



## FISH AND WILDLIFE SERVICE PUBLICATIONS

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- 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-1779          | - Maine Landings, 1957 Annual Summary by County and Gear, 10 pp.  |
| CFS-1793          | - Shrimp Landings, 1957 Annual Summary, 16 pp.  |
| CFS-1817          | - Florida Landings, 1957 Annual Summary (revised), 10 pp.   |
| CFS-1820          | - New Jersey Landings, April 1958, 3 pp.  |
| CFS-1823          | - Fish Meal and Oil, April 1958, 2 pp.  |
| CFS-1826          | - Shrimp Landings, February 1958, 6 pp.   |
| CFS-1827          | - Florida Landings, April 1958, 7 pp.   |
| CFS-1829          | - North Carolina Landings, May 1958, 3 pp.  |
| CFS-1830          | - Alabama Landings, April 1958, 2 pp.   |
| CFS-1832          | - Texas Landings, March 1958, 3 pp.   |
| CFS-1834          | - New Jersey Landings, May 1958, 3 pp.  |
| FL-452            | - Fishery Motion Pictures, 18 pp., illus., processed, 1958. This leaflet lists the commercial fishery motion pictures produced and distributed by the U. S. Bureau of Commercial Fisheries.                             |
| SSR-Fish, No. 238 | - Marquesas Area Oceanographic and Fishery Data, January-March 1957, by Robert C. Wilson and Murice O. Rinkel, 141 pp., illus., September 1957.   |
| SSR-Fish, No. 248 | - Physical Oceanographic, Biological and Chemical Data--South Atlantic Coast of the United States, M/V <u>Theodore N. Gill</u> , Cruise 5, by William W. Anderson and Jack W. Gehringer, 223 pp., illus., January 1958. |
| Sep. No. 517      | - Chemical and Enzymatic Hydrolysis of Fish Scales.   |
| Sep. No. 518      | - Amino Acid Composition of the Protein and Inorganic Constituents of the Ash of Pollock Fish Scales.   |
| Sep. No. 519      | - Gloucester's Trawl Fishery for Industrial Fish.   |
| Sep. No. 520      | - Inspection and Certification of Fishery Products by U. S. Department of the Interior.   |
| Sep. No. 521      | - Research in Service Laboratories (August 1958): Contains these articles--"Changes   |

in Composition of Sole During Refrigeration;" "Bacterial Content of Processed Shrimp Under Study;" "Fish Stick Quality Improved by Better Packaging;" and "Oxidative Enzymes in Fish Tissue."

THE FOLLOWING SERVICE PUBLICATIONS ARE AVAILABLE ONLY FROM THE SPECIFIC OFFICE MENTIONED.

California Fishery Products and Byproducts Brokers and Importers, 1958, (Partial List), SP List 1, 5 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif., June 1958.)

(Chicago) Monthly Summary of Chicago's Fresh and Frozen Fishery Products Receipts and Wholesale Market Prices, June 1958, 12 pp. (Market News Service, U. S. Fish and Wildlife Service, 565 W. Washington St., Chicago 6, Ill.) Receipts at Chicago by species and by states and provinces; fresh-water fish, shrimp, and frozen fillet wholesale market prices; for the month indicated.

Monthly Summary of Fishery Products in Selected Areas of Virginia, North Carolina, and Maryland, June 1958, 4 pp. (Market News Service, U. S. Fish and Wildlife Service, 18 So. King St., Hampton, Va.) Fishery landings and production for the Virginia areas of Hampton Roads, Lower Northern Neck, and Eastern shore; the Maryland areas of Crisfield, Ocean City, and Cambridge; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data; for the month indicated.

(New York) Brokers and Importers of Fishery Products, New York City, 1958, 7 pp. (Market News Service, U. S. Fish and Wildlife Service, 155 John St., New York 38, N. Y., June 20, 1958.)

(New York) Monthly Summary - Receipts of Fishery Products at the New York City Wholesale Salt-Water Market, May 1958, 15 pp. (Market News Service, U. S. Fish and Wildlife Service, 155 John St., New York 38, N. Y.) Receipts in the salt-water section of the Fulton Fish Market by species and by states and provinces for the month indicated.

(Seattle) Monthly Summary - Fishery Products, June 1958, 8 pp. (Market News Service, U. S. Fish and Wildlife Service, Pier 42 South, Seattle 4, Wash.) Includes landings and local receipts, with ex-vessel and wholesale prices in some instances, as reported by Seattle and

Astoria (Ore.) wholesale dealers; also Northwest Pacific halibut landings; for the month indicated.

Production of Fishery Products in Selected Areas of Virginia, Maryland, and North Carolina, 1957 (As Reported to Hampton Fishery Market News Office), by William N. Kelly, 43 pp., processed. (Available free from the Market News Service, 18 So. King St., Hampton, Va.) A summary of commercial landings of fish and shellfish and the production of crab meat and shucked oysters as reported by producers and wholesalers from selected principal fishing localities of Virginia, Maryland, and North Carolina. Included are ex-vessel prices for the principal food finfish and wholesale prices for crab meat and shucked oysters. The statistics contained in this annual summary represent partial commercial fisheries production only and do not represent complete commercial landings or production for a given area, individual state, or the Chesapeake Bay area as a whole. The statistics, however, do give an indication as to the trend in fisheries production for the specific areas designated and do reflect the over-all production trend by species, localities, and by states.

Annual Report of the Gulf Fishery Investigations (for the Year Ending June 30, 1958), 109 pp., illus., processed. (Bureau of Commercial Fisheries, U. S. Fish and Wildlife Service, Galveston, Texas.) Includes a summary of the Gulf fishery investigations for the fiscal year ending June 30, 1958, and a symposium on red tide. Also includes discussions of the following projects: ecology of brown and white shrimp; shrimp bait fishery; Tortugas pink shrimp fishery; shrimp marking; and morphology of shrimp. The section on pelagic fish includes discussions of the age and growth of menhaden; menhaden development; menhaden populations; and zooplankton. The section on red tide includes discussions on nutrition of red tide organisms; compounds toxic to red tide organisms; occurrence of red tide organisms; hydrography related to red tide; large-scale experimental control of red tide; copper ore experiments for red tide control; and toxicity of copper to marine organisms. Special projects cover the effect of insecticides on marine organisms; barnacle attachment rates at Galveston, Texas; toxicity of *Gonyaulax monilata* to fish; histological techniques for *Gymnodinium* sp.; Chlorinity sampling and storage; phosphorus content of marine organisms; and determination of organic compounds in sea water.

