	- Texas Landings, August 1954, 3 pp.
CFS-1043	- Florida Landings, June 1954, 6 pp.
CFS-1044	- Mississippi Landings, August 1954, 2 pp.
CFS-1046	- New Jersey Landings, July 1954, 2 pp.
CFS-1047	- New York Landings, July 1954, 4 pp.
CFS-1050	- Fisheries of the United States and Alaska, 1952 Annual Summary, 12 pp.
CFS-1055	- Alabama Landings, August 1954, 2 pp.
CFS-1057	- Frozen Fish Report, September 1954, 8 pp.
FL - 336v	- Quarterly Outlook for Marketing Fishery Products, Oct.-Dec. 1954, 29 pp.
FL - 358	- The Chesapeake Bay Crab Industry (revised), 17 pp.
FL - 417	- "U. S. Import Classification & Duties of Fishery & Wildlife Commodities," by A. M. Sandberg, 35 pp., July 1954. This leaflet has been prepared to provide ready reference to code classifications, tariff paragraphs, and rates of duties of commodities derived from fisheries and wildlife or of particular use to fisheries and wildlife contained in <u>Schedule A, Statistical Classification of Commodities Imported into the United States.</u>

The text and the tabular material are selected items pertaining to fisheries, wildlife, and related commodities which have been excerpted from Schedule A. Schedule A is the statistical classification of all commodities imported into the United States used in compiling the official United States import statistics.

F. L. 417 includes an alphabetical index prepared to facilitate reference to the particular classifications included in the leaflet.

The leaflet also contains a summary of foreign commerce statistical regulations; references for interpreting special notations, abbreviations, and symbols used throughout Schedule A; and a list of foreign trade agreements.

- Sep. No. 382 - Tuna Fishing at American Samoa, January-April 1954.
 Sep. No. 383 - Recent Developments in Fishing-Vessel Deck Gear.
 Sep. No. 384 - Cooperative Fish-Products-Acceptability Project with Quartermaster Food and Containers Institute.
 Sep. No. 385 - Keeping Quality of Chilled Dungeness Crab Meat Packed in Hermetically-Sealed Containers.

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

Distribution and Abundance of Egg and Larval Populations of the Pacific Sardine, by Elbert H. Ahlstrom, Fishery Bulletin 93 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 56), 61 pp., illus., printed, 40 cents, 1954. A marked decrease in abundance of the Pacific sardine (Sardinops caerulea) in recent years led to the initiation in 1949 by the California Cooperative Oceanic Fisheries Investigations of continuing studies to determine the factors responsible for the fluctuations in abundance, distribution, and availability of this important species. The egg and larval populations are being sampled by means of quantitative plankton hauls made over an established pattern of stations occupied at regular intervals during the year. The results of three years of surveys, 1949 through 1951, are presented. Sardine spawning in 1950 and 1951 was mainly confined to two major spawning centers, one located off southern California and adjacent Baja California, the other off central Baja California. The latter was by far the more important center, supplying approximately 82 percent of the sardine eggs collected in 1950, and 94 percent of the eggs collected in 1951. Sardine eggs have been obtained during every month of the year off central Baja California, although in both 1950 and 1951 most spawning occurred during a 4-months period, February through May. In the more northern center, the season of spawning has been more sharply delimited, being mostly confined to the months of April, May, and June. The estimated number of sardine eggs spawned in 1950 was 286,000 billion; in 1951 the total amounted to 611,000 billion. The survival from newly spawned eggs to the end of the planktonic phase of life was about 1 in 1,000 in both 1950 and 1951.

Fluctuations in Growth and Year-Class Strength of the Walleye in Saginaw Bay, by Ralph Hile, Fishery Bulletin 91 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 56), 56 pp., illus., printed, 35 cents, 1954.

