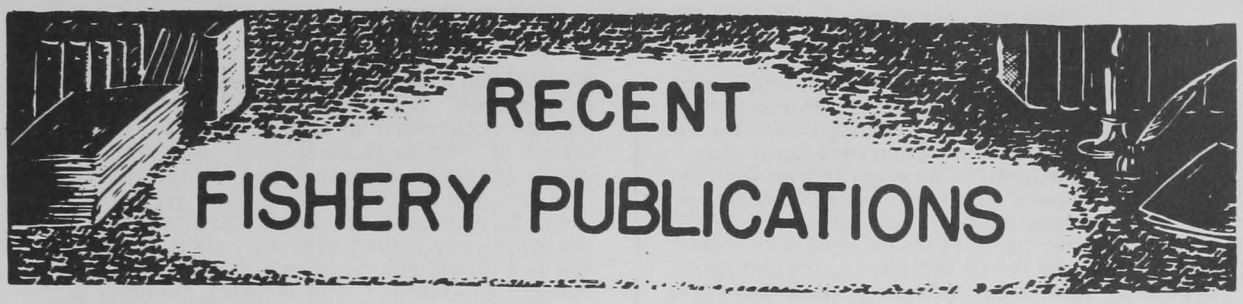

FISH AND WILDLIFE SERVICE PUBLICATIONS

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-1027 - Massachusetts Landings, June 1954, 8 pp.
CFS-1031 - Texas Landings, July 1954, 3 pp.
CFS-1032 - Florida Landings, May 1954, 6 pp.
CFS-1038 - Mississippi Landings, July 1954, 2 pp.
CFS-1039 - Fish Meal and Oil, July 1954, 2 pp.
CFS-1040 - Frozen Fish Report, August 1954, 8 pp.
CFS-1045 - Maine Landings, July 1954, 4 pp.
CFS-1048 - Alabama Landings, July 1954, 2 pp.
FL - 255 - Fishery Motion Pictures (revised), 6 pp.
FL - 410 - Fish and Shellfish Preferences of Household Consumers-1951, Part IV, 53 pp.
FL - 417 - U. S. Import Classification and Duties of Fishery and Wildlife Commodities, January 1, 1954, 36 pp.
Sep. No. 380 - Exploratory Shrimp Fishing in the Gulf of Mexico, Summary Report for 1952-54.
Sep. No. 381 - Observation of Japanese High-Seas Salmon Gill-Net Fishery off Hokkaido.

FL-418 - Food Fishes with Fins and Scales, 9 pp., processed. The anatomy of fishes in its bearing on the requirements of certain religious dietary regulations, with a note on the source of cod and other liver oils. Also contains a partial list of common food fishes that have both fins and scales.

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

Propagation and Distribution of Food Fishes for the Calendar Years 1951-1952, by Lee M. Duncan and O. Lloyd Meehean, Statistical Digest 32, 38 pp., printed, 20 cents, 1954. 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 1951-52 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.

MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATIONS 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.

Age and Growth of Lake Sturgeon from Lake St. Francis, St. Lawrence River. Report on Material Collected in 1947, by Jean-Paul Cuerrier and George Roussow, 13 pp., illus., printed. (Reprinted from The Canadian Fish Culturist, no. 10, May 1951, pp. 17-29.) Institute of General Biology and Zoology, University of Montreal, Que.

"Annual Growth Rings and Rate of Growth of the Giant Scallop, Placopecten magellanicus (Gmelin) in the Digby Area of the Bay of Fundy," by J. A. Stevenson and L. M. Dickie, article, Journal of the Fisheries Research Board of Canada, vol. XI, no. 5, September 1954, pp. 660-671, illus., printed. Fisheries Research Board of Canada, Ottawa, Canada. The growth rings on the valves of scallops collected from the Digby area of the Bay of Fundy are formed only once a year during the winter. Observations of special collections of small scallops have also shown the position of the first growth ring. This information has been used to construct a general growth curve from measurements of annuli on scallops from the Digby area.

Bulletin of Tokai Regional Fisheries Research Laboratory, No. 7 (Contribution B), June 1954, illus., printed in Japanese with summaries in English. Tokai Regional Fisheries Research Laboratory, Tsukishima, Tokyo, Japan. A collection of reprints covering, among other subjects, the following: fishing gear and methods; fisheries machinery; preservation and cause of spoilage; fish oils and vitamins; and skin and leather of aquatic animals.

