

RECENT FISHERY PUBLICATIONS

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.
 SL - STATISTICAL SECTION LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.
 MDL - MARKET DEVELOPMENT LISTS.
 SEP. - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

Number	Title
CFS-1220	Massachusetts Landings - August 1955, 5 pp.
CFS-1225	Texas Landings - September 1955, 3 pp.
CFS-1228	New Jersey Landings - September 1955, 2 pp.
CFS-1229	North Carolina Landings - September 1955, 2 pp.
CFS-1230	Frozen Fish Report - October 1955, 8 pp.
CFS-1233	Alabama Landings - September 1955, 2 pp.
CFS-1235	Maine Landings - September 1955, 4 pp.
CFS-1236	Rhode Island Landings - September 1955, 3 pp.
CFS-1237	Mississippi Landings - September 1955, 2 pp.
CFS-1238	California Landings - June 1955, 4 pp.
CFS-1239	California Landings - July 1955, 4 pp.
CFS-1241	New Jersey Landings - October 1955, 2 pp.
SL - 26	Wholesale Dealers in Fishery Products, Illinois, 1955 (Revised)

Market Development Lists (Revised):

- MDL-7 - Indiana Locker Plants, 9 pp.
 MDL-26 - Colorado Locker Plants, 7 pp.
 MDL-40 - Idaho Locker Plants, 5 pp.

- Sep. No. 424 - Reduction of Curd in Canned Salmon Prepared from Frozen Fish - Part II - Effect of pH and Salt Content.
 Sep. No. 425 - Utilization of Sea Lions in Alaska.
 Sep. No. 426 - Some Factors Affecting Fluid Loss in Southern Oysters.
 Sep. No. 427 - Research in Service Laboratories (January 1956): Contains these news items--
 "Manufacture of Experimental Menhaden Fish Meal on a Pilot-Plant Scale;" "Canned Sardine Specification Revised;" "Collaborative Program Between Seattle Fishery Technological Laboratory and University of California;" "Feeding Fresh-Water Fish to Fur Animals;" "Possible Use of Alaska Fishery Wastes as Poultry Feed;" "Progress on Oyster Research."

THE FOLLOWING SERVICE PUBLICATION IS AVAILABLE ONLY FROM THE SPECIFIC OFFICE MENTIONED:

California Fisheries Trends and Review for 1953, by V. J. Samson, 31 pp., processed. (Available free from the Market News Service, U. S. Fish and Wildlife Service, Post Office Building, San Pedro, Calif.) This is a review of the 1953 trends and conditions in the California fisheries. Among the subjects discussed are the tuna fishery (cannery receipts, ex-vessel prices, imports of frozen tuna, canned tuna market conditions and price quotations, and consolidations of tuna-canning facilities); California sardine (pilchard) fishery (landings, ex-vessel prices, canned pack, and canned sardine prices); mackerel fishery (landings, and ex-vessel prices); anchovy fishery; freezings of fishery products; imports; and shrimp fishery. Included in the statistical tables are data on tuna receipts and canned pack by months and species; landings and products of sardines (pilchards) by months, products, and areas; landings and pack of mackerel and jack mackerel by species and months; production of miscellaneous fishery products; freezings of fish and shellfish; cold-storage holdings; landings of market fishery products at certain California ports; and imports of fishery products into Arizona and California.

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

Factors Associated with Fluctuations in Abundance of Hudson River Shad, by Gerald B. Talbot, Fishery Bulletin 101 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 56), 44 pp., illus., printed, 35 cents, 1955. A study of the Hudson River shad, *Alosa sapidissima*, was undertaken during 1950 and 1951 as part of a shad investigation carried out by the Fish and Wildlife Service to supply information to the Atlantic States Marine Fisheries Commission for fishery regulation along the Atlantic coast. Catch and effort statistics were obtained for the years 1915 through 1951, from various sources, for the gill-net fishery which catches more than 95 percent of the shad in the Hudson River. A tagging program during 1951 gave estimates of the total shad population entering the river that year. The total run and the escapement (since the catch was known) were then calculated for each year from 1915 through 1950. Age analysis of a sample of the catch of 1950 and 1951 showed that most shad returned as adults to the river at 4 and 5 years of age. Also, about 50 percent of the fish had previously spawned. It was shown that about 85 percent of the variation in size of the run between 1920 and 1951 could be attributed to the size of the