Mortality of Salmon Fingerlings Exposed to Pulsating Direct Current, by Gerald B. Collins, Charles D. Volz, and Parker S. Trefethen, Fishery Bulletin 92 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 56), 25 pp., illus., printed, 30 cents, 1954. Presents a program of research on electrical fish guiding which includes basic laboratory studies as well as large-scale field experiments. The material presented here is a report on one aspect of the research in progress. Influences of voltage gradient, current density, pulse frequency, and duration of exposure on the mortality of salmon fingerlings exposed to pulsating direct current were examined experimentally in relation to the length of fish, water temperature, and pulse duration, using a current of square-wave form. The experiments indicated that mortality increased with an increase in voltage gradient, in current density, or in both. The effect of voltage gradient increased with the duration of exposure. The total voltage to which the fish were subjected (fish length x voltage gradient) was the effective factor in mortality, rather than the voltage gradient, and the effect of total voltage on mortality was actually greater on shorter fish when the exposure was only 30 seconds. Pulse duration was not a lethal factor, and there was no direct relation between mortality and the total energy applied per unit of time. Under the conditions of these experiments, mortality increased with the pulse frequency, and the effect of pulse frequency on mortality increased with the length of the fish and the duration of exposure. The mortality of the fingerlings exposed to pulsating d. c. increased with the duration of exposure, and the effect of duration of exposure increased with the length of the fingerlings. Mortality increased with the water temperature, and the effect of water temperature on mortality increased with the duration of exposure. The effect of water temperature on mortality was greater on fish of greater length.

"A Survey of Private Trout Enterprises in the West," by John W. DeWitt, Jr., article, The Progressive Fish-Culturist, vol. 16, no. 4 (October 1954), pp. 147-153, processed (annual subscription \$1.25 domestic, US\$1.65 foreign). Describes a survey of private trout businesses in nine western states which was conducted in 1952 and 1953. The states included in the survey were California, Oregon, Washington, Nevada, Colorado, Utah, Wyoming, Montana, and Idaho. The general purpose of the survey was to obtain an idea of the nature, extent, and location of private live-trout enterprises of all kinds. The study was prompted to some extent by a desire to understand what part private trout culture might be playing in the over-all trout-management picture in the West. The type of trout businesses, status of ownership and length of time in business, investment and income, egg and trout production, and important general problems are discussed.

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.

California Fishing Ports, by W. L. Scofield, Fish Bulletin No. 96, 164 pp., illus., printed, California Department of Fish and Game, Sacramento 14, Calif., 1954. The purpose of this publication is to give some explanation of the 270 ports where commercially-caught fish have been landed in California during the 21-year period from 1931 through 1951. For each port of any consequence, its location, history, fish-handling facilities, volume of landings, species delivered, and brief notes on its sport-fishing opportunities are presented.

(Canada) Fisheries Statistics of Canada, 1952, 52 pp. (tables), printed in English and French, C\$1.00. Dominion Bureau of Statistics, Ottawa, Canada, 1954. A review of the fishery statistics of Canada for 1951 and 1952 prepared in collaboration with Dominion and Provincial Fisheries Departments. It includes data on the quantity and value of the catch of fishery products for Canada as a whole (excluding Newfoundland); production of fish oils and fish meal; production of frozen, salted, pickled, vinegar-cured, and canned fish; shellfish production; employment in fish-processing establishments; and value of exports and imports of fishery products. Also contains data on the total value of the fisheries by province for 1943-1952; Canada's lobster pack by province for 1943-1952; and fishing bounties paid to vessels and boats in 1952.

(Canada) Fisheries Statistics of Canada, 1953 (Prince Edward Island), 4 pp., printed, French and English, 25 Canadian cents. Dominion Bureau of Statistics, Ottawa, Canada. Consists of tables giving the production and landed and marketed values of the principal species of fish and shellfish landed in Prince Edward Island in 1951-53; quantity and value of manufactured fishery products for 1952-53; capital equipment in the primary fisheries operations; the number of fishermen engaged in the fisheries; and the vessels used in the sea fisheries.