"Campanha Baccalhoeira (The Cod Fishery Campaign)," by Mark Ronayne, article, Trade News, vol. 7, no. 1, July 1954, pp. 3-6, illus., printed. Director of Information and Educational Service, Department of Fisheries, Ottawa, Canada. Describes the annual "Campanha Baccalhoeira"--the cod fishery campaign--an expedition, steeped in tradition, that takes the Portugal sailing vessel fleet, the last of its kind in the world, to the

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teeming Grand Bank of Newfoundland and thence to Greenland. There is evidence, Portuguese say, that the history of the campaign dates back to the mid-fifteenth century when voyages of discovery to the Atlantic's western shores were the current European rage and the quest for cod spurred intrepid, venturesome fishermen to rove farther and farther asea. This brought them some 500 years ago to the Grand Banks, the cod Klondyke of the Northwest Atlantic just off Canada's east coast and they have been going back regularly ever since. The entire catch is marketed within Portugal with the exception of small quantities that are sold in Portugal's overseas provinces in East and West Africa. Thus, the fruits of the campaign offer no competition in foreign markets to exporting countries, the article points out.

"The Canadian Atlantic Scallop Fishery," by J. S. MacPhail, article, Trade News, vol. 7, no. 2, August 1954, pp. 5-7, illus., printed. Department of Fisheries of Canada, Ottawa, Canada. The giant or sea scallop Placopecten magellanicus, which is found along the northwest Atlantic coast from Newfoundland to Cape Hatteras, has become a commercially important species in recent years. This article describes the Bay of Fundy fishery where the largest and most productive scallop beds are found along the Digby shore. Design details are given of a typical Digby scallop dragger. The shucking procedure and method of handling the meats are also described.

"The Case of the Groundfish Fillets," by R. G. C. Smith, article, Foreign Trade, vol. 102, no. 3, August 7, 1954, pp. 5-6, printed, single copy 20 cents. The Queen's Printer, Government Printing Bureau, Ottawa, Canada. This report discusses some of the reasons for the President's decision to reject the U. S. Tariff Commission's recommendation for increased protection for the United States fishing industry and the probable effects upon the Canadian fishing industry.

Compilation of Georgia Laws and Regulations Pertaining to Upland Game, Fresh Water Fishing and Commercial Salt Water Fishing, 110 pp., printed. State Game and Fish Commission, 412 State Capitol, Atlanta, Georgia, April 1, 1954.

"A Contribution to the Life History of the Swordfish, Xiphias gladius Linnaeus, from the South Atlantic Coast of the United States and the Gulf of Mexico," by George F. Arata, Jr., article, Bulletin of Marine Science of the Gulf and Caribbean, vol. 4, no. 3, 1954, pp. 183-243, illus., printed. Marine Laboratory, University of Miami, Coral Gables (University Branch) 46, Florida. Thirty-three postlarval specimens of swordfish, Xiphias gladius Linnaeus, from the South Atlantic coast of the United States and the Gulf of Mexico, ranging in standard length from 6.1 mm. to 192.1 mm. are discussed. Nine specimens are illustrated and fourteen detailed descriptions are given, bringing together developmental characters for the range presented. Ten adults from Cuba and four from Canada are used to establish characteristic adult body proportions. The range of adult fish is given and the occurrence of females with varying stages of ovaries is mentioned. A hypothesis on the spawning time and area for the region concerned is given as taking place from the lower Caribbean to the South Carolina coast, probably year round, with the height of the season in Florida and Georgia waters from April through September. The stomach contents of 27 larval specimens are analyzed, and temperature, salinity, and oxygen concentrations are given for stations occupied along the approximate axis of the Gulf Stream.

"The Development of Ceylon's Fishing Industry," by E. R. A. de Zylva, article, Journal of the Bombay Natural History Society, vol. 52, no. 1, April 1954, pp. 142-148, printed. Bombay Natural History Society, 114 Apollo Street, Bombay 1. This article describes some of the problems in the development of Ceylon's fisheries; mechanized fishing boats; the Canadian-sponsored Colombo Plan project; shore facilities; brackish-water fisheries; fresh-water fisheries; and plans for the future development of the fisheries.