Fishery Technological Laboratory Brochures: Fishery Technological Research and Services for the Pacific Coast Fishing Industry, 5 pp., brochure, printed (Fishery Technological Laboratory, 2725 Montlake Blvd., Seattle 2, Wash.); At Your Service--Technical Research, Demonstrations, Publications, Assistance, 4 pp., brochure, printed (Fishery Technological Laboratory, P. O. Box 128, College Park, Md.); Technological Services, 3 pp., processed (Fishery Products Laboratory, 622 Mission St.,

Ketchikan, Alaska); The Fisheries Technology Laboratory, 8 pp., brochure, processed (Fisheries Technology Laboratory, 289 Frederick St., Pascagoula, Miss.); and Serving Industry Through Research, Technical Assistance, Advisory Services, Demonstrations, Publications, 12 pp., brochure, processed (Fishery Technological Laboratory, 61 Sumner St., East Boston 28, Mass.). Informational brochures on services available to industry from the Fishery Technological Laboratories.

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Anadromy in North American Salmonidae, by George A. Rounsefell, Fishery Bulletin 131 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 58), 17 pp., illus., printed, 20 cents, 1958.

Experimental Exploitation of Fish Populations, by Ralph P. Silliman and James S. Gutsell, with the technical assistance of Clarence E. Dunbar and Saufley B. Friddle, Fishery Bulletin 133 (From Fishery Bulletin of the Fish and Wildlife Service, vol. 58), 40 pp., illus., printed, 20 cents, 1958. The primary objectives of the work, described in this report, were to learn as much as possible about the reaction of fish populations to different rates of exploitation, to discover the relation between equilibrium yield and exploitation rate, and to establish principles of exploitation which would be applicable to commercially-utilized fish populations. An additional objective was to find how many of the known facts regarding population changes would be revealed by the conventional measures of total catch, catch per unit of effort, and mean length of fish in the catch. Four laboratory populations of guppies were grown in small aquariums under controlled light, temperature, and food supply. Two of the populations were selected by lot as controls; the other two were used as experimental populations for application of various fishing pressures. Successive application of fishing rates of 25, 10, 50, and 75 percent per triweekly period produced major changes in the experimental populations not duplicated in the controls. The general effect of exploitation was to produce a decrease in the size of the population, the amount of the decrease varying upward with the exploitation rate, until at the 75-percent rate the test populations were extinguished. Abundance and size composition of the stocks followed classical conception derived on theoretical grounds. Equilibrium yield was found to be related to fishing rate in the manner of a humped curve, with maximal yield at fishing rates between 30 and 40 percent, when the populations were at approximately one-third their asymptotic weight. The yield of fish flesh at the maximum represented about one-fifth the weight of the food consumed. The conventional fishery measures--catch, catch per unit of effort, and average fish length--were calculated and were found to yield a large amount of information about population size and results of changes in rate of exploitation.

## MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE SERVICE, BUT USUALLY MAY BE OBTAINED FROM THE ORGANIZATION ISSUING THEM. CORRESPONDENCE REGARDING PUBLICATIONS THAT FOLLOW SHOULD BE ADDRESSED TO THE RESPECTIVE ORGANIZATION OR PUBLISHER MENTIONED. DATA ON PRICES, IF READILY AVAILABLE, ARE SHOWN.

### ALGAE:

An Annotated List of Marine Algae from Eniwetok Atoll, Marshall Islands, by E. Yale Dawson, Contribution No. 87, 41 pp., illus., printed. (Reprinted from Pacific Science, January 1957.) Hawaii Marine Laboratory, University of Hawaii, Honolulu 14, Hawaii.

### CALIFORNIA:

California Cooperative Oceanic Fisheries Investigations, Progress Report, 1 July 1956 to 1 January 1958, 57 pp., illus., printed. State Fisheries Laboratory, California Department of Fish and Game, Terminal Island, Calif. This report consists of three parts: a review of the activities of the California Cooperative Oceanic Fisheries Investigations for the period July 1, 1956, to January 1, 1958; a scientific paper, "Studies of the California Current System," by Joseph L. Reid, Jr., Gunnar I. Roden, and John G. Wyllie; and a list of publications arising from the program.

Fish and Game Code Annotated of the State of California (Deering's California Codes), Adopted May 21, 1957, 666 pp., printed. Bancroft-Whitney Co., McAllister & Hyde Streets, San Francisco 1, Calif. Includes all laws affecting commercial and sport fishing.

Statistical Report of Fresh, Canned, Cured, and Manufactured Fishery Products, 1957, Circular No. 32, 18 pp., printed. Department of Fish and Game, Sacramento, Calif., 1958. Presents statistics on the landings of fish, mollusk, and crustacean by California's commercial fishing fleet--statewide and by general regions; general origin of the commercial catch and the volume of shipments of fish received for canning and processing; total case pack for each variety of fish according to container size and type of pack; volume of canned and smoked sport-caught fish; sardine landings and manufactured sardine products; and total annual case pack of anchovy, tuna, bonito, and yellowtail in various sizes of containers, equated to the most common pack size for each variety.

### CANADA:

The Effect of the Prevailing Winds on the Inshore Water Masses of the Hecate Strait Region, B. C., by F. G. Barber, 8 pp., illus., printed. (Reprinted from the Journal of the Fisheries Research Board of Canada, vol. 14, no. 6, pp. 945-952, 1957.) Fisheries Research Board of Canada, Pacific Oceanographic Group, Nanaimo, B. C., Canada.

Fisheries Statistics of Canada, 1956 (Quebec), 73 pp., illus., printed in French and English, 50 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada, 1958. Consists of tables giving the quantity and value of the principal species of fish and shellfish in

Quebec in 1949-56; quantity and value of landings by species and fisheries districts, 1955-56; quantity and value of manufactured fishery products by species and fisheries districts, 1955-56; capital equipment in the primary fisheries operations by fisheries districts, 1955-56; and number of persons engaged in the fisheries by fisheries districts, 1955-56.

Journal of the Fisheries Research Board of Canada, vol. 15, no. 4, July 1958, pp. 495-758, illus., printed. Queen's Printer and Controller of Stationery, Ottawa, Canada. Contains the following articles: "Incidence of the Ascarid Parrocaecum decipiens in the Stomachs of Three Species of Seals Along the Southern Canadian Atlantic Mainland," by D. M. Scott and H. D. Fisher; "Round Haddock Landings in Newfoundland: Quantity and Quality Relative to Gutted Haddock," by Wilfred Templeman and A. M. Fleming; "A Preliminary Study of the Feeding Habits of the Japanese Oyster Drill, Ocenebra japonica," by Kenneth K. Chew and Ronald Eisler; "The Effect of Various Lighting Conditions on the Efficiency of 'Candling' Cod Fillets for Detection of Parasites," by H. E. Power; "Artificial Drying of Salt Fish by Thermocouple Control," by R. Legendre; "The Composition of the Fatty Acids Liberated from the Phospholipids in the Preparation of Salted Codfish," by A. Cardin, M. A. Bordeleau, and A. Laframboise; "Tolerance of Fish to Toxic Pollution," by T. W. Beak; "Hyperactivity as a Lethal Factor in Fish," by Edgar C. Black; and "The Effect of Temperature on the Cruising Speed of Young Sockeye and Coho Salmon," by J. R. Brett, M. Hollands, and D. F. Alderdice.