(Canada) Fisheries Statistics of Canada, 1953 (British Columbia), 7 pp., printed, French and English, 25 Canadian cents. Dominion Bureau of Statistics, Ottawa, Canada. Consists of tables giving the production and landed and marketed values of the principal species of fish and shellfish landed in British Columbia in 1951-53; quantity and value of manufactured fishery products for 1952-53; canned salmon pack by areas and species for 1944-53; capital equipment in the primary fisheries operations; and the number of fishermen engaged in the fisheries for 1952-53.

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(Canada--British Columbia) Prospects for the 1954-55 Herring Fishing Season, by F. H. C. Taylor, Circular No. 34, September 27, 1954, 7 pp. and map, processed. Pacific Biological Station, Fisheries Research Board of Canada, Nanaimo, B. C. This is the tenth in an annual series of circulars dealing with the prospects for the British Columbia herring fishery. Predictions are given by area.

Commercial Trawling Tests in the Great Australian Bight, 1949-52, by T. W. Houston, Division of Fisheries Technical Paper No. 2, 18 pp., illus., printed. Commonwealth Scientific and Industrial Research Organization, Melbourne, Australia, 1954. A historical review of previous trawl-fishing enterprises in the Great Australian Bight leads on to the presentation of the general results of the combined trawl-fishing operations conducted by Anglo-Australian Fisheries (Pty.) Ltd. and Anglo-Australian Trawlers (Pty.) Ltd. in the same area. The results are compared with those of past ventures in the Great Australian Bight and past and present trawl-fishing operations in eastern Australian waters.

(Connecticut) Abstract of Fishing Laws and Regulations, 1954, 23 pp., printed. Connecticut State Board of Fisheries and Game, Hartford, Conn.

Connecticut Fish and Game Laws (Revised to Oct. 1, 1951), 121 pp., printed. State Office Building, Hartford, Conn.

(Connecticut) Supplement to Fish and Game Laws (Containing New Laws and Amendments Enacted by the Legislature of 1953), 24 pp., printed. State Board of Fisheries and Game, State Office Building, Hartford, Conn.

Cumulative Pocket Supplement to the Code of Federal Regulations, Title 50--Wildlife, 132 pp., printed, 55 cents. Superintendent of Documents, Government Printing Office, Washington 25, D. C., 1954. This pocket supplement was compiled and edited by the Federal Register Division, National Archives and Records Services, General Services Administration. It contains in full text the changes and additions to Title 50 of the Code of Federal Regulations, which were published in the Federal Register during 1949-1953, and which were in force and effect on December 31, 1953. All Federal administrative regulations, orders, notices, etc., pertaining to Wildlife (including fisheries) required to be published by the Federal Register Act or other acts are shown under Title 50. This Title is further subdivided into these three Chapters: Chapter I--Fish and Wildlife Service, Department of the Interior; Chapter II--Alaska Game Commission; Chapter III--International Regulatory Agencies (Fishing and Whaling). As explained in the publication, amendatory documents which were promulgated during any part of the aforementioned period, but which were not in effect on December 31, 1953, are not carried in full text. Citations to such documents are carried in notes entitled "Prior Amendments." All documents directly affecting Title 50 are tab-

ulated in the "List of Sections Affected" appearing at the end of this Pocket Supplement. Citations of authority have been supplied only for those sections not covered by the authority cited in the Code.

- W. H. Stolling

Customs Regulations of the United States, 688 pp., \$3.50. Bureau of Customs, U. S. Treasury Department, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) This is a new edition containing amendments up to January 1, 1954. The regulations in this publication have been issued by the Commissioner of Customs, with the approval of the Secretary of the Treasury, pursuant to the respective statutory provisions cited at the beginning of each part or at the end of the particular section, and pursuant to orders of the Secretary of the Treasury relating to the rights, privileges, powers, and duties of the Commissioner of Customs and other personnel in the Bureau of Customs, of which those currently in effect are published as Treasury Decisions 53160, 53332, and 53368. The appendix, in addition to general reference material, contains the text of, or references to, sections of law and the text of regulations administered by other Government departments or agencies and enforced wholly or in part by the Bureau of Customs.