Diseases of Fishes of the Western North Atlantic. II. Ichthyosporidium Diseases of the Sea Herring (Clupea Harengus), by Carl J. Sindermann and Leslie W. Scattergood, Research Bulletin No. 19, 40 pp., illus., printed. Department of Sea and Shore Fisheries, Vickery-Hill Building, Augusta, Maine, June 1954.

East African Fisheries Research Organization Annual Report, 1953, 49 pp., illus., printed. East African Fisheries Research Organization, P. O. Box 343, Jinja, Uganda, 1954. Discusses progress made on the various investigations: hydrology of the East African lakes and dams; various chemical factors affecting the growth of algae; growth rate of Tilapia; tropical lake fertility; factors affecting the onset of maturity in several species of Tilapia; physical and chemical condition obtaining in papyrus and water-lily swamps; and snails and snail-eating Haplochromis. Also includes recommendations for increasing the yield of fish from the East African lakes.

"Field Tests of Stainless Steel and Tantalum Wire with Disk Tags on Striped Bass," by John E. Skinner and A. J. Calhoun, article, California Fish and Game, vol. 40, no. 3, July 1954, pp. 323-328, illus., printed. California Department of Fish and Game, 926 J Street, Sacramento 14, California.

Fish Farming and Inland Fishery Management in Rural Economy, by W. H. Schuster and G. L. Kesteven, FAO Fisheries Study No. 3, 72 pp., illus., printed, $1.00. Food and Agriculture Organization of the United Nations, Rome, Italy, July 1954. (For sale by International Documents Service, Columbia University Press, New York 27, N. Y.). The purpose of this report is to present a brief account of the role of the fisheries of inland waters in rural economies, and

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to indicate the ways in which that role might be enhanced and made more significant. It has been prepared for the use of fishery administrators to assist them to understand the nature of these fisheries and the part which they play. The text is not a description of the techniques and practices of fish culture and fishery management; for a detailed account of those practices and for guidance in development of inland fisheries the reader is referred to specialized texts. In this publication these techniques are mentioned only so far as this has been necessary to give a clear picture of what is meant by inland fisheries and of what is involved in the planning of activities to make full use of the possibilities of these industries. At the end of this work there is a brief selected bibliography as a guide to the reader who needs to study further. Discussed by the author are the nature of fish farming operations and of inland fishery management; the general economic role of inland fisheries; the relations of fish farming and inland fishery management with other rural activities; and the planning and implementation of inland fishery development schemes.

Fish and Fisheries of the Chilka Lake with Statistics of Fish Catches for the Years 1948-1950, by S. Jones and K. H. Sujansingani, 92 pp., illus., printed. (Reprinted from Indian Journal of Fisheries, vol. 1, 1954, pp. 256-344.) Central Fisheries, West Hill P. O., Calicut 5, Malabar, India.

Fisheries in Burma, by U. Khin, 189 pp., illus. printed. Superintendent, Government Printing and Stationery, Rangoon, Burma, 1948.

Fiskeri-Berentning for Aret 1953, 262 pp., illus., printed, in Danish with English and French resumes. I Kommission Hos G.E.C. Gad, Kobenhavn, Denmark. This report contains detailed statistics on the Danish fisheries for the calendar year 1953. Included in the report are data on number of fishermen, number of fishing craft, value of fishing vessels, catch by species, landed value of the catch, resumes by fisheries, and imports and exports of fishery products. Also includes names of fish and shellfish in Danish, Latin, English, Swedish, German, and French.

(Florida) Summary of Florida Commercial Marine Fish Landings for 1953 (Report to Florida State Board of Conservation), by Billy F. Greer with the collaboration of Irving J. Cohen, 28 pp., processed. The Marine Laboratory, University of Miami, Coral Gables, Florida, July 1954. Contains tables summarizing the total Florida commercial landings and value of food fish, nonfood fish, shellfish, and miscellaneous items by species for the year 1953; a breakdown of the landings between east coast and west coast; and landings and value by county and by species. This is the fourth year in which a summary has been compiled in the cooperative program 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.

(FOA) Financed Commodity Procurement, 28 pp., processed. Foreign Operations Administration, Office of Public Reports, Wash. 25, D. C., August 1954. Describes small business services; how FOA-financed buying is done; FOA financing procedure; Procurement Information Bulletins; buying in individual countries; source countries; engineering and other technical services; selling for export; and the Contact Clearing House Service. The Department of Commerce field offices and the Small Business Administration field offices are listed.