escapement from the fishery. No correlation was found between the size of the run each year and such factors as stream flow, water temperatures, channel improvements, ship traffic, or hatchery operations. No evidence of natural cycles of abundance was found. Catches of Hudson River shad in waters outside the river were shown to be large, and these catches may affect the expected size of the run. Using the methods outlined, the size of run can be predicted 1 year in advance, and by controlling the fishing efforts, the desired number of shad can be allowed to escape so that future runs can produce maximum sustained yields of shad from this river.

Limnological Study of the Lakes in Convict Creek Basin, Mono County, California, by Norman Reimers, John A. Maciolek, and Edwin P. Pister, Fishery Bulletin 103 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 56), 70 pp., illus., printed, 50 cents, 1955.

Pink Salmon Tagging Experiments in Icy Strait and Upper Chatham Strait, 1950, by Carl H. Elling and Paul T. Macy, Fishery Bulletin 100 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 56), 45 pp., illus., printed, 40 cents, 1955. Although migration routes of pink salmon, *Oncorhynchus gorbuscha*, in Southeastern Alaska were generally defined as the result of tagging experiments in the 1920's and 1930's, a more critical examination of the racial composition of the various runs was needed. During the summer of 1950, 17,400 pink salmon were tagged in Icy Strait and Upper Chatham Strait to determine the timing and composition of the runs contributing to the fishery in those areas. Recoveries of fish tagged in Icy Strait confirmed the findings of preceding experiments. Pink salmon were found to disperse easterly through Icy Strait, south into Chatham Strait, and then east and north into Frederick Sound and Stephens Passage. Smaller groups proceeded to Lynn Canal and Peril Strait. There was little movement to westerly areas of Chichagof Island and into and beyond Sumner Strait. Recoveries of salmon tagged in Upper Chatham Strait showed a predominant southward movement through Chatham Strait, an easterly and northerly movement into Frederick Sound and Stephens Passage, and a northward migration toward Icy Strait. Extensive stream recovery of tagged fish suggests that pink salmon bound for Stephens Passage, Chatham Strait, and Icy Strait streams passed through Icy Strait at about the same time. Icy Strait races were in evidence from July 25 to September 5, Upper Chatham Strait races from August 1 to September 5, and Stephens Passage races from July 25 to August 30. Recoveries from Upper Chatham Strait taggings of August 20 to September 3 were concentrated in Chatham Strait streams. A few recoveries were made in Stephens Passage, Frederick Sound, and Peril Strait.

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 ORGANIZATIONS OR PUBLISHER MENTIONED. DATA ON PRICES, IF READILY AVAILABLE, ARE SHOWN.

Analysis of the Fishing Operations of 99 Long-Liners and Dragners in the Atlantic Provinces,

1954, by John Proskie, assisted by P. L. Breau, M. Daneau, R. G. Gosselin, D. A. MacFarlane, and W. J. MacPherson, Production Studies vol. 4, 75 pp., processed. Department of Fisheries of Canada, Markets and Economics Service, Ottawa, Canada, April 1955. A report of a study undertaken to obtain information for guidance in the Department of Fisheries of Canada's program of assistance for modernization of the fishing fleets of small and medium-size vessels owned by fishermen. While its results will be of greatest interest to administrators--provincial and federal--and of course to fishermen themselves, they may also be useful to "management" in the fishing industry who have a stake in the success of a modernization program that may improve the supply of raw material for their processing plants. The author states that, "Our object has been to investigate the performance of several classes of fishing craft under current cost-price relationships. Records covering three years are now available for a reasonably good sample of long-liners and dragners fishing out of ports on the Atlantic Coast. In spite of the limited number of boats covered in some areas, the operational results in each case show roughly the unequal fishing effort, volume of landings, income, and expenditure. These data provide a basis for orientation of the outcome of the modernization policy followed and indicate the profitability and degree of economic efficiency in operations of the various types and sizes of boats working the same or similar fishing grounds."

Annual Report--Passage of Fish over Bonneville and McNary Dams, Columbia River, Oregon and Washington, 1954, 131 pp., illus., processed. Portland and Walla Walla Districts, Corps of Engineers, U. S. Army, Portland, Oregon.