A Descriptive Study of Certain Tuna-like Fishes, by H. C. Godsil, Fish Bulletin No. 97, 189 pp., illus., printed. California Department of Fish and Game, Sacramento 14, Calif., 1954. This bulletin contains technical descriptions of a number of species of tunalike fish and an evaluation of their relationships to each other and to the tunas proper. This project was undertaken in response to an inquiry concerning the relationship of certain species to the tunas. While the original intent was merely to supply a sound biological basis for a definition of the term "tuna," the ultimate scope of the work and the content of this report covers a relatively complete description of the numerous species investigated. The author states, "As a result of this study it appears that two and only two alternative definitions of the term 'tuna' are biologically warranted. The term can be restricted to the tunas proper (family Thunnidae), including the California bluefin, albacore, yellowfin, and big-eyed tuna; or it can be broadened to include, in addition, all members of the skipjack family (Katsuwonidae), including the skipjack, black skipjack, and frigate mackerel. Either alternative offers a precise definition based on sound anatomical criteria which can be universally and unequivocally recognized. No other alternative is biologically compatible."

El Guano y La Pesca de Anchoveta, by Robert Cushman Murphy, 147 p., printed. Compania Administradora del Guano, Lima, Peru, 1954.

"Farm Ponds in Fishing Picture," by Eugene S. Cobb, article, The Tennessee Conservationist,

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vol. XX, no. 8, August 1954, p. 18, illus., printed. Tennessee Department of Conservation, 115 State Office Building, Nashville, Tennessee.

"Fellowships in Fisheries in the FAO Program," by J. de Martini, article, FAO Fisheries Bulletin, vol. VII, no. 3, July-September 1954, pp. 99-114, illus., printed, single copy 30 cents. Food and Agriculture Organization of the United Nations, Rome, Italy. (For sale by International Documents Service, Columbia University Press, New York 27, N. Y.)

The Fish of Colorado, by William L. Reavley, Educational Pamphlet Number Three, 18 pp., illus., printed. Colorado Game and Fish Department, 1530 Sherman Street, Denver 3, Colorado. Presents (1) a discussion of fish management in the high country, followed by a description of each major species; (2) a section on warm-water fish management and a description of each species; and (3) pertinent comments on the importance of research and hatchery operations in improving fishing.

Handbook of Food Preparation, 71 pp., printed, 50 cents. American Home Economics Association, 1600 Twentieth Street, NW., Washington 9, D. C., 1954. A reference handbook for all who work with foods, including home economics students and teachers, research workers, institution managers, home economists associated with food and equipment companies and food magazines, as well as the practical homemaker. Another purpose of this handbook is to promote uniform usage with respect to names of ingredients, units of measure, processes, time, and temperatures, and to facilitate the establishment of a common standard for the use of all those directly or indirectly interested in food preparation. This handbook is divided into seven general sections with related material and tables grouped in the appropriate sections. The section on Weights and Measures gives such basic information as the weight of a cup of fat, flour, or sugar, as well as the weights of prepared foods, the volume measure of one pound of food and miscellaneous equivalents. In the section on Food Buying Guides, data are given in terms of the approximate number of servings per market unit in which the food (including fish and shellfish) is usually purchased. Commercially canned foods are included, as well as yield to be expected for home-canned and home-frozen products. The section on Recipe Construction presents well-tried rules for editing and setting up recipes. Methods of measurement, basic proportions for recipes, and approximate substitutions of one ingredient for another are grouped with information on recipe construction. The section on Timetables includes both cooking time and temperatures for cooking (including fish and shellfish) and canning, timetable for home freezing, adjustments for altitude cookery, and a temperature conversion table. The section on Definitions includes definitions and terminology for foods, processes, and utensils. Food definitions are based on the average composition or other characteristics

which identify a particular food. The sections on Properties of Foods and Quality and Size Grades contain information on the subject of food quality.

