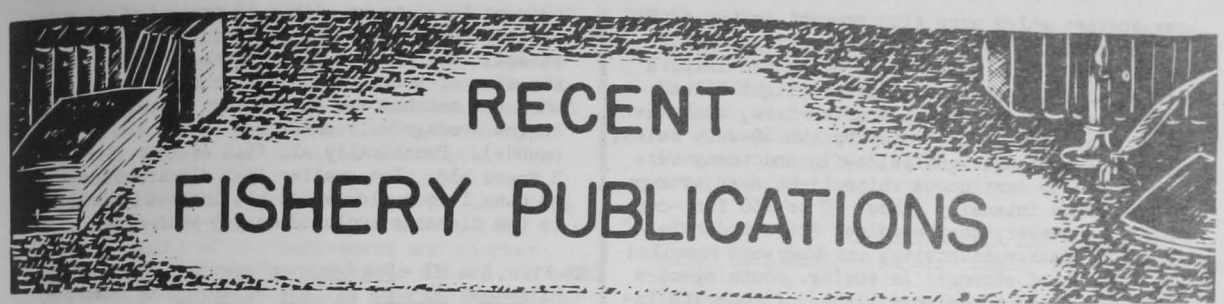

Recent publications of interest to the commercial fishing industry are listed below.

FISH AND WILDLIFE SERVICE PUBLICATIONS

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

CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES AND ALASKA.
FL - FISHERY LEAFLETS.
SSR.-FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).
SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

Number Title

CFS-872 - Frozen Fish Report, May 1953, 8 p.
CFS-877 - Massachusetts Landings, 1952, Annual Summary, 15 p.
CFS-878 - Fish Meal and Oil, April 1953, 2 p.
CFS-879 - Florida Landings, March 1953, 6 p.
CFS-881 - New Jersey Landings, April 1953, 2 p.
CFS-884 - Mississippi Landings, April 1953, 2 p.
CFS-885 - Maine Landings, April 1953, 4 p.
CFS-887 - Florida Landings, April 1953, 6 p.
CFS-888 - Texas Landings, May 1953, 3 p.
CFS-889 - Imports and Exports, 1948-1952, Annual Summaries, 8 p.
CFS-890 - Massachusetts Landings, March 1953, 8 p.
FL -168 - Commercial Fishery Laws and Regulations (Revised), 7 p.
Sep. No. 351 - Construction Details of Tuna Long-Line Gear Used by Pacific Oceanic Fishery Investigations.
Sep. No. 352 - Oyster Growth as Affected by Latitudinal Temperature Gradients.

SSR-Fish. No. 78 - Oceanographic Conditions and the Black Tuna Fishery, by Takeshi Kawana (Translated from the Japanese language by Wilvan G. Van Campen), 34 p., illus., processed, July 1952. Reports on observations concerning the fishing situation, habits, and oceanographic conditions. Original report in Japanese was published in 1934.

SSR-Fish. No. 90 - Experimental Surface Gill Net Fishing for Skipjack (Katsuwonus pelamis) in Hawaiian Waters, by Walter M. Matsumoto, 22 p., illus., processed, November 1952. Covers the trial of gill nets as a possible means of taking skipjack in commercial quantities without the use of bait. A surface gill net designed to take skipjack was fished experimentally in Hawaiian waters a total of 284 hours, of which 233½ hours were fished at night. Fishing was done only in the lee of the larger islands because of difficulty in handling the gear in rough water. However, part of the experiment was performed in an area known to be a productive skipjack ground and during the known season of abundance of this species. The total catch of 28 fish, of which only 6 were skipjack, showed a very poor catch per unit of effort. It is concluded from the results of this experiment that surface gill-netting shows little promise as a commercial fishing method for skipjack in Hawaiian waters.

SSR-Fish. No. 91 - Reaction of Tunas and Other Fishes to Stimuli--1951, 88 p., illus., processed, November 1952. (This report is also Contribution Nos. 22-26, Hawaii Marine Laboratory, University of Hawaii.) This report is divided into five parts: Part I—Background and Summary of Results, by Albert L. Tester; Part II—Observations on the Chemoreception of Tuna, by P. B. van Weel; Part III—Observations on the Reaction of Tuna to Artificial Light, by Sidney C. Hsiao; Part IV—Observations on Sound Production and Response in Tuna, by Iwao Miyake; and Part V—Notes on the Response of a Tropical Fish (Kuhlia sandvicensis) to Interrupted Direct Current, by Albert L. Tester. In the study of chemoreception in tuna (Part II), it was found that both the yellowfin tuna (Neothunnus macropterus) and little tunny (Euthynnus yaito) have a well-developed sense of smell or taste whereby they may be attracted to certain food substances. They were strongly attracted to clear, colorless extracts of tuna meat. Moreover, it was found that the attractant was contained in the "protein" rather than in the "fat" fraction of the clear extract. In general, the reactions of the tunny were more pronounced than those of the yellowfin. On the other hand, there was no positive reaction of either species to "conditioned" water in which bait fish had been living, nor to extracts of either bait fish or squid. Two chemicals, other than food substances, were tried—asparagine, a possible attractant; and copper acetate, a known shark repellent. The former did not prove to be an attractant. The latter was a repellent to tuna, although its effect was not as pronounced as on fish of oth-