(British Columbia) Provincial Department of Fisheries Report (with appendices) for the Year Ended December 31st, 1954, 101 pp., illus., printed. Provincial Department of Fisheries, Victoria, B. C., 1955. The first part of this report is devoted to an analysis of British Columbia's 1954 production and value of fishery products, the canned salmon pack, and a review of the salmon canning industry. Also discussed are the other canning industries (pilchard, herring, tuna, and shellfish), the production of processed fish (mild-cured salmon, dry-salted salmon, and dry-salted herring), the halibut fishery, fish oil and fish meal, net fishing in non-tidal waters, value of Canadian fisheries and the standing of the provinces for 1953, and species and value of fish caught in British Columbia. A report on the herring investigation and the 1954 report of the biologist on the oyster and clam investigations are included. The second section consists of these articles: "Contributions to the Life-History of the Sockeye Salmon (No. 40)," by D. R. Foskett; "The Status of the Major Herring Stocks in British Columbia in 1954-55," by F. H. C. Taylor; "Report of the International Pacific Salmon Fisheries Commission for 1954;" "Report of the International Pacific Halibut Commission, 1954;" and "Salmon-Spawning Report, British Columbia, 1954." The report concludes with detailed statistical tables on the British Columbia fisheries.

California Cooperative Oceanic Fisheries Investigations, Progress Report, 1 July 1953 to 31 March 1955, 52 pp., illus., printed. Department of Fish and Game, Marine Research

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Committee, Terminal Island Station, San Pedro, Calif. A report on the progress of the California Cooperative Oceanic Fisheries Investigations for the period July 1, 1953, through March 31, 1955. This report is divided into three main sections: (1) a brief review of sardine research since the beginning of the program, 1947-55; (2) a formal scientific paper, entitled "Population Dynamics of the Pacific Sardine," by Frances N. Clark and John C. Marr; and (3) a list of all publications that have arisen from the work under the California Cooperative Oceanic Fisheries Investigations.

Canada's Economic Prospects, 140 pp., illus., processed. The Fisheries Association of British Columbia, Vancouver, B. C., Canada, November 1955. A brief, submitted to the Royal Commission by the Fisheries Association of British Columbia, outlining trends in the fishing industry during the next 25 years. According to the brief, "The commercial fishery of British Columbia is a public heritage, that is a renewable food resource, capable of development, and which provides employment and food for the people of Canada. The careful cultivation, maintenance, and development of this fishery will have a beneficial effect on the economic future of British Columbia. In reviewing the industry's growth and in forecasting its future, the brief points to three basic principles: (a) That this public heritage must be protected, conserved, and developed rather than destroyed through facilitating the growth of other industries; (b) That the primary responsibility of regulation, conservation, and development rests with the governments of British Columbia and Canada; and (c) Because production far exceeds domestic consumption, the industry requires a framework of world trade permitting the continued development of our export markets." The brief deals primarily with the major fisheries, salmon, herring, halibut, and to a lesser degree, groundfish and shellfish. Projections have been made for each of the major fisheries based on the principle that through suggested conservation measures their volume can be materially increased. It describes the manner in which the fisheries of British Columbia have been built to their present status and the development that is forecast for the future. In conclusion the brief states that, "While natural resources are best developed by private initiative willing to assume the risk inherent in resource development, such an opportunity only exists in part for the fishing industry. Therefore, the policies we advocate recognize the peculiar responsibility that the government has with regard to this resource. While the industry is confident that the increased production can be marketed, it will continue to be dependent to a great extent upon export markets. Entry into these foreign markets is therefore essential and government policies should be directed towards this objective. Through a proper combination of government and industry initiative and control, it is believed that there will be a continuous growth of this great renewable food resource--the British Columbia fisheries."

(Chile) Direccion General de Pesca y Caza, Publicacion No. 1, 15 pp., illus., processed in Spanish. Departamento Tecnico-Economico, Direccion General de Pesca y Caza, Ministerio de Agricultura, Valparaiso, Chile, December 1955. Contains two articles: "Aparejos de Volantines para Redes de Arrastre" (Kite Rigs for Otter Trawl Gear), by R. T. Whiteleather; and "Redes de Arrastre Flotantes" (Floating Trawls), by William S. Krason.