"Harpoons in the Attic," by Al. Bromley, article, The Conservationist, vol. 9, no. 1, August-September 1954, pp. 12-16, illus., printed, single copy 25 cents. The Conservationist, Room 515, Arcade Bldg., Albany 1, New York. This article gives an account of early Long Island whaling and the development of the deep-sea whaling industry. Shore whaling off the beaches of eastern Long Island was aggressively prosecuted from about 1650 to 1760, according to the author, with shore whaling companies operating at Southampton, Mecox, Sagg (Sag Harbor), and East Hampton. Meanwhile, the seamen of Nantucket were writing a new chapter in American whaling. They were building bigger boats capable of going farther offshore for cruises of several weeks. Whales, they found, were more plentiful off shore, particularly sperm whales, prized for their superior and more valuable oil. At first whale blubber was brought back to shore for trying out, but about 1743 the practice of trying out blubber in brick furnaces constructed on the ship's decks was begun. The practice spread to New Bedford and New London, now famous for their role in deep-sea whaling, and about 1760 to Sag Harbor. At first the deep-sea whalers hugged the American coastline pretty closely but within a few years the lure of more whales and greater profit took Long Island whalers north into the Arctic, south off the coast of Brazil, and ultimately around the Cape Horn into the South Pacific. Thus, the emphasis changed and though shore whaling continued on eastern Long Island, deep-sea whaling rapidly expanded, with Sag Harbor the chief port. It was an exciting life and, when whales were found, a profitable one. In 1847 there were 1,800 men employed in Sag Harbor in the whaling industry and a total of 64 ships operating from that port, all adding up to an estimated \$25,000,000 business. But that was the turning of the tide. Many factors contributed to the decline of whaling by Long Islanders. The Revolutionary War took a heavy toll of whaling ships and the California gold rush an equally heavy toll of experienced crewmen. Whales became increasingly harder to find, and the expense for cruising farther and farther to make a profitable catch began to discourage the ship owners. And then finally came the discovery of petroleum. That broke the market for whale oil, and there was no further incentive in this country to put to sea for whales.

Highlights of the Annual Report, 1953, of the Minister of Lands and Forests, 49 pp., illus., printed. Ontario Department of Lands and Forests, Toronto, Canada. Presents, among others, the outstanding achievements of the Division of Fish and Wildlife and statistics on the production of fishery products for 1951-52.

Lake Victoria Fisheries Service Annual Report, 1953, by G. F. Cole, 54 pp., illus., printed. East Africa High Commission, Nairobi, Kenya,

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1954. Lake Victoria is the second largest fresh-water lake in the world--the largest is Lake Superior. This report summarizes the various activities of the Lake Victoria Fisheries Service for 1953. Specifically discussed are the types of craft and gear in general use on Lake Victoria; species of fish; marketing and development problems; fish consumption; fish prices; danger of overfishing; growth rate of Tilapia; net experiments; fish marking; experimental fishing gear and equipment; fish smoking; and other activities.

Laxfisket Och Laxbestandet I Osternjoomradet Under Senare Ar (The Salmon Catch and the Salmon Stock in the Baltic during Recent Years), by Dr. Gunnar Alm, Svenska Vattenkraftforeningens Publikationer No. 441 (1954:5), 59 pp., illus., printed, in Swedish with summary in English, 4 kroner (77 U. S. cents). Svenska Vattenkraftforeningen, Norrlandsgatan 16, Stockholm C, Sweden. Contains the following discussions which are based upon statistical records compiled from reports made by commercial fishermen and also upon information obtained from fishery officials, fishery associations, and from private fishermen: yield and fluctuations in the salmon fisheries; fishing intensity and its influence on the catches of salmon; fishing intensity in relation to the salmon stock; and demands for protection of the salmon stock by restricting the fisheries.