Progress Reports of the Atlantic Coast Stations, no. 69, 39 pp., illus., printed in French and English. Queen's Printer and Controller of Stationery, Ottawa, Canada, May 1958. Contains, among others, the following articles: "Comparative Effects of the Insecticides DDT and Malathion on Young Atlantic Salmon," by Miles H. A. Keenleyside; "Control of the Boring Sponge on Oyster Beds," by F. E. Warburton; "Do Lobsters Move Offshore and Onshore in the Fall and Spring?" by D. G. Wilder and R. C. Murray; "Lath-Spacing in Lobster Traps," by W. Templeman; "White Crystals of Sodium Phosphate on Salt Fish," by W. J. Dyer, Doris I. Fraser, and J. R. Dingle; and "First-Year Effects of Mesh Regulations on Northern New Brunswick Dragger Fishery," by W. R. Martin and Y. Jean.

### CRAWFISH:

"The Refrigeration and Storage of Crawfish," by N. Golovkin and I. Parshina, article, Kholodilnaya Tekhnika, no. 1, 1958, pp. 26-27, printed in Russian with English summary. Kholodilnaya Tekhnika, 1 Astradamski tupik 1-a, Moscow A-8, U. S. S. R. Reports on the methods for refrigerating crayfish and on conditions for storage in the frozen state. For prolonged storage during periods of 8-9 months, the authors propose a blast-freezing method and storage of crayfish at temperatures of -20° to -29° C. For storage periods of 1-2 months, temperatures ranging from -6° to -10° C. are recommended.

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## CUBA:

Experiencias con el Empleo de Equipo Oceanografico en el Golfo de Batabano (Results from Experiments with Oceanographic Equipment in the Gulf of Batabano, Cuba), by Pedro Pablo Duarte-Bello, Laboratorio de Biología Marina, Monografía no. 4, 30 pp., illus., printed in Spanish. Universidad Católica de Santo Tomás de Villanueva, Apartado No. 6, Marianao, Havana, Cuba, March 1958.

"Los Recursos Naturales Renovables en el Mar Cubano" (The Renewable Natural Resources in Cuban Marine Waters), by Dr. Mario Sanchez Roig and Federico Gomez de la Maza, article, Mar y Pesca, vol. II, no. 2, April 1958, pp. 23-28, illus., printed in Spanish. Instituto Nacional de la Pesca, Malecon 59, Havana, Cuba. Reports on the economic importance of Cuba's production of fish, mollusks, crustaceans, and fishery byproducts, and discusses the possibilities of increasing fishery production by (1) the use of a system of flexible fishing seasons; (2) an increase of biological and oceanographic studies of Cuba's marine resources; (3) the use of more modern gear, vessels, and fishing methods; (4) repopulation of marine waters with species that have been overfished; (5) international cooperation in measures for conservation of marine fauna; (6) Cuban representation at international conferences on fisheries; (7) control measures to avoid harmful pollution; (8) prevention of illicit fishing methods, especially the use of explosives; (9) extensive publicity to inform the populace of the advantages of eating fish, to increase consumption; and (10) the forthcoming construction of a large and modern fishery terminal at the port of Havana.

## EEL-GRASS:

Control of Eel-Grass in Oyster Culture Areas, by A. R. A. Taylor, General Series Circular No. 23, 3 pp., illus., printed. Fisheries Research Board of Canada, Atlantic Biological Station, St. Andrews, N. B., Canada, February 1954.

## EXPORTS:

United States Exports of Domestic and Foreign Merchandise (Commodity by Country of Destination), Calendar Year 1957, Report No. FT 410, processed, Part I, 257 pp., \$1.25; Part II, 428 pp., \$2. Bureau of the Census, U. S. Department of Commerce, Washington, D. C., April 1958. (For sale by the Superintendent of Documents, Washington 25, D. C.) The statistics in Part I cover exports of domestic and foreign merchandise (including fishery products and byproducts) under group 00 to group 5 from the United States to foreign countries. Part II covers merchandise under group 6 to 9 (some items of interest to the fishery and allied industries are included).

## FISHES:

A Checklist of the Freshwater Fishes of Canada and Alaska, by W. B. Scott, 31 pp., processed, 35 Canadian cents. Royal Ontario Museum, Division of Zoology and Palaeontology, 100 Queens Park, Toronto 5, Ontario, Canada, February 1958.

## FISH FLOUR:

"Fish Visceral Flour Reported Satisfactory as Swine Supplement," article, Feedstuffs, vol. 30, February 22, 1958, 1 p., printed. Feedstuffs, Miller Publishing Co., 118 S. 6th St., Minneapolis 2, Minn.

"The Production of Edible Fish Protein (Fish Flour) from Cod and Haddock," by A. Guttman and F. A. Vandenheuvel, article, Progress Reports of the Atlantic Coast Stations, No. 67, November 1957, pp. 29-31, printed. Fisheries Research Board of Canada, Fisheries Technological Station, Halifax, Nova Scotia.

## FISH MEAL:

"Fish Meal. 4--Condition of Pilchard at Walvis Bay," by G. H. Stander and J. P. Matthews, article, Annual Report of the Fishing Industry Research Institute, 1955-1956, vol. 9, pp. 21-22, printed. Fishing Industry Research Institute, South Africa, Union of South Africa.

"Fish Meal. 7--Preliminary Comparison of Various Cooker-Press Combinations," by G. M. Dreosti and G. H. Stander, article, Annual Report of the Fishing Industry Research Institute, 1955-1956, vol. 9, 1 p., printed. Fishing Industry Research Institute, Cape Town, Union of South Africa.

"Fish Meal. 10--Storage of Fish Meal at Elevated Temperatures," by G. M. Dreosti and R. J. Nachinius, article, Annual Report of the Fishing Industry Research Institute, 1955-1956, vol. 9, p. 27, printed. Fishing Industry Research Institute, Cape Town, Union of South Africa. Describes experiments with canned fish meal stored at temperatures ranging from 32° to 300° F.

"Fish Meal. 11--Spontaneous Heating of Fish Meal," by G. M. Dreosti, A. N. Rowan, and A. M. Lewis, article, Annual Report of the Fishing Industry Research Institute, 1955-1956, vol. pp. 27-28, printed. Fishing Industry Research Institute, Cape Town, Union of South Africa.

"Fish Meal. 13--Test Shipment of Fish Meal," by R. J. Nachinius, article, Annual Report of the Fishing Industry Research Institute, 1955-1956, vol. 9, pp. 29-30, printed. Fishing Industry Research Institute, Cape Town, Union of South Africa. Reports on experiments with fish meal shipped in bags under test conditions in two normally ventilated holds of a ship.