Contribution a L'Etude de L'Oecologie de la Sardine (SARDINA PILCHARDUS, Walb.) dans L'Adriatique Orientale, by Radosna Muzinic, 222 pp., illus., printed in French. (Reprinted from Acta Adriatica, vol. V, no. 10, pp. 241-457). Institut za Oceanografiju i Ribarstvo, Split, Yugoslavia, 1954.

"Customs Simplification in the United States," by R. G. C. Smith, article, Foreign Trade, vol. 104, no. 12, December 10, 1955, pp. 6-8, printed, single copy 20 cents. The Queen's Printer, Government Printing Bureau, Ottawa, Canada. Describes the United States Customs Simplification Bill, which is designed to simplify customs procedures and to amend the present methods of valuation for duty purposes. This article was written for the purpose of explaining the regulations under which Customs appraisers must operate under the United States Customs Act.

(FAO) So Bold an Aim, by P. Lamartine Yates, 179 pp., printed. Food and Agriculture Organization of the United Nations, Rome, Italy, 1955. An account of ten years of international cooperation toward freedom from want. It describes the influences which contributed to the creation of the Food and Agriculture Organization of the United Nations (FAO) and its development and achievements during the first ten years of operation. This book does not attempt to recount FAO's brief history or to portray the work currently being done by this organization, but to assess its significance in relation to the endeavors of men and nations in striving for higher standards of living.

Fifty Years of Norwegian Fisheries, 1905-1955, by G. M. Gerhardsen, 20 pp., illus., processed. Indifondets Fiskerikurs (Norwegian Training Centre for Indian Fishery Officers), Bergen, Norway, December 1955. A brief history of the Norwegian fisheries with graphical illustrations showing the development and changes in the fisheries from year to year.

Fish Conservation Highlights of 1955, bulletin no. 50 (January 1956), 74 pp., printed. Sport Fishing Institute, Bond Building, Washington 5, D.C.

Fish Saving (A History of Fish Processing from Ancient to Modern Times), by Charles L. Cutting, 385 pp., illus., printed, \$12. Philosophical Library, Inc., 15 E. 40th St., New York 16, N. Y. (See review in December 1955 issue of Commercial Fisheries Review, p. 71.)

Forsok pa en Driftsokonomisk Vurdering av Fiskemelanlegg av S-M-typen med og uten Utstyr

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for Opparbeidelse av Fett Rastoff (An Evaluation of the Economic Operation of a Stord-Myren Fish-Meal Plant with and without Equipment for Handling Fat Raw Material), by Einar Sola, 41 pp., illus., printed in Norwegian. (Reprinted from Report on Technological Research concerning Norwegian Fish Industry, vol. III, no. 2) Fiskeridirektoratets Kjemisk-Tekniske Forskningsinstitutt (Norwegian Fisheries Research Institute), Bergen, Norway, 1955.

Freezing Seafoods, by Kirby M. Hayes and Carl R. Fellers, Special Circular No. 230, 3 pp., processed. Extension Service, University of Massachusetts, Amherst, Mass., December 1953. Contains instructions for the preparation, packaging, and storage of fish and shellfish in home freezers.

"Globes of Glass: Ocean's Best for Beachcombers," by Leslie L. Haskin, article, Pacific Discovery, vol. VIII, no. 6, November-December 1955, pp. 4-9, illus., printed, single copy 50 cents. California Academy of Sciences, Golden Gate Park, San Francisco 18, Calif. An interesting article on collecting glass floats which have been torn by storms or accidents from the nets they once supported and washed ashore.

Growth, Population Dynamics, and Field Behavior in the Spiny Lobster, PANULIRUS INTERRUP-TUS (Randall), by Robert G. Lindberg, 92 pp., illus., printed. (Reprinted from University of California Publications in Zoology, vol. 59, no. 6, pp. 157-248.) University of California Press, Berkeley, Calif., 1955.

Glossario de Nomes dos Peixes (Glossary of Names of Fishes), by Jeronimo Osorio de Castro, Publicacao No. 20, 249 pp., printed. Gabinete de Estudos das Pescas, Lisboa, Portugal, 1954.