"The Many Uses of Irish Moss," by Wyn Rhydwen, article, Trade News, vol. 7, no. 2, August 1954, pp. 8-9, illus., printed. Department of Fisheries, Ottawa, Canada. This article describes the Irish moss industry--a comparatively new and growing industry on Canada's east coast--and its many uses. When World War II cut off the European supplies, attention was focused on the Canadian Maritime provinces, where in Prince Edward Island and around Yarmouth in Nova Scotia a plentiful supply was found. The extract from Irish moss is a very important agent in many of our everyday foods. It is this extract--carrageenin--that is the stabilizer that keeps the chocolate in chocolate milk from sinking to the bottom. A product of a thousand uses, it is an ingredient of ice cream, pudding powders, hand lotions, shoe polishes, shaving cream, and cough medicine. It is this same gelose that is used in leather dressings, as a size for cloth, a thickener for colors in calico printing, in candy, and for the clearing of beer. The author also tells where the moss grows and how it is harvested.

"New England Studies Fisheries Problems," by D. H. Cheney, article, Foreign Trade, vol. 102, no. 5, September 4, 1954, pp. 21-24, illus., printed, single copy 20 cents. The Queen's Printer, Government Printing Bureau, Ottawa, Canada. This article discusses the organization of New England's fishing industry, the leading fishing ports and their production, current problems, and ways of improving the fisheries. Once the leading industry in New England, the fisheries have been declining in economic importance. Recent developments, however, suggest that cures for the current ills

are being prescribed and should soon take effect the author points out.

(New Zealand) Marine Department Annual Report for the Year 1953-54, 61 pp., printed. Marine Department, Wellington, New Zealand, 1954. The first section of this report covers New Zealand's registration of vessels; vessel survey data; a discussion of navigational aids and safety measures in New Zealand ports; and a statement on the inspection of boilers, lifts, and cranes. The second section covers New Zealand's fisheries for the fiscal year ending March 31, 1954. Total production figures and comparative data are given by species and by port, including information on number of vessels and personnel, and methods of capture. Included are statistics on fish-liver oil production, crayfish, whaling, oysters, toheroa (a marine bivalve), mussels, whitebait, and exports and imports. Fresh-water fisheries, fresh-water fishery research, pollution, and marine fishery research are also discussed.

A Note on the Flying Behavior of Certain Squids, by George F. Arata, Jr., 3 pp., printed. (Reprinted from The Nautilus, vol. 68, no. 1, July 1954.) The Marine Laboratory, University of Miami, Coral Gables (University Branch) 46, Florida.

"Oyster Mortality Studies in Virginia. I. Mortalities of Oysters in Trays at Gloucester Point, York River," by Willis G. Hewatt and Jay D. Andrews, article, The Texas Journal of Science, vol. VI, no. 2, June 1954, pp. 121-133, illus., printed, single copy \$1.25. The Texas Journal of Science, Box 8012, University Station, Austin, Texas.

Pennsylvania Fish Laws, 1953-1954, 134 pp., printed. Pennsylvania Fish Commission, Harrisburg, Pa.

(Pennsylvania) Summary of Fish Laws, 1954 (Rules and Regulations Governing Fish and Fishing in the Inland Waters, Delaware River, Lake Erie, and Pymatuning Lake), 20 pp., illus., printed. Pennsylvania Fish Commission, Harrisburg, Pa.

The Seed Quahog Dredge, VENUS M., by Robert L. Dow and Dana E. Wallace, Fisheries Circular No. 15, 12 pp., illus., printed. Department of Sea & Shore Fisheries, Vickery-Hill Building, Augusta, Maine, August 1954. Describes experiments to develop hydraulic means of gathering seed quahogs. It was known that larger seed could be gathered by conventional quahog drags with reduced-mesh liners; however, it was anticipated that breakage would be fairly high and that smaller seed could not be efficiently obtained by this method. Sediments in Maine quahog areas are generally silt or clay or clay-silt mixtures. These fine adhesive sediments would not permit the use of small mesh; therefore, hydraulic methods appeared to be the most suitable for dredging seed quahogs as small as a few millimeters in diameter. For this reason, all experimental work was carried on with hydraulic equipment in order that the quahog

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seed would be water-borne throughout the dredging operation. During two seasons of experiments with various types of dredge attachments, a workable unit was developed. The efficiency of the operation and the maximum productive rate of the dredge are described.