"Fish Meal. 17--The Biological Evaluation of Some African Fish Meals," by J. S. Willmer, article, Annual Report of the Fishing Industry Research Institute, 1955-1956, pp. 31-32, printed. Fishing Industry Research Institute, Cape Town, Union of South Africa.

"North Dakota Tests Substitution for Fish Meal in Turkey Diet," article, Feedstuffs, vol. 30, January 25, 1958, 1 p., printed. Feedstuffs, Miller Publishing Co., 118 S. 6th St., Minneapolis 2, Minn.

## FLATFISH:

Information on the Effect of the Fishery on the Condition and Composition of the Stock of

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Flatfishes in the Gulf of Peter the Great, by P. A. Moiseev, 12 pp., processed. (Preliminary translation by W. E. Ricker from *Zoologicheskii Zhurnal*, vol. 25, no. 5, pp. 451-457, 1946.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1956.

#### FLORIDA:

A List of Florida Fishes and Their Distribution, by John C. Briggs, 98 pp., illus., printed, \$1.29. (Reprinted from *Bulletin of the Florida State Museum, Biological Sciences*, vol. 2, no. 8, 1958.) Curator of Biological Sciences, Florida State Museum, Seagle Bldg., Gainesville, Fla.

Report on the Marine Biological Museum, January 1958, 11 pp., illus., processed. The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Virginia Key, Miami 49, Fla.

#### FLOUNDER:

"Frozen Storage of Plaice for Subsequent Thawing and Filleting," by W. J. Dyer, W. A. MacCallum, and Doris I. Fraser, article, *Progress Reports of the Atlantic Coast Stations No. 66*, September 1957, pp. 9-12, printed. Fisheries Research Board of Canada, Ottawa, Ontario, Canada. Reports on experiments to learn if frozen plaice or sea dab (*Hippoglossoides platessoides*) can be stored for thawing and filleting at a later date. Results indicated that discoloration occurs beneath the skin of the plaice (gutted and ungutted), after a very short time in frozen storage.

#### FOOD AND AGRICULTURE ORGANIZATION:

"Plans for the European Common Market and Their Possible Repercussions on Exporters of Agricultural Commodities," by R. Freire, article, *Monthly Bulletin of Agricultural Economics and Statistics*, vol. VII, no. 4, April 1958, pp. 1-17, printed, single copy 2s. 6d. (50 U. S. cents). Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy. (For sale by Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.) Describes the Treaty which established the European Economic Community, usually referred to as the Common Market, and discusses many of the basic problems of implementing the Common Market. The Common Market comprises six countries: Belgium, France, Western Germany, Italy, Luxembourg, and the Netherlands. This article discusses trade of the six countries, agricultural imports (including fishery products), possible quantitative restrictions to trade in agricultural commodities, availability of agricultural commodities the six also produce themselves, the Common Market and the development of agriculture in the six countries, possible effects of Common Market on imports of commodities also produced by the six, imports from associated Territories and overseas departments, effects of the Common Market on imports which suffer competition from overseas Territories, and other aspects of the association of dependent Territories to the Common Market. Statistical tables show imports of agricultural commodities of the six countries, by origin, 1954-56 average; production and availability of agricultural com-

modities produced in the six countries, average 1954/55-56/57; and agricultural exports of the six countries, annual average 1954-56. These tables include data on fishery products.

#### 2nd World Fishing Boat Congress, 16 pp.,

April 5-10, 1959, Rome. Prospectus. Food and Agriculture Organization of the United Nations, Rome, Italy. (Available at United States Mission to the United Nations, 2 Park Ave., New York 16, N. Y.)

The Food and Agriculture Organization has published reports describing that Agency's activities under the Expanded Technical Assistance Program for developing the fisheries of many countries. These reports have not been published on a sales basis, but have been processed only for limited distribution to governments, libraries, and universities. Food and Agriculture Organization, Viale delle Terme di Caracalla, Rome, Italy.

Report to the Government of Yugoslavia on Fish Consumption and Marketing, based on the work of John Fridthjof, FAO Report No. 619, 39 pp., processed, 1957. Assistance was provided the government of Yugoslavia to conduct a general survey of the marketing and distribution of fishery products and to advise and assist the government on the introduction of measures designed to (1) achieve a more economic utilization of fish supplies, and (2) improve the level and pattern of fish consumption. This report discusses the problems encountered, the general objectives of the study, the work accomplished, governmental measures in support of the work, and recommendations. Statistical data are given on landings of fish in Yugoslavia by Republics and by species; monthly landings and utilization and annual landings of fish in Croatia; costs of catching and distributing fresh sardines; costs for operating a sardine fishing unit; and cost of receiving and distributing fish in Belgrade.

#### FRANCE:

Rapport sur la Production de l'Industrie des Peches Maritimes et de la Conchyliculture en 1957 (Report on the Production of the Marine Fisheries Industry and Shellfish Cultivation, 1957), 56 pp., processed in French. Comite Central des Peches Maritimes, Paris, France. Presents statistical tables covering France's production of fresh fish, salted cod, crustaceans, frozen fishery products, shellfish, and shell.

#### GENERAL:

Progress Report on Fisheries Engineering Research Program, November 1956 (North Pacific Division, Corps of Engineers, U. S. Army), 179 pp., illus., processed. North Pacific Division, Corps of Engineers, U. S. Army, Seattle, Wash. The present summary of progress is a brief account of the methods, purpose, and present results of the separate projects which comprise the fishery engineering research program begun in 1951. This interim summary is a compilation of the following individual reports, each prepared by the agency performing the study: "A Review of Studies in Guiding Downstream

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Migrating Salmon with Light," "Determination of the Normal Stream Distribution, Size, Time, and Current Preference of Downstream Migrating Salmon and Steelhead Trout in the Columbia and Snake Rivers;" "The Effect of Sound Waves on Young Salmon;" "Powerhouse Collection System and Transportation Flows, Bonneville Dam;" "The Status of Field Scale Electrical Fish Guiding Experiments;" "Effect of Structures at Main Columbia River Dams on Downstream Migration of Fingerlings;" "Buoyant Submerged Orifice Research;" "Study of the Effect of Magnetic Fields on Salmon;" "Fishway Attraction Water Supply Study;" "Submerged Orifice Research Powerhouse Fish Collection System, Bonneville Dam;" "The Control of Downstream Migrants by Means of Mechanical Screens;" "Research Relating to Mortality of Downstream Migrant Salmon Passing McNary Dam;" "Research Relating to Study of Spawning Grounds in Natural Areas;" "Investigation of the Rate of Passage of Salmon and Steelhead Trout through Bonneville Dam and The Dalles Dam Site as Compared to Unobstructed Sections of the Columbia River;" "Investigations and Field Studies Relating to Numbers and Seasonal Occurrence of Migratory Fish Entering the Columbia River above Bonneville and the Snake River and Their Final Distribution among Principal Tributaries Thereto;" "Enumeration Study--Upper Columbia and Snake Rivers;" "Research on Fishway Problems;" "A Study to Investigate the Effects of Fatigue and Current Velocities on Adult Salmon and Steelhead Trout;" "A Study to Determine the Effects of Electricity on Salmon and Steelhead Trout;" "Determination of the Vertical and Horizontal Distribution of Seaward Migrants, Baker Dam;" and "Guiding Downstream Migrant Salmon and Steelhead Trout--A Research Summary."