Inter-American Tropical Tuna Commission Annual Report for the Year 1954 (Comision Interamericana del Atun Tropical Informe Anual Correspondiente al Ano 1954), 101 pp., illus., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif., 1955. Included in this report are: the recommended program of investigations; progress on investigations; membership changes; and a short resume of the Commission's regular annual meeting at San Jose, Costa Rica, on August 11, 1954. An appendix to the report describes the investigations conducted by the Commission during 1954, and discussed in this section are the compilation of current statistics of total catch, amount and success of fishing, and abundance of fish populations; compilation and analysis of historical data on tuna and bait fishes; research on theory of fishing; research on the biology, life history, and ecology of the tunas; investigation of the oceanography of the tropical Eastern Pacific; and investigations of the biology and ecology of bait fishes. The Commission, established by a Convention between the United States and Costa Rica in 1950, has the purpose of gathering and interpreting factual information to facilitate maintaining the populations of tunas and tuna-bait fishes at levels which will permit maximum sustained

catches year after year. To this end it is authorized and directed by the Convention to conduct necessary scientific investigations of all kinds, to publish reports on its research results, and to recommend, on the basis of its scientific investigations, proposals for joint action to maintain the fish populations at levels permitting maximum sustained yields.

International Commission for the Northwest Atlantic Fisheries, Annual Proceedings, vol. 5 for the year 1954-55, 74 pp., illus., printed. International Commission for the Northwest Atlantic Fisheries, Halifax, N. S., Canada, 1955. This bulletin presents the administrative report of the Commission for the year ending June 30, 1955, including financial statements; a report of the Fifth Annual Meeting of the Commission, June 6-11, 1955; summaries of research during 1954 broken down by country, and a compilation of research reports by subareas; and a list of scientists and laboratories engaged in the various branches of the Commission's work.

Jahresbericht uber die Deutsche Fischerei, 1954 (Annual Report of the German Fisheries, 1954) 354 pp., illus., printed in German. Unterabteilung Fischwirtschaft des Bundesministeriums fur Ernährung, Landwirtschaft und Foresten in cooperation with Mitwirkung des Statistischen Bundesamtes, 72 Neuer Wall, Hamburg 36, West Germany. (Publisher: Mann Bros., Berlin, Germany), October 1955. Presents 1954 statistics for fishery landings and imports in considerable detail as well as the number of vessels, new building, personnel employed, etc. In the section devoted to the main fishing ports of Bremerhaven, Cuxhaven, Hamburg-Altona, and Kiel, details are given of the firms operating trawlers, together with the number operated and the type.

The Law and Regulations Relating to the Packing of Sardines Providing for License and Standards (Revised Statutes, 1954, Chapter 32, as Amended by P. L. 1955), 16 pp., printed. Division of Inspection, Maine Department of Agriculture, Augusta, Maine, 1955.

Life History and Management of the Grayling in Interior Alaska, by Frank J. Wojcik, 78 pp., illus., typed. (A thesis presented to the Faculty of the University of Alaska in partial fulfillment of the requirements for the degree of Master of Science.) University of Alaska, College, Alaska, 1955.

The Marine and Fresh Water Fishes of Ceylon, by Ian S. R. Munro, 421 pp., illus., printed. Division of Fisheries, Commonwealth Scientific and Industrial Research Organization, Cronulla, N.S.W., Australia, 1955. Descriptions, illustrations, and identification keys to 846 species of fish from the marine, brackish, and freshwaters of Ceylon and the adjacent waters of the Gulf of Manaar. Also includes a glossary of technical terms and a bibliography of published works which deal specifically with the fish fauna of Ceylon.

"Milkfish are Breeding in Lake Ano Ava," by H. van Pel, article, SPC (South Pacific Commission)

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Quarterly Bulletin, vol. 5, no. 1, January 1955, pp. 33-34, illus., printed. South Pacific Commission, Noumea, New Caledonia.