"A Fungus Disease in Clam and Oyster Larvae," by H. C. Davis, V. L. Loosanoff, W. H. Weston, and C. Martin, article, Science, vol. 120, no. 3105, July 2, 1954, pp. 36-38, illus., printed. Science, 1515 Massachusetts Ave. NW., Washington 5, D. C.

"Further Studies of the Behavior of the Pacific Sardine (Sardinops Caerulea) in an Electrical Field," by Anatole S. Loukashkin and Norman Grant, Proceedings of the California Academy of Sciences, Fourth Series, Vol. XXVIII, No. 6, 323-337, illus., printed. California Academy of Sciences, San Francisco, California, July 9, 1954. This report presents results of a continuation of experimental studies of galvanotropic responses of the Pacific sardine, first reported in April 1952 (Groody et al.). The present studies used 5 different types of current forms: (1) the square wave form of direct current pulsating at low frequencies, (2) application of higher frequencies of pulsating direct current using triangular and square wave forms, (3) application of half-wave rectified 60-cycle alternating current, (4) application of quarter-wave rectified 60-cycle alternating current, and (5) application of the condenser discharge impulse. Sardines were found to be highly susceptible to stimulation by electrical currents, showing some reaction even at the lowest values of average current density. Once the optimal range of average current density required to produce directional swimming and control of fish movement was established, the reactions of the sardines always remained identical regardless of the number or sequence of tests. Length of time in captivity had no effect on the sensivity or reactions of the sardines to the electric current. On the other hand, two other species of fish, the topsmelt and jacksmelt, usually became conditioned to the current after 5 to 10 successive stimulations. It was found that when the fish movements were fully controlled by the proper value of average current density, the natural fright reactions are suppressed and the fish can be easily picked up by hand. All wave forms tested can produce full control of fish movements, forcing them to the positive pole where they are held until the current is turned off. Current density was found to be the most critical factor in producing forced directional swimming and control of fish movements. Average current densities above the optimal range may cause temporary paralysis or even death of the fish, while those below will produce only a slight directional impulse or none at all. The optimal average current density required to produce "satisfactory" directional swimming and controlled movements of fish appears to vary inversely with the size of the fish. Any frequency of current pulsation from 2 to 80 per second (the highest tested) can give full control of fish movement and directional swimming. A pulse frequency as high as 60 to 80 per second reduced the average optimal current density to

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50 percent of the amount required at a frequency of 5 per second. The use of either continuous or interrupted half-wave rectified 60-cycle alternating current produced the most effective results as far as smoothness of operation and school coordination were concerned. A substantial decrease in power requirements was obtained with a condenser discharge pulse operating at the very low average current densities of 0.4 to 0.8 milliampere per square inch of cross-sectional area of water.

--D. E. Powell

Guide to the Whales, Porpoises and Dolphins of the North-East Pacific and Arctic Waters of Canada and Alaska, by Gordon C. Pike, Circular No. 32, 23 pp., illus., processed. Fisheries Research Board of Canada, Pacific Biological Station, Nanaimo, B. C., Canada, May 1954. Describes briefly the characteristics of the whales, porpoises, and dolphins of the north-east Pacific and Arctic waters of Canada and Alaska.

The Lobster Fishery of the Southern Gulf of St. Lawrence, by D. G. Wilder, General Series Circular No. 24, 16 pp., illus., printed. Fisheries Research Board of Canada, Atlantic Biological Station, St. Andrews, N. B., Canada, June 1954. The lobster fishery of the Maritime Provinces is by far the most important fishery to the shore fishermen. Lobsters are in very high demand and are readily caught, because they are largely restricted to shallow water. The fishery is continually in danger of overfishing by those interested mainly in quick financial returns. Proper management to make the best continuing use of this extremely valuable resource is of utmost importance to all those engaged in the fishery. Recent changes in the size limits for lobsters have stimulated a great deal of discussion and debate. Seldom, however, has it been possible for fishermen from different provinces or even from different parts of the same province to agree on the steps that should be taken to maintain and increase the catch of lobsters. The purpose of this circular is to review the situation to determine which of the lobster fishery regulations have real conservation value and what further steps should be taken to get even greater value from this fishery. Since sound management depends to a large extent on knowledge of the lobster itself, a brief review of its life history is given. Emphasis has been placed on the lobster canning areas in the southern Gulf of St. Lawrence.