#### GERMAN FEDERAL REPUBLIC:

Sea-Fish Marketing in the Federal Republic of Germany, by Klaus-Hinrich Krohn and Arnold Alewell, FAO Fisheries Study No. 6, 152 pp., illus., printed, \$1.50 (For sale by Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.) Food and Agriculture Organization of the United Nations, Rome, Italy, 1957. This study surveys the supply and marketing conditions of the fish industry in the Federal Republic of Germany, and considers in particular the promotion and expansion of marketing. The first chapter on the sea fishery of the Federal Republic of Germany covers an outline of historical development in the coastal and small deep-sea fishery, large herring fishery, and trawler fishery; the importance of the German sea-fish industry; aims of fishery policy; main sources of supply; pattern of landings; and products of the fish industry. Other chapters cover technical facilities and maintenance of quality of fish from catch to marketing; demand for fish; fish marketing; promotion of fish marketing; and a summary of the report which describes the structure and the present economic situation of the fish industry in the Federal Republic.

#### HERRING:

La Campagne Harenguiere, 1956-57 (24 juillet 1956 - 19 janvier 1957), (The Herring Campaign, 1956-57--July 24, 1956 - January 19, 1957), by

Charles Gilis, 30 pp., printed in French and Dutch. Institut d'Etudes Maritimes, Rue du Midi, 16, Ostende, Belgium, 1957. Presents statistics on Belgium's herring fishery in the North Sea. Also reports on biological studies of herring banks and populations in the North Sea and the English Channel.

The East Anglian Herring Season, 1957, 5 pp., illus., processed. Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Lowestoft, England, 1958.

An Ecological Survey of the Drift-Net Herring Fishery off the North-East Coast of Scotland, Part II--The Planktonic Environment of the Herring, by R. S. Glover, 53 pp., illus., printed, 13s. (about US\$1.85). (Reprinted from Bulletins of Marine Ecology, vol. V, no. 39, pp. 1-43, Plates I-VIII, December 1957.) The Scottish Marine Biological Association, Oceanographic Laboratory, Edinburgh, Scotland.

The Status of the Major Herring Stocks in British Columbia in 1956-57, by F. H. C. Taylor, A. S. Hourston, and D. N. Outram, FRB. No. 500, 33 pp., illus., printed. (Reprinted from the Report of the British Columbia Department of Fisheries, 1956, pp. 45-77.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1957. This report is the tenth of a series of annual reports on the results of herring research carried out at the Biological Station, Nanaimo, B. C., by the Fisheries Research Board of Canada. Continuing the policy of the past three years, the degree of integrity, present status, and level of abundance of each of the major British Columbia herring stocks in 1956-57 are discussed.

#### INDIANA:

A History of the Study of Fishes in Indiana, by Shelby D. Gerking, Contribution No. 505, 11 pp., printed. (Reprinted from Indiana Academy of Science, vol. 66, 1957.) Department of Zoology, Indiana University, Bloomington, Indiana.

#### INTERNATIONAL LAW COMMISSION:

Report of the International Law Commission Covering the Work of its 9th Session, April 23-June 28, 1957, A/3623 (GAOR, 12th sess., supp. no. 9), 15 pp., printed, 20 U. S. cents. United Nations, New York, N. Y., August 1957. (For sale by the International Documents Service, Columbia University Press, 2960 Broadway, New York 27, N. Y.)

#### IRRADIATION:

Preliminary Design Study of a Food Irradiation Reactor--Phase 2 (AECU-3320), 98 pp., printed, \$2.50. U. S. Department of Commerce, Washington 25, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Preliminary design study of the reactor type selected for use in government process.

#### JAPAN:

Bulletin of the Faculty of Fisheries, Hokkaido University, vol. 8, no. 4, 102 pp., illus., printed in Japanese and English. Faculty of

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

Fisheries, Hokkaido University, Hakodate, Japan, February 1958. Contains, among others, the following articles: "Report from the Oshoro Maru on Oceanographic and Biological Investigations in the Bering Sea and Northern North Pacific in the Summer of 1955--IV. Diatom Standing Crops and the Major Constituents of the Populations as Observed by Net Sampling," by Kohei Karohji; "Studies in the Bacteriological Chemistry of Shark Muscle--IV. On the Effects of Temperature upon the Urea Decomposing Ability of the Urea-Splitting Bacteria Isolated from Spoiling Shark Muscle," by Takahisa Kimura; "A Note on the Age and Race of the Red Salmon in the North Pacific Ocean," by Tatsuro Kubo; and "Chemical Studies on Herring Meat," by Shigeo Sasa.

Bulletin of Tokai Regional Fisheries Research Laboratory, No. 17, 98 pp., illus., printed in Japanese with summaries in English. Tokai Regional Fisheries Research Laboratory, Tsukishima, Chuo-Ku, Tokyo, Japan. Includes, among others, the following papers: "An Index to Relative Size of Fish Population and Effective Fishing Effort," by S. Tanaka; "Studies of the Anchovy Scale. I--Difference in the Scale Characters from Various Body Areas, with a Consideration on Ecological Significance of the Grooves," by K. Kondo; "Growth of the Japanese Anchovy. IV--Age Determination with the Use of Scales," by S. Hayashi and K. Kondo; "Study on Bait for Tuna Long Line. II--Preservation of Bait Squid," by T. Koyama; and "Hydraulic Resistance of Glass-Ball Floats Enwrapped in Protective Nets," by T. Koyama.

Progress Report of the Cooperative IWASHI Resources Investigations, 1954, 177 pp., illus., printed in Japanese with summary in English. Fisheries Agency, Japan Sea Regional Fisheries Research Laboratory, Niigata, Japan, August 1957.

#### LOBSTERS:

The Lobster Fishery of Massachusetts, by Charles L. Wheeler and John T. Hughes, 31 pp., illus., printed. Department of Natural Resources, Division of Marine Fisheries, 15 Ashburton Place, Boston, Mass. Describes the more interesting and important aspects of the life history of the American lobster, together with the methods of capture and some of the problems associated with the lobster fishery of Massachusetts. The authors explain what is being done to promote the welfare of the lobster fishery.