Natriumnitrit som Konserveringsmiddel for Fabrikksild. Foringsforsok med Sildemel av Konserverert Sild og Undersokelser over Virkningen av ren Natriumnitrit pa Husdyr (Sodium Nitrite as Preservative for Herring. Feeding Experiments with Herring Meal from Preserved Herring and Investigations on the Effect of Sodium Nitrite in Farm Animals), 96 pp., illus., printed in Norwegian with summary in English. (Reprinted from Reports on Technological Research concerning Norwegian Fish Industry, vol. III, no. 4.) Fiskeridirektoratets Kjemisk-Tekniske Forskningsinstitutt (Norwegian Fisheries Research Institute), Bergen, Norway, 1955.

Neue Wege der Elektrofischerei (New Ways in Electrical Fishing), by Meyer-Waarden, no. 227, 7 pp., illus., printed in German. (Reprinted from Elektronik, vol. 4, no. 7, July 1955.) Bundesforschungsanstalt fur Fischerei Institut fur Kusten- und Binnenfischerei, Hamburg, Germany.

"Norges Fiskerier, 1954 (Norwegian Fisheries, 1954)," article, Fiskets Gang, vol. 41, no. 50 December 1955, pp. 665-674, printed in Norwegian with summary in English. Fiskeridirektoren, Postgiro Nr. 691 81, Bergen, Norway. A review of the fisheries of Norway for 1954. Includes data on the quantity and value of each species, ex-vessel prices, and utilization of fishery products.

"Poisonous Fish of the South Pacific," by Guy Loison, article, SPC (South Pacific Commission) Quarterly Bulletin, vol. 5, no. 4, October 1955, pp. 28-31, illus., printed. South Pacific Commission, Noumea, New Caledonia. Certain species of tropical fish are well-known as being dangerous to eat. Others, however, are poisonous only if eaten at certain periods, or if taken from certain localities. As there is no rule to determine either, or a simple test to reveal toxicity, fish poisoning is common in the tropics. The problem is surveyed by the author, who urges further research to determine causes and cures.

Port Facilities along the Maine Coast, compiled and edited by Chester A. Swett, 140 pp., printed. Department of Sea and Shore Fisheries, Vickery-Hill Bldg., Augusta, Maine, May 1955. This booklet, prepared as a service to the commercial fishermen of Maine as well as salt-water sport fishermen, gives information on the following port facilities along the Maine coast: post office; gasoline; diesel oil; groceries; ice; fresh water; telephone; hotels and motels; repairing; marine railway; public moorings (town-owned and rentals); depth at moorings; public landings (town and privately-owned); depth at landings; yacht clubs; depth at yacht clubs; winter storage (covered and open); anchorage; depth at anchorage; and kind of bottom.

Proceedings of the Gulf and Caribbean Fisheries Institute, Seventh Annual Session, Havana, Cuba, November 1954, 205 pp., illus., printed, \$1. The Gulf and Caribbean Fisheries Institute, The Marine Laboratory, University of Miami, Coral Gables, Fla., September 1955. Contains all of the papers presented at the seventh session (Havana, Cuba, 1954) of the Institute. At the Industry Session the papers presented dealt with voluntary Federal and industry standards for fishery products; standards for crab meat; shrimp industry standards of quality; voluntary Federal grade standards for fish sticks; and how voluntary quality standards work in the frozen fruit and vegetable industry. Papers for the Technology and Exploratory Fishing Session discussed further experiments on the control of melanosis or "black spot" on shrimp; maintenance of quality of seafood products during transportation; immersion freezing of shrimp aboard the fishing vessel; fish oils and proteins; their contribution to the world's feed supply; recent explorations for yellowfin and deep-water shrimp in the Gulf of Mexico; and a practical method of dispersing aureomycin chlortetracycline in ice. Subjects of the papers presented at the Economic Session included: introduction to the problems of marine insurance in the fishing industry in the United States; some observations on the insurance of commercial fishing vessels; labor accidents law of the Republic of Cuba and its application to the fishing industry; insurance of small boats in the Barbados, B. W. I., fishery; the fisherman and his insurance; and fishing vessel insurance in Norway. The Biological Session presented papers on a comparison between giant bluefin tuna (Thunnus thynnus) from the straits of Florida and the Gulf of Maine, with reference to migration and population identity; growth of subpopulation of mullet (Mugil cephalus) on the West Coast of Florida; seasonal movements and growth of the Atlantic croaker (Micropogon undulatus) along east Louisiana coast; behavior of shrimp in an electrical field; laboratory experiments with shark repellents; and some problems concerning the management of the shrimp fisheries. At the Caribbean Session the papers presented dealt with fluctuations in the abundance of red snapper (Lutjanus aya) on the Campeche Banks; the first year of the shrimp fishery in Cuban waters; and another look at the Caribbean fisheries.