The South African Pilchard (SARDINOPS OCELLATA). The Temperature, Salinity and Inorganic Phosphate Content of the Surface Layer Near St. Helena Bay, 1950-52, by A. J. Clowes, Division of Fisheries Investigational Report No. 16, Supplement to Commerce & Industry, vol. XII, no. 12, August 1954, pp. 599-643, illus., printed. Government Printer, Bosman Street, Pretoria, Union of South Africa. An account is given of some of the hydrological factors in the environment of the South African pilchard, *Sardinops ocellata* (Pappe), off the west coast of the Union of South Africa. The water layers present, winds, currents, and upwelling in the area are discussed. A comparison is made of the temperature, salinity, and inorganic phosphate-content present in the surface of the sea and in the 0-50 meters layer in two commercial pilchard-catch years from September 1950 to August 1951 and from September 1951 to August 1952. The comparison is treated on a seasonal and a yearly basis. Discussed are the differences shown in the two years under review. Although such differences are small on a yearly basis in the whole area investigated, they are considered to be significant at certain positions, notably off Lambert's Bay, along the southern base line west of Saldanha Bay, and in the southwest of the routine area. The range of temperature, salinity, and inorganic phosphate-content in the two years is discussed and in the light of existing knowledge, the seasons are given when maximum and minimum values of these factors occur.

Statistical Report of the Minister of Lands and Forests of the Province of Ontario (for the fiscal year ending March 31, 1953), Sessional Paper No. 15, 62 pp., illus., printed. The Legislative Assembly of Ontario, Toronto, Canada, 1953. Includes, among others, tables showing fish distribution according to species for 1948-52; distribution by age groups, 1952; yield of the fisheries in the Province of Ontario by species and by lakes for 1951-52; and quantities of fish taken in the public waters of Ontario for the year ending December 31, 1952.

Studies on Ecdysis in the American Lobster (HOMARUS AMERICANUS) 3. A Method for Differentiating Stages of the Intermoult Cycle, by J. Kenneth Donahue, Research Bulletin No. 20, 3 pp., printed. Department of Sea and Shore Fisheries, Augusta, Maine, August 1954. Describes the six stages in the moult cycle of the American lobster.

U. S. Government Purchasing Directory, 95 pp., processed, 50 cents. Small Business Administration, Washington, D. C., June 1954. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Presents information on major items

and classes of items (including fish and related items) purchased by the principal Federal purchasing offices throughout the United States. Part I is made up of four main sections. The first section lists the major military purchasing offices according to purchasing code numbers which have been assigned them. The second section lists alphabetically the items and classes of items purchased by these military procurement offices, together with the code numbers of the offices which purchase them. The third section lists the major Federal civilian agency purchasing offices, also in numerical order according to purchasing code numbers assigned them. The fourth section presents the items and classes of items bought by these offices and indicates, by code numbers, the particular offices which purchase them. Included in Part II are: (1) information on how small plants can sell to the Federal Government; (2) information on other helpful SBA publications; (3) a discussion of important clauses in Government contracts; (4) information on subcontracting for small plants; (5) information as to how a small plant can list its facilities with SBA for assistance in selling to the Government and large prime contractors; (6) addresses of the SBA field offices; and (7) locations of the major military procurement offices covered by SBA representatives.

(United Kingdom) White Fish Authority, Third Annual Report for the Year Ended 31st March, 1954, 44 pp., printed, 1s. 6d. (25 U. S. cents). Her Majesty's Stationery Office, London, England, 1954. Describes the composition and general functions of the White Fish Authority; and discusses the production of fish and shellfish, marketing and distribution, and research and training program. Appendices present data on distribution of trawlers by ports; age distribution of the trawler fleet; and assistance approved for rebuilding near- and middle-water and inshore fleets.