er species which were also present in the tank. Part III describes the reaction of the tuna to artificial light generated from an arc lamp, a projection lantern, and electric light bulbs. Experiments were performed after dark, with the tank illuminated constantly by two 60-watt bulbs. It was found that both yellowfin and tunny were attracted to continuous white light over a range of moderate intensity (about 70 to 450 foot-candles). However, they were not attracted by a light of weaker intensity, and they were repelled by a light of stronger intensity. Both species were attracted to colored lights of moderate intensity, but to no greater extent than to white light. Similar results were obtained with interrupted white light. There appeared to be no relationship between the strength of the reaction and the frequency of interruption of the light. It was noted that although the tuna approached an interrupted light of moderate intensity, they were repelled from the near vicinity at the instant the light flashed either on or off. Part IV describes an attempt to discover (1) if tuna produced any sound, and (2) if they could be attracted or repelled by sounds of various frequencies. Using a listening frequency which ranged from about 100 cycles to 70 kilocycles per second, it was possible to identify low frequency sounds produced by the sudden movement of the tail of the yellowfin in the tank. This might have some significance in respect to the mechanism of school formation. No sounds produced by the tuna at moderate, high, and supersonic frequencies were detected. In attempting to attract or repel tuna by continuous sound stimuli, sounds were produced at many frequencies within the 100 cycle to 70 kilocycle range. No positive results were obtained. However, there were several indications that the tuna might react positively to complex sounds of low frequency. Part V describes a study of the reaction of the aholehole or "mountain bass" (kuhlia sandvicensis) to interrupted direct current in a small wooden tank of sea water. It was found that by progressive shortening of the on-fraction of a cycle at a frequency of 15 cycles per second the downward trend in average current necessary to attract the fish was continued. The relationship between source voltage and electrode size was also clarified. Part I discusses the background of the projects and summarizes the results.

SSR-Fish. No. 96 - Destruction of Undersized Haddock on Georges Bank, 1947-51, by Ernest D. Premetz, 36 p., processed, May 1953. Includes the results of port interviews for the years 1947 to 1951, and the samplings at sea for the year 1951. During the period 1947 to 1951, the annual destruction of undersized haddock on Georges Bank by the Boston fleet alone averaged over 4½ million pounds (based on skippers' estimates as reported to port interviewers). This quantity represented over 6 million individual fish. Most of the destruction occurred between the months of June and October during which time most of the 2-year-old fish, which were caught in great numbers, were under one pound in weight and unmarketable. The areas of greatest discard were the northern edge and southeast part. Areas of lesser destruction were the western side and the southern end of South Channel. Areas of most intense discard coincided with areas of most intense fishing. During 1951, observers went to sea on seven commercial trips to analyze the catch. Skippers' estimates of pounds discarded were found to be within 12 percent of estimates made by the Fish and Wildlife Service observers at sea. The size of fish discarded varies with the size of the catch. Smaller fish are saved when the catches are small. The 50-percent point on the average cull curve was 13-3/4 inches (0.9 pounds). Practically all fish of this size were 2 years old. The smaller fish discarded included many 1-year-olds while the largest individuals in the discards included many 3-year-olds.

SSR-Fish. No. 97 - Sea Lamprey Spawning: Wisconsin and Minnesota Streams of Lake Superior, by Howard A Loeb, 38 p., illus., processed, June 1953. Lampreys have been reported from the St. Louis, Sucker, and Knife Rivers in Minnesota in recent years. Although actual spawning records are absent from both Minnesota and Wisconsin, the persistent and general increase in scarring of lake trout and other fish along both shorelines is an indication of actual utilization of the local streams for spawning purposes. Lampreys are occasionally taken by commercial fishermen of both States. As many as 10 percent of the fish in certain catches have been scarred. It is likely that the sea lampreys which cause the scarring would attempt to use the local streams for spawning (unless the scarred fish migrated from the eastern portions of Lake Superior where large lamprey populations are known to exist). Many streams in Wisconsin appear to be suitable for sea-lamprey spawning. Minnesota streams appear to be generally less suitable. Nevertheless, at least 22 of the 156 streams examined along the north shore of Minnesota are considered to be quite suitable for spawning, despite the fact that some of them contain barriers a short distance above the mouths or are subject to rapid fluctuations in water levels. The author believes that all of the suitable streams in both Wisconsin and Minnesota and also those considered to be marginal should be rechecked in the future to determine the actual extent of utilization by sea lampreys. (Rechecks of certain Michigan streams surveyed in 1950 have revealed a slight increase in the numbers of nests present). From observations to date, it is believed that the streams of Wisconsin and Minnesota (although less suitable than those in Michigan) can support spawning runs of considerable size. The 1952 survey of the streams of Wisconsin was inadequate insofar as it told little about the productive potentials of the streams, and nothing about the actual extent of utilization of the streams; little control work of any nature is possible in this area until a great deal more information is gained.