#### MASSACHUSETTS:

The Ocean Fishery (Massachusetts' Oldest Industry), 27 pp., illus., printed. Department of Natural Resources, Division of Marine Fisheries, 15 Ashburton Place, Boston, Mass. Presents a brief description of the growth and development of the Massachusetts' fishing industry from its beginning in the 17th century. It covers the historical background of the fishing industry, the difficulties encountered by the bank fishermen, and the early whale fishery. Included are descriptions of the industry, otter trawl, purse seine, pound nets, line fishing, gill nets and

harpoons, lobster fishery, bay and sea scallop fishery, quahaug fishery, clam fishery, oyster fishery, and other shellfish. Recent developments and the future of the industry also are discussed.

#### MAURITANIA:

"La Langosta Blanca de Mauritania" (The White Spiny Lobster of Mauritania), by Miguel Massuti Oliver, article, Puntal, vol. V, no. 49, April 1958, pp. 12-15, illus., printed in Spanish. Puntal, Apartado 316, Alicante, Spain. Presents a brief summary on the biology and feeding habits of Mauritania's white lobster (Palinurus mauriticus Gruvel).

#### MARKETING:

Marketing Costs for Food, Miscellaneous Publication No. 708, 15 pp., illus., processed, 15 cents. Agricultural Marketing Service, U. S. Department of Agriculture, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) This leaflet summarizes recent trends in food marketing costs and in the distribution of the consumer's food dollar. Although not directly aimed at the fishing industry, the problems and findings in many cases are applicable to the fishing industry or fishery products.

#### NEMATODES:

"Nematodes in the Fillets of Cod and Other Fishes in Newfoundland and Neighboring Areas," by Wilfred Templeman, H. J. Squires, and A. M. Fleming, article, Journal of the Fisheries Research Board of Canada, vol. 14, November 1957, pp. 831-897, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

#### NEW HEBRIDES:

A Survey of Fisheries in the New Hebrides With Preliminary Recommendations, by H. vanPel, 33 pp., illus., processed. South Pacific Commission, Noumea, New Caledonia, 1956. Contains a general description of New Hebrides, imports of preserved fish, exports of green snail and trochus shells, existing fisheries and fishery resources, and a brief list of certain species of fish. Also contains observations and recommendations for the development of the fisheries; draft regulation for the trochus fishery; and descriptions of the inland fisheries, tuna industry, fishing gear, and preservation of fish.

#### NORWAY:

Fiskeflaten, 1956 (The Fishery Fleet, 1956), Arsberetning Vedkommende Norges Fiskerier, 1956, No. 13, 37 pp., printed in Norwegian. John Griegs Boktrykkeri, Bergen, Norway, 1957.

#### NUTRITION:

"Nutritive Value of Fish. I--Nicotinic Acid, Riboflavin, Vitamin B<sub>12</sub>, and Amino Acids of Various Salt-Water Species," by A. E. Teeri, M. E. Loughlin, and D. Josselyn, article, Food Research, vol. 22, March-April 1957, pp. 145-150, printed. Food Research, Department of Food Technology, University of California, Davis, Calif.

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

"The Nutritive Value of Marine Products. XVI--The Biological Value of Fish-Flesh Proteins," by J. M. R. Beveridge, article, Journal of the Fisheries Research Board of Canada, vol. 7, February 1947. Journal of the Fisheries Research Board of Canada, Queen's Printer and Controller of Stationery, Ottawa, Canada.

#### OCEANOGRAPHY:

Las Investigaciones Maritimas (Marine Investigations), Laboratorio de Biología Marina, Publication no. 1, 15 pp., illus., printed in Spanish. Universidad Católica de Santo Tomas de Villanueva, Apartado No. 6, Marianao, Habana, Cuba, February 1958. Discusses the simple fundamentals of oceanography, and the relationship of oceanography to fishery resources.

#### OCTOPUS:

A First Record of OCTOPUS MACROPUS Risso from the United States with Notes on Its Behavior, Color, Feeding, and Gonads, by Gilbert L. Voss and Craig Phillips, Contribution No. 203, 10 pp., illus., printed. (Reprinted from the Journal of the Florida Academy of Sciences, vol. 20, no. 4, 1957, pp. 223-232.) The Marine Laboratory, University of Miami, Coral Gables, Fla.

#### OYSTERS:

Epidemic Oyster Disease and Rehabilitation Transfers in 1957, by R. R. Logie, General Series Circular No. 31, March 1958, 2 pp., printed in English and French. Fisheries Research Board of Canada, Biological Station, St. Andrews, N. B., Canada. Epidemic oyster disease was discussed in two earlier circulars in this series--Circulars 28 and 29. The present circular is a further report on epidemics and also describes rehabilitation transfers carried out in 1957. It discusses the established epidemics in New Brunswick and Nova Scotia, new epidemics, effect on production, resistance experiments, rehabilitation transfers in 1957 and 1958, and prospects for recovery of the mainland fisheries.

#### PORTION CONTROL:

"Portion Control Seafoods Head for Biggest Year as Users Jump on Profit Bandwagon," article, Quick Frozen Foods, vol. XX, no. 10, May 1958, pp. 83-84, printed. E. W. Williams Publications, Inc., 82 Wall St., New York 5, N. Y. According to this article, "A special survey of institutional frozen seafood processors revealed that institutional seafood packers experienced a 15 percent sales increase in 1957 over 1956, with much of the gain attributed to a broader selling job and snowballing popularity of portion control products with servers and consumers."

#### PORTUGAL:

Gremio dos Armadores de Navios da Pesca do Bacalhau, Relatório e Contas do Exercício de 1957 e Orcamento para 1958 (Cod Fishing Vessel Owner's Guild, Statement of Operations for 1957 and Budget for 1958), 36 pp., printed in Portuguese. A Comissao Revisora de Contas, Lisbon, Portugal.

Gremio dos Armadores da Pesca de Arrasto, Relatório e Contas do Exercício de 1957 e Orcamento para 1958 (Trawler Owners' Guild, Statement of Operations for 1957 and Budget for 1958), 50 pp., printed in Portuguese. A Comissao Revisora de Contas, Lisbon, Portugal.

Gremio dos Armadores da Pesca da Sardinha, Relatório e Contas do Exercício de 1957 e Orcamento para 1958 (Sardine Vessel Owners' Guild, Statement of Operations for 1957 and Budget for 1958), 21 pp., printed in Portuguese. Comissao Revisora de Contas, Lisbon, Portugal.

#### PROTEINS:

"Denaturation of Fish Proteins," by A. F. M. G. Luijpen, article, Nature, vol. 180, December 21, 1957, pp. 1422-1423, printed. Macmillan and Company, Ltd., St. Martins Street, London, WC2, England. Reports on the influence of the freezing-rate on the denaturation of fish held in frozen storage. Describes experiments performed with irradiated samples of fish.

#### QUALITY:

"Trimethylamine Test for Evaluating the Quality of Rosefish Fillets," by H. P. Dussault, article, Progress Reports of the Atlantic Coast Stations, No. 67, November 1957, pp. 23-25, printed. Fisheries Research Board of Canada, Fisheries Technological Station, Grande-Riviere, Quebec, Canada.