(Louisiana) Fifth Biennial Report, Wild Life and Fisheries Commission, 1952-53, 182 pp., illus., printed. Wild Life and Fisheries Commission, 126 Civil Courts Building, New Orleans, Louisiana, 1954. A report of the activities of the Commission (successor to the Department of Wild Life and Fisheries), covering the calendar years ending December 31, 1952, and December 31, 1953. Includes individual progress reports and programs for expansion by each division of the Commission (including the Division of Commercial Seafoods, Division of Fish and Game, Division of Oysters and Water Bottoms) and a detailed analysis of the revenues from the fresh and salt-water commercial fisheries.

The Mani-jal of the Chilka Lake--A Special Net for Beloniform Fishes, by S. Jones and K. H. Sujansingani, 3 pp., illus., printed. (Reprinted from the Journal of the Bombay History Society, December 1952.) Central Fisheries, West Hill P. O., Calicut 5, Malabar, India.

Marine Fungi in Biscayne Bay, Florida. II. Further Studies of Occurrence and Distribution, by Samuel P. Meyers, 21 pp., illus., printed. (Reprinted from Bulletin of Marine Science of the Gulf and Caribbean, vol. 3, no. 4, pp. 307-327, February 1954.) The Marine Laboratory, University of Miami, Coral Gables (University Branch) 46, Florida.

(Maryland) Annual Report, 1952, Department of Research and Education, by R. V. Truitt, Educational Series No. 31, 33 pp., illus., printed. (Reprinted from Ninth Annual Report, Maryland Board of Natural Resources, 1952.) Chesapeake Biological Laboratory, Maryland Department of Research and Education, Solomons Island, Maryland.

Maryland Board of Natural Resources, Tenth Annual Report, 1953, 180 pp., illus., printed. Board of Natural Resources, State Office Building, Annapolis, Md. This report covers the fiscal year beginning July 1, 1952, and ending June 30, 1953, and is divided into the following parts: Part I--Introduction; Part II--Activities of the Board; Part III--Departmental Reports; and Part IV--Conservation Budget. Part III describes the work of the five departments represented on the Board, including the Department of Tidewater Fisheries, the Department of Game and Inland Fish, and the Department of Research and Education. The Department of Tidewater Fisheries report discusses oyster production, new clam industries, crab production, fishery in general, law enforcement, and training and public relations. Tables are presented giving mostly 1952 data for oyster shells planted; seed oysters transplanted in 1951-1952; blue-crab catch; shellfish licenses issued; Chesapeake Bay commercial fish landings (catch by species by gear); Atlantic Ocean commercial fish landings (catch and ex-vessel value by species); and fish-net licenses issued. Also, a table is included showing a ten-year summary of Maryland's commercial fisheries. The Department of Game and Inland Fish report includes a discussion of the accomplishments in Maryland's inland fisheries; inland fishing conditions; inland fish work centers; cooperative projects; lake and pond management; Federal-Aid fishery projects; fish-stocking program; and progress in law enforcement. The Department of Research and Education report contains information on the hydrographic program; analysis of fish-catch records; and other investigations relating to oysters, finfish, crabs, marine fouling, and the Chincoteague Bay ecological survey project. Part IV reviews the 1953 conservation budget.

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Maryland Commercial Fish Hatchery Operations, 1950-1951, by Coit M. Coker and T. Harvey Mister, Educational Series No. 33, 16 pp., illus., printed. Chesapeake Biological Laboratory, Solomons Island, Maryland October 1952.

Maryland Commercial Fisheries Statistics, 1946-1950, by Harry A. Hensel and Richard E. Tiller, Publication No. 94, 105 pp. (mostly tables), illus., printed. Chesapeake Biological Laboratory, Solomons Island, Maryland, November 1952. This bulletin is the second of a series begun in 1948, designed to present detailed records of the commercial fish catch of the State of Maryland. The statistics set forth were derived from records obtained only from licensed commercial fishermen, and contain no data pertaining to small unlicensed units of fishing gear, or to the sports fishery. Ninety-four to ninety-six percent coverage of licensed commercial fishing was obtained during the five years included in this survey, entirely on a voluntary basis.

Maryland's Natural Resources Inventory (A Three Year Progress Report), by R. D. Van Deusen, Educational Series No. 32, 28 pp., illus., printed. Chesapeake Biological Laboratory, Solomons Island, Maryland. Among the subjects discussed are the fresh-water fishery studies.