SSR-Fish. No. 99 - Trial of Denil-type Fish Ladder on Pacific Salmon, by Leonard A. Fulton, Harold A. Gangmark, and Scott H. Bair, 18 p., illus., processed, May 1953. An experiment was designed to compare the effectiveness of the pool-type and Denil-type ladders as fish-passage devices. Observations were made in a side-by-side installation at Dryden Dam on the Wenatchee River approximately 17 miles above the confluence of the Wenatchee and Columbia Rivers. Interest in the Denil-type fish ladder constructed at the Hertin power dam in Sweden led to the construction of a similar installation at Dryden Dam. Comparison of the Denil-type and pool-type ladders was facilitated because it was possible to construct a Denil-type ladder in one-half of the existing pool type ladder at Dryden Dam. During the actual ti

that counting observations were conducted in 1949 and 1951, the Denil-type was preferred by fish utilizing the ladders. In 110 hours 45 minutes, 1,828 fish used the Denil-type ladder, and in 96 hours 55 minutes a total of 226 fish were counted through the pool-type ladder. The Denil-type ladder at Dryden Dam occupies essentially the same amount of space as the pool-type ladder. There is, therfore, some advantage in the Denil construction in conservation of space, both from the standpoint of its narrowness and shorter length made possible by a steeper slope. It was concluded that because of the baffles and higher flume wall construction of the Denil-type ladder, there is no substantial saving in cost of construction over the standard pool-type ladder. With regard to flow requirements, the data collected revealed that the Denil-type ladder passed a greater number of fish per second-foot of flow and required less attention. With only 40 percent more flow than in the pool-type ladder, the Denil-type was utilized by 89 percent of the fish counted through the ladders. Probably the most desirable feature of the Denil-type was the attraction flow it presented to fish.

SSR-Fish. No. 100 - Zooplankton Volumes off the Pacific Coast, 1952, by the Staff of the South Pacific Fishery Investigations, 43 p., processed, May 1953. This report contains a record of the volumes of zooplankton taken on the survey cruises of the California Cooperative Sardine Research Program during 1952, along with information on the plankton hauls.

SSR-Fish. No. 102 - Pilchard Eggs and Larvae and Other Fish Larvae, Pacific Coast--1951, by Elbert H. Ahlstrom, 56 p., illus., processed, May 1953. This report contains the results of quantitative sampling of pilchard (Sardinops caerulea) eggs and larvae off the west coast of California and Baja California during 1951. Although the collections were designed primarily to yield information on the distribution and abundance of pilchard eggs and larvae, information was also gathered on a number of other fish of present or potential commercial importance. Records are included of the larvae of five of these: northern anchovy (Engraulis mordax), jack mackerel (Trachurus symmetricus), hake (Merluccius productus), Pacific mackerel (Pneumatophorus diego), and rockfish (Sebastodes sp.).

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

A Contagious Disease of Salmon Possibly of Virus Origin, by R. R. Rucker, W. J. Whipple, J. R. Parvin, and C. A. Evans, Fishery Bulletin 76 (From Fishery Bulletin of the Fish and Wildlife Service, Volume 54), 15 p., illus., printed, 15 cents, 1953. A disease, possibly of virus origin, is described which affected blueback salmon and kokanee fingerlings (Oncorhynchus nerka), but did not infect fingerlings of the chinook salmon (O. tshawytscha), silver salmon (O. kisutch), or cutthroat trout (Salmo clarki clarki).

MISCELLANEOUS PUBLICATIONS

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"Australia's Tuna Industry," by Peter Knox, article, The Fishing News, March 14, 1953, no. 2082, pp. 9-10, illus., printed. The Fishing News, 9 Northington Street, Gray's Inn Road, London, W. C. 1, England. Describes Australia's tuna industry and its great potentialities. Progress in the industry, methods of capture, and the growing demand for tuna are also described.