Review of the Oceanography of the Northern Pacific, by Richard H. Fleming, Bulletin No. 2, 50 pp., illus., printed. International North Pacific Fisheries Commission, Vancouver, B. C., Canada, June 1955.

Santiago Negotiations on Fishery Conservation Problems, 73 pp., processed. Public Services Division, Department of State, Washington 25, D. C., 1955. Representatives of the United States met with representatives of Chile, Ecuador, and Peru at Santiago, Chile, from September 14 to October 5, 1955, to negotiate an agreement for the conservation of fishery resources of the eastern Pacific. While considerable progress was made in clarifying the

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views and interests of the parties to the negotiations, the delegations encountered basic problems which stood in the way of reaching agreement and led to the suspension of the negotiations in order that further consideration might be given to those problems in the respective governments. An article (Department of State Bulletin, vol. XXXIII, no. 860, December 19, 1955, pp. 1025-1030) on the four-power negotiations on fishery conservation problems is presented. In addition, the documents presented by the delegations to the negotiations and other relevant documentation are included.

The Scientific Reports of The Whales Research Institute, No. 10, 169 pp., illus., printed. The Whales Research Institute, Tokyo, Japan, June 1955.

(South Carolina) Annual Report, 1954-1955, Contributions from Bears Bluff Laboratories No. 18, 15 pp., illus., printed. (Reprinted from Report of South Carolina Wildlife Resources Department, Fiscal Year July 1, 1954-June 30, 1955) Bears Bluff Laboratories, Wadmalaw Island, S. C., January 1956. A report covering the activities of Bears Bluff Laboratories for the fiscal year 1954-55. Bears Bluff has continued its work with oysters; has added research on shrimp, crabs, and fish; and studies them both in their natural habitats and the salt-water ponds impounded from marsh creeks at the Wadmalaw Island site of the station.

SPC (South Pacific Commission) Quarterly Bulletin, Pacific Fisheries Issue, vol. 5, no. 3, July 1955, 52 pp., illus., printed. South Pacific Commission, Noumea, New Caledonia. Contains, among others, the following articles: "Fisheries in the South Pacific," by H. van Pel; "Tuna Fishing with the Japanese Longline," by H. van Pel; "Fishing Poisons of the South Pacific," by Jacques Barrau; "Fish: A Valuable Pacific Island Food," by Emile Massal; "Fishery Investigations in Papua and New Guinea," by A. M. Rapson; "Rehabilitation of Pearl Oyster Beds in French Oceania," by Gilbert Ranson; "Pond Culture of Tilapia," by H. van Pel; and "Fish-

eries Development in Netherlands New Guinea," by D. C. Zwollo.

"A Study of the Nature of Pigment Cells of Oysters and the Relation of Their Numbers to the Fungus Disease Caused by Dermocystidium marinum," by J. E. Stein and J. G. Mackin, article, The Texas Journal of Science, vol. VII, no. 4, December 1955, pp. 422-429, illus., printed. Texas Journal of Science, Box 8012, University Station, Austin, Texas.

Vitaminer i Norsk Fisk. II. Vitaminer i Forskjellige Oranger fra Makrellstorje (THUNNUS THYNNUS) Fanget Utenfor Norges Vestkyst (Vitamins in Norwegian Fishes. II. Vitamins in Different Organs from Tuna, Thynnus thynnus, Caught off the West Coast of Norway), by Olaf R. Braekkan with technical assistance of Kirsten Hansen and Thor Skogland, 19 pp., printed in Norwegian with summary in English. (Reprinted from Report on Technological Research Concerning Norwegian Fish Industry, vol. III, no. 3.) Fiskeridirektoratets Kjemisk-Tekniske Forskningsinstitutt (Norwegian Fisheries Research Institute), Bergen, Norway, 1955.

TRADE LIST

The Office of Intelligence and Services, Bureau of Foreign Commerce, U. S. Department of Commerce, Washington 25, D. C., 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 each.