Notes on the Crab Fishery of the Chilka Lake, by S. Jones and K. H. Sujansingani, 8 pp., illus., printed. (Reprinted from the Journal of the Bombay Natural History Society, vol 51, no. 1, December 1952.) Central Fisheries, West Hill P. O., Calicut 5, Malabar, India.

"Parasites of Marine Fishes of the Miami Region," by Helen L. Ward, article, Bulletin of Marine Science of the Gulf and Caribbean, vol. 4, no.3, 1954, pp. 244-261, illus., printed. Marine Laboratory, University of Miami, Coral Gables (University Branch) 46, Florida.

"Pollution and the Fisheries," by A. L. Pritchard, article, Trade News, vol. 7, no. 1, July 1954, pp. 7-9, printed. Director of Information and Educational Service, Department of Fisheries, Ottawa, Canada. For all practical purposes, pollution in respect to fisheries may be defined as the addition of any substance to waters inhabited by fish which will limit their growth and/or decrease their survival. It is quite true, according to the author, that a few substances occur naturally which might be regarded as pollutants. Perhaps the hydrogen sulphide from underwater volcanoes, hot springs, or decaying vegetation is an example. Certain natural poisons occur in the food organisms of fish, which although they do not affect the fish, can be detrimental to human health. These natural substances are, however, so rare as to be of little real consequence in the over-all picture. The author describes the types of pollution affecting fish, preventative legislation, and procedures in combating pollution.

Probable Effects of a Size Change Upon the Lobster Industry, by Frederick T. Baird, Jr., Fisheries Circular No. 9, 11 pp., processed. Department of Sea and Shore Fisheries, Vickery-Hill Bldg., Augusta, Maine, January 1953. On December 1, 1951, the Commonwealth of Massachusetts increased the legal minimum size of its commercial lobster production to 3-3/16 inches which was to be followed in 1952 by a second increase to 3-1/4 inches. The Canadian Provinces agreed at the same time to follow suit. This proposed change was being made to make available to the market only lobsters of one pound or greater and thus reduce what appeared to be a hard to move commodity in the form of lobsters weighing less than one pound. This paper deals with the lobster-measuring program of the Department of Sea and Shore Fisheries. According to the author, it is difficult at present to determine the biological significance of any of this proposed size change. Certain figures and results which are obvious in the data indicate biological significance but until further tests are made they cannot be reported as fact. Among these indications are such things as average growth increment per shed during the life cycle spent in the commercial size range, and on the outcome of this will depend a second indication or that of natural and fishing mortality.

Quarterly Report on Fisheries Research (March 1954), 11 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: mullet, shrimp, red tide, sailfish, blue crab, scallops, Lake Okeechobee outflow, fishing ear, and larval fishes and fish life histories.

Quarterly Report on Fisheries Research (June 1954), 8 pp., processed. The Marine Laboratory, University of Miami, Coral Gables, Florida.

Red Tide Studies, January to June 1954 (Preliminary Report to Florida State Board of Conservation), Report No. 54-19, 119 pp., illus., processed. The Marine Laboratory, University of Miami, Coral Gables, Fla., August 1954. A preliminary account is given of the results of red-tide investigations carried out during a 5-month period ending June 30, 1954, in behalf of the Florida State Board of Conservation. Presents a digest of the scientific literature on plankton blooms, statistical correlation of red-tide outbreak with meteorological and other phenomena, general hydrographic results, a discussion of the tidal influences in the hydrography of San Carlos Bay and Boca Grande Channel, chronological analysis of red-tide reports, summary of biological field observations, culture of Gymnodinium brevis, and a summary of the results of bacteriological studies. A general discussion of the results of the investigations and recommendations are also presented.

Regulation and Investigation of the Pacific Halibut Fishery in 1953, Report of the International Pacific Halibut Commission No. 21, 22 pp., illus., printed. International Pacific Halibut Commission, Seattle, Washington, 1954. A brief

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review of the Commission's activities during 1953 with reference to the preservation of the halibut fishery of the Northern Pacific Ocean and Bering Sea. In 1953 the Commission (formerly designated the International Fisheries Commission) continued the regulation of the halibut fishery and the statistical and biological investigations that form the basis for current and future regulations. This report also presents the historical background of the convention between Canada and the United States for the preservation of the Northern Pacific halibut fishery, the Halibut Convention of 1953, the 1953 regulations, statistics of the fishery, the fishery in special areas, catch per unit of fishing effort, composition of catches, and tagging operations in 1953.