(California) Forty-second Biennial Report of the Department of Fish and Game for the Years 1950-1952, 187 p., illus., printed. California Department of Fish and Game, San Francisco, Calif., January 1953. This report covers the period during which the agency went through the transition stage from a division of the Department of Natural Resources to full departmental status. Toward the end of the biennium the new department was undergoing reorganization to a decentralized form of administration. Both of these changes are described. The report reviews the activities of the various branches of the Department in fostering the conservation of fish and game in California, summarizes the important policy statements of the Fish and Game Commission, and describes the legislative action affecting fish and game. Among the reports included, that of the Bureau of Marine Fisheries discusses the commercial fisheries of California--salmon, bottom fish, sardine, tuna, mackerel, livebait, abalone, crab, oyster, and clam. Also reviewed is the work of California's research vessels and the statistical unit of the Bureau. Marine fisheries statistics are included in an appendix--total production of fishery products; landings (quantity and value) by species; status of commercial fishing fleet by ports; and number of licensed commercial fishermen.

Fish Cook Book, Fawcett Book 174, 144 p., illus., printed, 75 cents. Fawcett Publications, Inc., Greenwich, Conn. Contains 300 selected recipes for cooking fish and shellfish and general instructions for baking, broiling, steaming, and poaching. Some U. S. Fish and Wildlife Service kitchen-tested recipes are included.

(FAO) 1950-51 Yearbook of Fisheries Statistics (Annuaire Statistique des Peches, Incluye un Suplemento en Espanol), 307 p., printed in English and French), US$3.50. Food and Agriculture Organization of the United Nations, Rome, Italy, 1953.

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(Also available from Columbia University Press, International Documents Service, New York, N. Y.)

This is the third Yearbook to be prepared by the FAO Fisheries Division. It continues, revises, and expands the statistics which were published in the two earlier issues of 1947 and 1948-49. Information available as of July 31, 1952, is included. The statistical tables in the first two Yearbooks were to a certain extent still in the experimental stage; this latest issue incorporates the many suggestions received by FAO from the users of the preceding two volumes. Now that effective liaison has been established with a larger number of member countries, it has been possible to incorporate more comprehensive and up-to-date information.

The first tables in the Yearbook (1-4) constitute the "Catch" section and present the available recorded and estimated figures for country and continental totals, as well as catch statistics for about 20 producing countries by major species groups. One table presents the catch of nine marine species groups by country. In this issue the national statistics by individual species are not repeated as these are available through the specific national publications. In the second section, on "Utilization," one table shows how the catch was used in the major fishing countries in 1950 and 1951, while other tables provide data on the net product weight of the principal types of processed commodities produced in the major producing countries in 1938 and 1947-51. The third section deals with external trade. The first series of tables are summaries showing imports and exports of each of the major commodity groups and of some selected items of primary importance. These summaries are followed by detailed country tables for imports and exports, showing quantities and values for each of the principal items arranged by commodity groups, giving a breakdown of the quantities of each important item by principal countries of origin or of destination. The fourth section, "Fishing Craft," provides national statistical tables on craft, broken down by categories characteristic of each country. FAO points out that at the present stage it is virtually impossible to present craft data in an internationally standardized form, but it hopes that the inclusion of these more detailed statistics on craft will encourage the supply of fuller information which can be incorporated in future tables. This applies equally to data dealing with fishermen and processing establishments, which it is hoped to incorporate in future issues.

As a step towards eventual clarification, the current Yearbook provides, in the notes on species groups, on conversion factors, and on classification of external trade items, fairly detailed comments on classifications and definitions. Readers are referred to the nomenclature section contained in the 1948-49 Yearbook which listed scientific and common names by country as an aid to identifying the species referred to by local common names in the national landing tables.

The FAO Yearbook of Fisheries Statistics is not intended to replace national publications; it is designed to supplement national sources by providing internationally comparable data, in summary form, with world and regional totals and commodity summaries as the necessary background material for the better utilization of the national publications.

Three principal sources of information provided the basis for the statistics presented: first, the various official publications on export and import statistics; second, the communications from a number of the governments to whom the 1948-49 Yearbook tables, and drafts for the new tables, were referred for comment and completion; third, the FAO Questionnaire: Preliminary Report on Landings and Utilization, which, with some revisions, has been circulated annually since 1946. The metric system is used, except in some of the national tables on craft statistics. Values are expressed in the national currencies shown in the original sources and in some cases have been rounded off. Time series are usually confined to the five postwar years, 1947-51, which, wherever possible, are compared with a prewar year, usually 1938. In a few cases where no data were available for these years, other years have been selected. The calendar year is normally used; those few cases where the countries provided data for 12-month periods other than the calendar year are indicated by footnotes. To aid Spanish-speaking readers in the use of the English-French tables, Spanish notes on the tables have been included.

"FAO Fisheries Statistics," Reprint from Monthly Bulletin of Agricultural Statistics and Economics, April 1953, 4 p. printed. Food and Agriculture Organization of the United Nations, Rome, Italy. Includes statistics on fish landings in 10 countries in 1952 and external trade in fish and fisheries products of 9 importing and 9 exporting countries in 1952, compared with the corresponding period of 1951.