(FAO) Growing Food for a Growing World--The Work of FAO, 1952/53, 45 pp., illus., printed, 50 cents. Food and Agriculture Organization of the United Nations, Rome, Italy, February 1954. (For sale by International Documents Service, Columbia University Press, New York 27, N. Y.) This is a different kind of annual report than the Food and Agriculture Organization has usually issued. As a decennial-year, this 1953 report of FAO's activities is a bench-mark in the present from which to measure past progress and to survey the future. It is a report to the people of the 71 Governments joined in FAO, and includes among others a chapter on fish from lake and sea. This chapter discusses the marine fisheries resources, especially those which are unused or capable of greater exploitation. Considerable assistance has been given by FAO to under-developed countries in drawing up research programs as a basis for the exploitation of their littoral and offshore resources. Assistance has been given also to the development of fisheries and stimulating increased consumption. This same chapter also discusses fish production in the Ganges Delta;

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inland fisheries; fish culture; nets, boats, and smokehouses; fish processing and marketing; and improvement of fishing craft.

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. Copies may be requested from the Food and Agriculture Organization, Viale delle Terme di Caracalla, Rome, Italy.

Report to the Government of Iraq on the Development of Inland Fisheries, FAO Report No. 270, 38 pp., and charts and map, processed, April 1954. Reports on a survey of inland waters to determine the possibilities of maintaining or increasing the levels of fish populations in these waters; to determine the desirability of further studies being made of fish culture and of introducing exotic species into inland waters.

Report to the Government of Turkey on Fish Handling and Refrigeration, FAO Report No. 282, 42 pp., and charts, map and other illus., processed, June 1954. Discusses the program set up (1) to advise and assist in the location, construction, and operation of fish-freezing plants and cold-storage warehouses for holding frozen fish; (2) to demonstrate methods of freezing fish, storing frozen fish, and handling and transporting fresh, iced, and frozen fish.

Report to the Government of Yugoslavia on the Processing of Fish, FAO Report No. 283, 21 pp., and 3 plates of photographs, processed, June 1954. Objective of the assignment, the period of assignment, and the problems encountered are discussed in the report. Pointed up in the report are the utilization of papalina (sprat), smoke curing of fish, canning of miscellaneous

products, and miscellaneous processing methods.

Report to the Government of Turkey on the Establishment of a Fish Meal and Oil Industry, FAO Report No. 285, 42 pp., with map and 5 diagrams, processed, Sept. 1954. The report discusses the objective of the assignment, the possibilities of establishing a fish-meal industry, the selection of location for the fish plant, the Trabzon fish meal and oil plant project, and general observations and acknowledgements. Also contains eight appendices.

Report to the Government of Liberia on the Handling, Processing and Marketing of Fish, FAO Report No. 286, 11 pp. with 2 plates of photographs, processed, July 1954. The handling and fish-curing problems, distribution and marketing, developments outside Monrovia, and a summary and recommendations are outlined in the report. Three appendices are included.

Report on the International Training Center in Fishery Biology, Istanbul, Turkey, FAO Report No. 298, 9 pp., processed, September 1954. Reports on the Training Center held in the Hydrobiological Institute of Istanbul University on the Bosphorus, at Baltalimani, Istanbul, Turkey, from September 21 to October 27, 1953, sponsored by the FAO Technical Assistance Program Fisheries Division, and the Republic of Turkey Ministry of Economy and Commerce, Meat and Fish Office. Representatives from Israel and Yugoslavia also participated.

Report to the Government of Yugoslavia on Investigations Concerning the Occurrence of Fish Diseases in Yugoslav Pond Farms, FAO Report No. 308, 17 pp. with map and 2 plates of photographs, processed, August 1954. The objective of the investigation, acknowledgements, and a review of the Mission and results of the investigations are discussed in the report.



Editorial Assistant--Ruth V. Keefe

Illustrator--Gustaf T. Sundstrom

Compositors--Jean Zalevsky, Alma Greene, and Helen Joswick

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