Report to Congress on the Mutual Security Program (For the Six Months Ended June 30, 1954), 66 pp., illus., printed. Mutual Security Agency, Washington 25, D. C., 1954

On Some Metamorphosing Stages of Eels (Muraenidae) from the Estuary of the Burhabulong River, Orissa State, by V. R. Pantulu and S. Jones, 12 pp., illus., printed. (Reprinted from the Proceedings of the Indian Academy of Sciences, vol. XXXIX, 1954) Central Fisheries, West Hill P. O., Calicut 5, Malabar, India.

"A Study of Certain Chomogenic Bacteria Isolated from 'Red Tide' Water with a Description of a New Species," by Selwyn Jack Bein, article, Bulletin of Marine Science of the Gulf and Caribbean, vol. 4, no. 2, June 1954, pp. 110-119, printed. Marine Laboratory, University of Miami, Coral Gables (University Branch) 46, Florida.

A Survey of the Marine Nematodes of Chesapeake Bay, Maryland, by Richard W. Timm, Publication No. 95, 70 pp., illus., printed. Chesapeake Biological Laboratory, Solomons Island, Maryland, December 1952.

"Tagging Experiments on the Yellowtail, Seriola dorsalis (Gill)," by Robert D. Collyer, article, California Fish and Game, vol. 40, no. 3, July 1954, pp. 295-312, illus., printed. California Department of Fish and Game, 926 J Street, Sacramento 14, California.

The Tomcod (Microgadus Tomcod) as a Permanent Fresh-water Resident of Lake St. John, Province of Quebec, by Vianney Legendre and Robert Lagueux, 2 pp., illus., printed. (Reprinted from Canadian Field-Naturalist, vol. 62, no. 5, Sept.-Oct. 1948, p. 157, fig. 1.) Biological Bureau, Universite de Montreal, Montreal, Que.

The 1951 Alsea River Silver Salmon Tagging Program, by Alfred R. Morgan and F. C. Cleaver, Contribution No. 21, 30 pp., illus., printed. Fish Commission of Oregon, Portland, Oregon, June 1954.

(United Kingdom) Herring Industry Board, Nineteenth Annual Report for the Year Ended 31st March, 1954, 44 pp., printed, ls.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.

"Use of Otoliths for Determining the Age of Several Fishes from the Bering Sea," by Kenneth H. Mosher, article, Journal du Conseil, vol. XIX, no. 3, March 1954, pp. 337-344, illus., printed. Messrs. Andr. Fred. Høst & Søn, Bredgade, Copenhagen, Denmark.

"The Wonderful Properties of the Natural Sponge Against Its Different Technical Substitutes," by G. Kelaiditis, article, Aleia (Monthly Review of the Greek Fishwealth), no. 85, July 1954, 2 pp., printed. Aleia, Athens, Greece. Describes the difference between natural and artificial sponges. Numerous products have appeared on the market with the object of competing with the natural sponge and these products can be divided into three categories. The first contains the artificial product which is produced from the rejected pieces of sponge; the second comprises the artificial sponges made of rubber; and the third contains the sponges which are the result of chemical products of certain vegetable substances. To understand the actual difference which exists between the natural sponge and the three categories of artificial sponges, the natural and chemical composition was examined and through a comparison the quality was defined, based on three basic criteria: (1) degree of the porosity of the sponge; (2) degree of water absorption; and (3) degree of resistance during its different uses. According to the author, the natural sponge is unbeatable because of the smallness of its pores, its great powers of absorption, its elasticity, its wonderful softness, and its silky appearance.

TRADE LIST

The Office of Intelligence and Services, U. S. Department of Commerce, has published the following mimeographed trade list. Copies of this list may be obtained by firms in the United States from that Office or from Department of Commerce field offices at $1.00 per list:

Boat and Ship Builders, Repairers, and Chandlers - Netherlands West Indies, 4 pp. (August 1954). Lists the names and addresses, size of firm, and type of business of each firm. The report states that while there is limited construction of ships in the Netherlands West Indies, there is limited construction of small craft. Small vessels, mainly for fishing purposes, are imported.

INT.-DUP. SEC., WASH., D.C 70989