(FAO) The Work of FAO 1951/52 (Report of the Director-General), 38 p., printed, US$1.00. Food and Agriculture Organization of the United Nations, Rome, Italy, October 1952. Summarizes the principal events and trends during the period from mid-1951 to mid-1952 which affect and are of interest to FAO. The widened interest in the food and population problem and the accelerated progress of the technical assistance program are discussed. In reviewing FAO's drive to increase the supply of technicians, it is pointed out that among the various types of training centers set up are several on fisheries in Latin America and the Far East. In the discussion of the growth of regional action programs, fisheries programs in Europe, Mediterranean Area, Latin America are covered. The publication reports on the new emphasis on goals and programs for increased food production, the movement for agrarian reform, and proposals for meeting acute food shortages and famine. The chapter on the growth of country development projects includes a discussion on the improvement of fisheries. The last chapter deals with continuation of worldwide technical services by FAO.

Greek Trade Manual (Revised Edition), 444 p., printed. Mutual Security Agency, Special Mission to Greece for Economic Cooperation, Athens, Greece, 1953. (Also available from the Mutual Security Agency, Washington 25, D. C.) This second edition of this manual is designed to facilitate further development of trade relationships between businessmen of Greece and the United States, with particular reference to those smaller manufacturing and exporting firms in both countries whose for-

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eign trade opportunities may be aided by this information. It includes a summary of import and export procedures, together with an alphabetical directory of import and export firms in Greece as well as manufacturers arranged by commodities (including fishing equipment, oils, sponges, and fish) and geographical locations.

Guide to the Fishes of Colorado, by William C. Beckman, Leaflet No. 11, 111 p., illus., printed, $1.00. University of Colorado Museum, Boulder, Colo., December 1952. This guide is intended to help identify the fish of Colorado, giving descriptions and general information on the life history of each species. It has been prepared for use both by the amateur and by beginning students, and therefore includes both non-technical and technical material. Keys to families, genera, species, and subspecies have been constructed, and an explanation of the terms and measurements used in the keys and descriptions is given. A tentative list of the fish expected to be found in Colorado is also included. In Colorado waters one may expect to find 89 different fishes at the present time. Of these, 54 are native to Colorado, 33 have been introduced, and 2 are potential residents having been taken within a short distance of the border in neighboring states.

How to Eat a Maine Lobster, 4 p., illus., printed. Department of Sea and Shore Fisheries, Augusta, Maine. Describes, with illustrations, how to eat boiled and broiled Maine lobsters. Also contains an illustrated brief account of how Maine lobsters are caught and packed.

(India) Report on the Marketing of Fish in the Indian Union (Second Edition), Marketing Series No. 65, 174 p., illus., printed. Manager of Publications, Civil Lines, Delhi, India, 1951. Presents a list of the chief commercial fish and shellfish of India, and annual production data. Also discusses the gear and methods of fishing; type of fishing vessels; preparation for market; demand and utilization; and assembling, storage, transportation, and distribution. A short chapter is devoted to the nature of fisheries research now being undertaken with suggestions as to how these activities should be coordinated and extended to make the fishing industry play a significant role in solving India's food problem.

La Pesca, by Alejandro Quesada, 277 p., printed in Spanish. Fondo de Cultura Economica, Mexico, 1952. This publication is the "Fisheries" section of the Economic and Social Development of Mexico, a report recently issued in Mexico. The entire report is a study made by the Combined Mexican Working Party of the International Bank for Reconstruction and Development and the Mexican Government (Nacional Financiera). This book, La Pesca, is an economic analysis of the Mexican fisheries and their potential. All available data from official sources was drawn upon in order to conduct this study. Although the data are as complete as possible, the author points out that the information was drawn from reports which cover the fisheries only partially and certain fundamental aspects of the fisheries are omitted. The study required a visit to most of the fishing centers on both coasts of Mexico. Both fresh- and salt-water fisheries are covered. In analyzing the relevant aspects of the Mexican fisheries, comparisons and references to similar aspects of the fisheries of other countries have been included. Economic, human, natural, technical, and financial aspects of the fisheries are reviewed. A list of the principal species and their distribution along the Mexican coasts, fishermen's cooperatives, working conditions, wages, fishing fleet statistics, plants handling and packers of fishery products, fishing methods and types of gear, oceanographic investigations, fish culture, catch, distribution, foreign trade, legislation affecting the fisheries, and the outlook of the Mexican fisheries are some of the subjects discussed. The book also contains a bibliography and an index. This is a complete study of the Mexican fisheries from all aspects.