#### RADIATION PRESERVATION:

"Radiation Processing of Foods--2. A Commentary on Present Research," by R. S. Hannan and Margaret J. Thornley, article, Food Manufacture, vol. 32, December 1, 1957, pp. 559-562, printed. Leonard Hill, Ltd., Stratford House, 9 Eden Street, London, NW1, England.

#### REFRIGERATION:

Heat Transfer Measurements on Refrigerated-Food Trailers, AMS-250, 13 pp., illus., processed. Marketing Information Division, Agricultural Marketing Service, U. S. Department of Agriculture, Washington 25, D. C. This study is part of a broad program of research to improve the design and performance of transportation equipment used in the movement of agricultural products, as a means of improving and expanding the marketing of farm products. The report states that, "To date there has been no standard method to measure the performance, or efficiency, of a refrigerated-food trailer body. This study is a basic step in the development of a practical method to rate these trailers in order that they may provide the protection that will prevent the deterioration and spoilage of perishable foods in transit to market." The report describes cooperative research work done on ways of measuring heat transfer characteristics of refrigerated trailers. Tests showed wide variations in characteristics of vehicles and performance of their refrigerating units. Findings emphasized need for standard technique for rating vehicles for transporting frozen foods. Although not directly aimed at the fishing industry, the problems and findings in many cases are applicable to the fishing industry or fishery products.



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## SALMON:

Contributions to the Life-History of the Sockeye Salmon, by D. R. Foskett and D. W. Jenkinson, Paper 42, FRB. No. 501, 20 pp., printed. (Reprinted from the Report of the British Columbia Department of Fisheries, 1956, pp. 25-44.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1957.

The Movements of Salmon Tagged in the Sea, Montrose, 1954, 1955, by W. M. Shearer, Scottish Home Department Freshwater and Salmon Fisheries Research No. 20, 13 pp., illus., printed, 4s. (56 U. S. cents). Her Majesty's Stationery Office, Edinburgh, Scotland.

Rapid Learning of a Constant Course by Traveling Schools of Juvenile Pacific Salmon, by William S. Hoar, 24 pp., illus., printed. (Reprinted from the Journal of the Fisheries Research Board of Canada, vol. 15, no. 2, pp. 251-274, 1958.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

Research on Guiding Young Salmon at Two British Columbia Field Stations, by J. R. Brett and D. F. Alderdice, Bulletin No. 117, 84 pp., illus., printed, 75 Canadian cents. Queen's Printer, Ottawa, Canada, 1958.

The Salmon of South Sakhalin, by P. A. Dvinin, Translation Series No. 120, 48 pp., processed. (From Izvestiia Tikhookeanskovo Nauchno-Issledovatel'skovo Instituta Rybnovo Khoziaistva i Okeanografii, vol. 37, pp. 69-108, 1952, Vladivostok; and translated by the Bureau for Translations, Foreign Language Division, Department of the Secretary of State of Canada, edited by W. E. Ricker.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1957.

Some Effects of Temporary Exposure to Low Dissolved Oxygen Levels on Pacific Salmon Eggs, by D. F. Alderdice, W. P. Wickett, and J. R. Brett, 22 pp., illus., printed. (Reprinted from the Journal of the Fisheries Research Board of Canada, vol. 15, no. 2, pp. 229-250, 1958.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

## SALMON ROE:

"Pasteurization and Storage Life of Salmon Roe," by I. I. Lapshin, article, Food Manufacture, vol. 32, November 1, 1957, 1 p., printed. Food Manufacture, Leonard Hill, Ltd., Stratford House, 9 Eden St., London N. W. 1, England.

## SARDINES:

"Le Commerce de la Sardine dans le Monde" (World Sardine Commerce), by Geep, article, La Peche Maritime, vol. 37, no. 963, June 1958, pp. 324-327, illus., printed in French. La Peche Maritime, 190 Boulevard Haussmann, Paris, France. Gives information on world sardine production and sardine processing in many countries.

The South African Pilchard (SARDINOPS OCEL-LATA)--Preliminary Report on Feeding off the

West Coast, 1953-56, by D. H. Davies, Investigational Report No. 30, 40 pp., illus., printed. (Reprinted from Commerce and Industry, November 1957.) Division of Fisheries, Beach Road, Sea Point, Cape Town, Union of South Africa.

The South African Pilchard (SARDINOPS OCEL-LATA) and Maasbanker (TRACHURUS TRACHURUS)--Young Fish Survey, 1955-56, by D. H. Davies, Investigational Report No. 29, 36 pp., illus., printed. (Reprinted from Commerce and Industry, October 1957.) Division of Fisheries, Beach Road, Sea Point, Cape Town, Union of South Africa.

## SCALLOPS:

The Inshore Scallop Fishery of the Maritime Provinces, by J. S. MacPhail, General Series Circular No. 22, 4 pp., illus., printed. Fisheries Research Board of Canada, Atlantic Biological Station, St. Andrews, N. B., Canada, February 1954. This circular describes the Bay of Fundy giant or sea scallop fishery and the variations in gear and fishing methods. It describes types of scallop gear which fishermen have found to be most satisfactory for the particular area in which they are used. In addition, it discusses fishing operations, shucking procedure, and handling of the meats at sea and ashore.

## SEA LIONS:

The Abundance and Distribution of the Northern Sea Lion (EUMETOPIAS JUBATA) on the Coast of British Columbia, by Gordon C. Pike and Brian E. Maxwell, 13 pp., illus., printed. (Reprinted from the Journal of the Fisheries Research Board of Canada, vol. 15, no. 1, pp. 5-17, 1958.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

## SEAWEED:

(Institute of Seaweed Research) Annual Report for 1957, 23 pp., printed. Institute of Seaweed Research, Inveresk, Midlothian, Scotland. This report covers the activities of the Institute during 1957, its information and technical assistance services, and ecological research studies. It also gives a summary of the work carried out under extramural contract and on a collaborative basis during 1957 covering algal chemistry, plant physiology, microbiology, and other applications of seaweed and algal chemicals.

## SHELLFISH:

"Survival and Growth of Clam and Oyster Larvae at Different Salinities," by H. C. Davis, article, The Biological Bulletin, vol. 114, June 1958, pp. 296-307, printed, single copy \$2.50. The Biological Bulletin, Marine Biological Laboratory, Woods Hole, Mass.

## SHELLS:

"American Shell Market is Not Too Bright," by J. P. Shortall, article, Pacific Islands Monthly, vol XXVIII, no. 10, May 1958, pp. 61, 63, printed. Pacific Publications Pty, Ltd., Technipress House, 29 Alberta St., Sydney, Australia. Discusses the various influences that control

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the future of the Pacific mother-of-pearl and trochus shell market in the United States.