Oils (Animal, Fish and Vegetable) - Importers, Dealers, Producers, Refiners, and Exporters - West Germany and Berlin, 36 pp. (December 1955). Lists the name and address, size of firm, and type of business of each firm. Includes a brief summary of 1952-54 data on domestic production and consumption of all fats and oils from agricultural and marine sources and import dependence in percentages. The United States share of imports in 1954 included 34,200 metric tons of fish-liver oils and other marine fats and oils or one-third of West Germany's total imports of these products.



Editorial Assistant--Ruth V. Keefe

Illustrator--Gustaf T. Sundstrom

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

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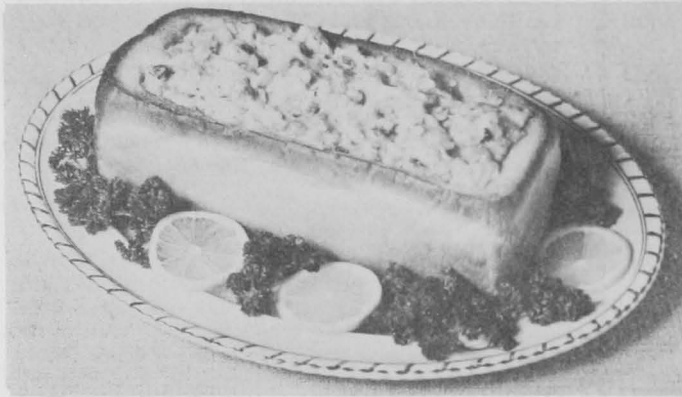
Page 26--J. Pileggi, and p. 72--Gustaf T. Sundstrom

TUNA ONE OF THE GREATEST PROTEIN FOODS

Nutritionally, tuna is one of the greatest of all protein foods. Actually, it wasn't until the drastic meat shortage during the first World War that the attention of nutritionists, home economists, and dietitians was directed to fish as an important protein source. A critical evaluation of experiments conducted during that period and since has indicated that fish protein has a high biological value which is probably somewhat above that of beef protein and equivalent to milk protein.

Fish protein supplies the body with a rich source of amino acids, the essential building block of body protein. It has been proved that the daily requirements of essential amino acids are supplied by an average serving of canned tuna.

Noteworthy is the high content in canned tuna of vitamin B₁₂ and Animal Protein Factor, a growth factor which builds body protein and develops vital red blood cells.



Devilled tuna loaf.

Tuna also provides a considerable portion of the daily minimum requirement of iodine, the element which prevents the development of goiter.

Another factor is the high fluorine content which contributes to tooth development and helps protect against future dental decay.

Tuna also ranks high in phosphorus which builds strong bones.

In substantial quantity, too, are the A and D vitamins as well as the B group such as thiamine,

riboflavin, and niacin, which are all-important for maintenance of normal metabolism and growth.

The value of tuna to the homemaker, however, extends far beyond its nutritional qualities. One of its greatest advantages is its versatility. Not only does tuna make a flavorful dish when served alone, but it lends itself in combination with so many other foods: to such "extenders" as macaroni products, rice and potatoes; or to egg dishes such as omelets and souffles; or to many vegetables. When combined with another food in casseroles and main-course dishes, a single seven-ounce can of tuna is ample for as many as four to six servings.

Salads, salad dressings, sandwich spreads, relishes and sauces, hors d'oeuvres, gelatin molds, casseroles, fish cakes, loaves, chowders, bisques, and pastries are some of the many ways in which tuna can be used to provide healthful meals. Hearty tuna casseroles make tasty and vitamin-rich cold weather fare; for Summer serving, a vegetable salad fortified with tuna makes an appetizing main course, and tuna salad sandwiches have long been warm-weather favorites. Tuna is also ideal for snack time, and of course, a supply of tuna on the pantry shelf is a safeguard against any unexpected dinner guest.

The economy value of tuna is another advantage. There is absolutely no waste in a can which is packed compactly and compressed to assure solid value to the consumer. As appealing to children as to grown-ups, tuna is an all-around food for nutrition, flavor, versatility and economy.

--Tuna--A Saga of the Sea,
Tuna Research Foundation (Calif.)