(MSA) Monthly Report of the Mutual Security Agency to the Public Advisory Board (Data as of March 31, 1953), 104 p., illus., processed. Division of Statistics and Reports, Mutual Security Agency, Washington 25, D. C. Included are charts and tables summarizing important activities under the economic assistance and defense support programs of the Mutual Security Agency and its predecessor, the Economic Cooperation Administration, through March 31, 1953. Charts and appendix tables on the European program cover MSA/ECA 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 U. S. foreign trade.

Operation of the Trade Agreements Program (Fifth Report, July 1951-June 1952), 289 p., processed. United States Tariff Commission, Washington, D.C., 1953. During the period covered by the report, the United States concluded no new trade agreements. The report, however, discusses the concessions that the United States granted and obtained in the General Agreement on Tariffs and Trade in 1950-51 at the Torquay Conference, and analyzes the effects of all trade agreement concessions on the level of the United States tariff. It also covers, for the last half of 1951 and the first half of 1952, important developments respecting the General Agreement. Like the earlier reports, the fifth report also discusses such matters as changes in tariffs, exchange controls, and quantitative restrictions on imports by contracting parties to the General Agreement; changes in tariffs, exchange controls, and quantitative restriction on imports by countries with which the United States has bilateral trade agreements; and United States measures relating to imports of trade agreement items. This report on the Operation of the Trade Agreements Program was prepared in compliance with Executive Order 10082, of October 5, 1949. The first report in the series (issued in 1948) covered the period from June 1934 through April 1948; the second report (issued in 1949) covered the period from May 1948 to April 1949; the third report (issued in 1951) covered the period from April 1949 through June 1950; and the fourth report (issued in 1952) covered the period from July 1950 through June 1951. (Copies of the earlier reports may be purchased

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from the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C.)

(Oregon) Fish Commission Research Briefs, vol. 4, no. 1, 39 p., illus., printed, free. Fish Commission of Oregon, Portland 1, Oregon, December 1952. Contains short "progress" reports on some of the current studies by the Commission. Summaries of two reports of special interest to commercial fishermen and industry members follow:

"A Review of the 1951 Albacore Season," by Edwin K. Holmberg. The author summarizes his report as follows: "In 1951, the landings of albacore in Oregon reached a new low just under 3 million pounds. Landings of albacore in Oregon have been erratic, ranging from a peak of 22.5 million pounds in 1944 to the 1951 low. After the peak of 1944, the annual landings dropped to 4 million pounds in 1946. The 1947 total was up to 9.5 million pounds, but a steady decline has occurred since then. The landings in Oregon do not reflect the trend of the coastwise landings since 1947; however, the 1951 decline was apparent throughout the fishery.

"There are only two principal size groups (presumably also age groups) in the fishery. Fisheries exploiting a small number of age groups have a greater tendency toward large fluctuations in the catch. The effects of oceanographic and meteorological conditions on the abundance of albacore are not known.

"The northern tuna fleet is composed of vessels which also fish for halibut, ocean salmon, and bottom fish. There are a few vessels which fish exclusively for albacore.

"Albacore were scarce off Oregon in the 1951 season, but some good catches were made off central California. In early November, landings were made in Oregon by vessels returning to their home ports from California.

"Racial population studies are being continued in Oregon.

The length-frequency samples have been weighted by the catch."

"Results of Preliminary Shrimp Explorations Off the Oregon Coast," by Alonzo T. Pruter and George Y. Harry, Jr. The authors summarize their report as follows: "During the months of October 1951, and March, April, and May 1952, a total of 80 exploratory shrimp drags were made off the Oregon coast between the Columbia River and the Rogue River. Pink shrimp (Pandalus jordani) were taken in sizable quantities in most of the areas explored.

"The largest concentrations of shrimp were taken in areas with a green mud or mixed mud and sand bottom.

"No pink shrimp were taken in less than 50 fathoms, and the center of abundance was found to occur at depths between 60 and 80 fathoms.

"Four definite size groups of pink shrimp are present in the catch; two are males and two females.

"Less than 3 percent of the females taken on October 5 through October 8, 1951, were carrying eggs, but 42 percent of the females examined about three weeks later were egg-bearing. On March 22, 1952, eleven percent of the females were egg-bearing; on April 4, twenty-four percent were egg-bearing; and on May 28, no females in the samples carried eggs.

"The larger females apparently do not attain the egg-carrying stage before the smaller females.

"An inverse relationship was found between the number of shrimp and the number of fish taken. Drags producing the most shrimp usually yielded the smallest number of fish.

"The Fish Commission of Oregon will continue the shrimp explorations as opportunity permits."

Also included are the following reports: "How May Fish Hatchery Foods Needs be Met," by Russell O. Sinnhuber; "Second Progress Report on Spring Chinook Salmon Diet Experiments," by Thomas B. McKee, Ernest R. Jeffries, Donald L. McKernan, R. O. Sinnhuber, and Duncan K. Law; and "The 1950 Willamette River Spring Chinook Sport Fishery," by Chester R. Mattson and John B. Dimick.

Port Security is Part of Your Job, CG-274, 16 p., illus., printed. U. S. Coast Guard, Washington, D. C., 1953. Examples of espionage and subversive activities are pictured in this booklet with the suggestion that if such are seen they should be reported to the local COTP and FBI offices. Addresses of these offices are listed in the last two pages of the booklet.

"The Pothead Whale Industry of Newfoundland," by D. E. Sergeant, article, Trade News, March 1953, vol. 5, no. 9, pp. 3-4, 18, illus., processed. Department of Fisheries, Ottawa, Canada. Describes an unusual fishery in the eastern bays of Newfoundland—the driving of herds of pothead whales, Globicephala melaena, and their processing for meat and oil. The pothead whale, known elsewhere as blackfish, pilot whale or caa'ing whale, related to the beluga or white whale. It is found on both sides of the North Atlantic and is hunted also in the Faeroe Islands, where the technique of driving is very similar to that pursued in Newfoundland. Sporadic driving takes place also in Iceland, Greenland, and North Norway.

Marine Laws (Navigation and Safety), by Frederick Arzt, 1,212 p., printed, $6.95. Equity House, Equity Publishing Corporation, Stony Brook, L. N. Y., 1953. This is a successor of the author's previous book, Navigation Laws of the United States, 1940. Presents up-to-date federal laws and international conventions covering marine matters, with amendments to January 20, 1953, included. Forty-six chapters deal with such aspects of marine law as admeasurements of vessels, load lines, inspection of vessels, documentation, ship mortgages, insurance, radio, clearance of vessels, and death

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the high seas. Terms of the International Conventions for Safety of Life at Sea, 1929 and 1948, are presented. Those vessel operators engaged in foreign and domestic markets, carrying of passengers, mail service, and fishing will find sections dealing with their special problems. Aids to Navigation, pilotage, consul's services to vessels, antismuggling, immigration, crimes, legal procedure, and nautical education are covered. The Merchant Marine Act, 1936, and related statutes are presented for easy reference. Operators of fishing vessels will find those international rules which are now in effect and those which are tentatively scheduled to become effective next year. Especially valuable to the layman are the "comments of author" throughout the text which explain with background information the laws and give additional sources of information. A useful appendix includes a schedule of navigation fees, customs collection districts and ports of documentation, and Coast Guard districts and marine inspection offices.

--D. E. Powell

(Prince Edward Island) Fisheries Statistics of Canada, 1951, 4 p., printed, French and English, 25 cents. Department of Trade and Commerce, Dominion Bureau of Statistics, Ottawa, Canada. Consists of tables giving the production and value of the principal species of fish and shellfish landed in Prince Edward Island in 1949-51; quantity and value of manufactured fishery products for 1950-51; capital equipment in the primary fisheries operations; the number of persons engaged in the fisheries; and the vessels used in the sea fisheries.

"The Sea Lamprey in Inland Waters," by Truman T. Guard, article, Michigan Conservation, May-June 1953, vol. XXII, no. 3, pp. 14-15, 19-20, illus., printed. Michigan Department of Conservation, Lansing, Mich. Describes a survey conducted by the author in the spring and summer of 1952 to determine the distribution of the sea lampreys in the inland lakes of Michigan. Also describes the characteristics of the sea lampreys, which annually enter many Michigan streams from the Great Lakes, and four native lampreys: the American brook lamprey, Michigan brook lamprey, chestnut lamprey, and the silver lamprey.

Survey of Fishery Activities, 1953, compiled by the Branch of Federal Aid, 138 p., processed, May 1953. A catalogue of current research and management projects pertaining to the sport fisheries of the United States. More than 500 projects designed to help perpetuate sport fishing are now in progress throughout continental and territorial United States. The activities described in this bulletin fall into two main categories: fishery research and fish management.

The bulletin cites projects under way in the 48 States, Alaska, Hawaii, Puerto Rico, and the Virgin Islands. About one-fourth of them are being supported by Federal funds made available to States and territories under the Federal Aid in Fish Restoration Act, better known as the Dingell-Johnson program. The remaining projects are being financed directly by State fish and game departments, the Fish and Wildlife Service, Soil Conservation Service, Forest Service, State health departments, and a number of colleges and universities.

Research is being conducted to obtain needed information on such matters as fish migration, spawning habits, feeding habits, food supplies, age and growth, survival, polluted waters, habitat requirements, control of excessive weed growths, fishing pressures, angler harvests, effects of siltation, rough fish control measures, effects of power projects on fish populations, and development of improved methods such as the use of electricity in catching fish for study purposes. While most of the research projects deal with fresh water species, studies of marine sport fish are under way in several of the coastal States.

Management projects are concentrating on such activities as weed control, rough fish control, fish cultural operations, habitat improvements, constructing and maintaining public fishing lakes, fertilizing fishing waters, increasing fish food supplies, constructing and maintaining fish ladders and diverting fish into tributary streams to circumvent power projects in rivers, reducing fish losses in irrigation canals, removing log jams and other streamflow obstructions, and improving watersheds to stabilize streamflows.

(Due to a limited printing, the publication will not be available to the general public but persons interested in studying the contents will find reference copies at Fish and Wildlife Service regional offices in Portland, Oregon; Albuquerque; Minneapolis; Atlanta; Boston; and Juneau, Alaska; or at State fish and game department offices.)

The Technology of Herring Utilization (Report of the FAO Meeting on Herring Technology, Bergen, Norway, Sept. 24-29, 1950), edited by Mogens Jul and Mog. Kondrup, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy. Fiskeridirektoratets Skrifter, Serie Fiskeri, vol. II, no. 1., published by the Norwegian Director of Fisheries, printed by A. S. John Griegs Boktrykkeri, Bergen, 1953. 405 pages.

Contains the papers and discussions at the FAO meeting on Herring Technology in Bergen, Norway, September 24-29, 1950. The material has been arranged according to subject so that the book can be used as a handbook. The following chapters are included: 1. Scope and results of the meeting. 2. The herring industries. 3. The herring-marketing situation. 4. Possibilities for finding markets for herring products in Asia and Africa. 5. Fish protein products made by fermentation or chemical hydrolyzation. 6. Fresh herring. 7. Eviscerating, boning and filleting machines. 8. Freezing of herring. 9. Salted and spiced herring. 10. Herring delicatessen and marinated products. 11. Smoking, drying and dehydration of herring. 12. Herring canning. 13. Manufacture of herring oil and meal. 14. Fish solubles, whole meal, etc.

(Uganda) Annual Report of the Game and Fisheries Department (For the Year Ended 31st December, 1951), 99 p., illus., printed, 5s. (about 70 U. S. cents). The Government Printer, Entebbe, Uganda, 1952. Includes a section on the fisheries of the Uganda waters of Lake Victoria; Lake Albert (including the Albert Nile and associated fisheries); Lake

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Kyoga and waters of eastern Uganda; and Lakes George, Edward, and waters of Western Uganda. Tables give the 1951 catch of fishery products by months for Lake George and Lake Edward and Kazinga Channel; and quantities and values of dried (salted) and smoked fish exported in 1951 from Lakes Edward, George, and associated fisheries. The Uganda Fish Marketing Corporation, prices of dried fish, the East African Fisheries Research Organization, fish farming, boat building, the quantities and values of fishing nets imported, and angling are some of the other subjects covered.

Whalemeat: Bacteriology and Hygiene, by R. H. M. Robinson, M. Ingram, R. A. M. Case, J. G. Benstead, and H. E. Daniels, Food Investigation Special Report No. 59, 62 p., printed, illus., 2s. net (30 U. S. cents net). Department of Scientific and Industrial Research, Cambridge, England. (For sale by Her Majesty's Stationery Office, London, England.) Describes at length the types and numbers of bacteria found in the meat of the whale at the various stages of processing. Two main groups of bacteria are recognized; those present from the outset throughout the carcass of the whale and those which reach the meat during dressing and handling. The report points out that although with the present methods of catching whales little can be done to reduce the numbers of bacteria initially, two measures can be taken to limit their subsequent multiplication. The first is to reduce to the minimum the time between the death of the whale and the freezing of the meat. The second is to bleed the carcass and slit the belly wall as soon as possible after death. The contamination of the meat during dressing is largely eliminated by proper attention to sanitary handling of the carcass and meat. This pha is dealt with in the final sections of the report. The first part of the booklet discusses the species of whales hunted, capture and delivery of whales to factory or land station, dismembering the carcasses, and post-mortem change of bacteriological significance in whale muscle The second part concentrates on the bacteria in whale meat.

Whalemeat: Production and Preservation, by J. G. Sharp and B. B. Marsh, Food Investigation Special Report No. 58, 54 p., printed, illus., 2s. 6d. net (35 U. S. cents net). Department of Scientific and Industrial Research, Cambridge, England. (For sale by Her Majesty's Stationery Office, London, England.) Surveys the whaling industry, the methods used in slaughtering and handling the carcasses, and the general problem arising in the production and preservation of whale meat. This booklet discusses the Antarctic whaling industry; changes occurring in the muscl tissue of whales after death; chemical composition, color, and texture of whale meat; palatibility and flavor of whale meat; changes occurring in frozen whale meat during storage; and differences in the condition of the fresh meat, bacteriology, and storage behavior.

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