#### SHIPWORMS:

Sea Water Intrusion into the Fraser River and its Relation to the Incidence of Shipworms in Steveston Cannery Basin, by Susumu Tabata and Robin J. LeBrasseur, 23 pp., illus., printed. (Reprinted from Journal of the Fisheries Research Board of Canada, vol. 15, no. 1, pp. 91-113, 1958.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

#### SHRIMP:

"Biochemical and Bacteriological Methods for Determining Shrimp Quality," by C. R. Fellers, M. Gagnon, and R. Khatchikian, article, Proceedings of the Gulf and Caribbean Fisheries Institute, Ninth Annual Session, November 1957, pp. 23-26, printed. Gulf and Caribbean Fisheries Institute, 1 Rickenbacker Causeway, Virginia Key, Miami, Fla.

"Controlled Culture of Shrimp Seen on Horizon on a Commercial Scale," article, Frosted Food Field, vol. XXVI, no. 6, June 1958, pp. 3, 9-10, printed. Frosted Food Field, 321 Broadway, New York 7, N. Y. According to this article, "The controlled culture of shrimp on a commercial scale is at present probably only two or three years away." This article describes experimental work being done on cultivating and growing shrimp in sheltered salt-water inlets, bayous, rice paddies, and artificial salt-water ponds. It points out that, "pond culture of shrimp is, in itself, not a new idea. It has for a considerable number of years been practiced commercially in a number of Asian countries, such as India, Java, Sumatra, and the Philippines, as well as in Italy." This article lists the following advantages offered by shrimp farming: (1) Shrimp processors would no longer have to depend on existing shrimp beds, but could obtain shrimp in almost unlimited quantities; (2) The shrimp in the ponds could be grown and harvested independently of weather conditions. Many fishing days are lost at sea due to weather hazards; (3) The use of large trawlers requiring expensive maintenance would be eliminated; (4) If the right amounts of shrimp larvae are stocked and predators are controlled, mortality of the shrimp in the ponds would be low; (5) Since harvesting seasons could be extended over a period of months, the shrimp could be shipped to market at whatever time of year conditions are most favorable; (6) Shrimp could be available for processing without being subjected to a long trip at sea; and (7) Since inland water acreage is available at low cost, presently unutilized land would be converted to profitable operations.

"Effect of Delayed Handling Upon Shrimp Quality During Subsequent Refrigerated Storage," by E. A. Fieger, M. E. Bailey, and A. F. Novak, article, Food Technology, vol. 12, no. 5, June 1958, pp. 297-300, printed, single copies of periodical--domestic US\$1.50, foreign US\$1.75. (Published by the Institute of Food Technologists.) The Garrard Press, 510 North Hickory, Champaign, Ill. Two experiments are described

which were designed to determine the effects of delayed handling upon subsequent ice storage quality of shrimp. Evidence presented stresses the need for rapid processing of freshly-caught shrimp. For superior quality retention during ice storage, shrimp should be removed from trash fish and headed within an hour or as soon as possible after being caught. This treatment should result in removal of sand veins, high in bacteria, and may retard melanosis appreciably during ice storage. Adequate washing after heading should also contribute a beneficial effect on the ice storage life of the product.

#### SPOILAGE:

The Effect of Spoilage and Handling on the Bacterial Flora of Fish, by J. M. Shewan and D. L. Georgala, DSIR Food Investigation Memoir No. 1090, 2 pp., printed. (Symposium of The Nutrition Society on Clean Food, April 20, 1957--Reprinted from the Proceedings of the Nutrition Society, vol. 16, no. 2, 1957, p. 161.) Department of Scientific and Industrial Research, Food Investigation Organization, Torry Research Station, Aberdeen, Scotland.

"2-Thiobarbituric Acid Method for the Measurement of Rancidity in Fishery Products. II--The Quantitative Determination of Malonaldehyde," by Russell O. Sinnhuber and T. C. Yu, article, Food Technology, vol. 12, January 1958, pp. 9-12, printed. Food Technology, The Garrard Press, 510 North Hickory, Champaign, Ill.

#### TERRITORIAL WATERS:

United Nations Conference on the Law of the Sea. United Nations, New York, N. Y. The following processed reports have been issued:

A/CONF. 13/5/Add. 3. 4 pp., March 3, 1958. Addendum to comments by governments on the articles concerning the law of the sea prepared by the International Law Commission at its 8th session. Preparatory Document No. 5.

A/CONF. 13/5/Add. 4. ---. 3 pp., March 18, 1958.

A/CONF. 13/21/Corr. 1. 1 p., English only, February 14, 1958.

A/CONF. 13/21/Add. 1. 5 pp. Addendum to Reference guide to resolutions and records concerning the law of the sea adopted by world-wide or regional international conferences and meetings. Preparatory Document no. 16. By the Secretariat of the UN.

A/CONF. 13/34. Agenda. 1 p. February 26, 1958

A/CONF. 13/35. 19 pp., February 26, 1958. UN Conference on the Law of the Sea. Rules of procedure.

A/CONF. 13/36. 5 pp., including annex, February 28, 1958. Memorandum concerning Art. 66 of the articles concerning the law of the sea, adopted by the International Law Commission at its 8th session. Submitted by the World Health Organization.

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## TIDES:

Tide Tables--East Coast, North and South America (including Greenland), 1959, 271 pp., printed, 50 cents. U. S. Department of Commerce, Coast and Geodetic Survey, Washington 25, D. C. This publication contains tables on daily tide predictions for 44 reference stations and differences for about 1600 stations in North and South America, approximate height of tide at any time, local mean time of sunrise and sunset, reduction of local mean time to standard time, moonrise and moonset for eight places, and astronomical data. Explanatory notes to facilitate usage of each table are included. Also contains a list of Coast and Geodetic Survey publications relating to tides and tidal currents.

## TRADE AGREEMENTS AND TARIFFS:

Operation of the Trade Agreements Program, 10th Report, July 1956-June 1957, 276 pp., processed, United States Tariff Commission, Washington 25, D. C., 1958. Although the Contracting Parties to the General Agreement on Tariffs and Trade did not sponsor any multilateral tariff negotiations during the period covered by this report, the United States engaged in limited trade-agreement negotiations, under the General Agreement, with Cuba and with the United Kingdom and Belgium. The report describes the negotiations with those countries and analyzes the concessions that the United States granted to and obtained from Cuba, as well as the compensatory concessions that it granted to the United Kingdom and Belgium. This report also covers other important developments that occurred during 1956-57 with respect to the trade agreements program. These include the proposed legislation concerning United States participation in the Organization for Trade Cooperation; the major developments relating to the general provisions and administration of the General Agreement; the actions of the United States relating to its trade agreements program (among the activities under the escape clause is included the third investigation on groundfish fillets); developments with respect to European economic integration, such as the Common Market and the proposed European free-trade area; the relationship to the General Agreement of the various multilateral associations and regional groupings of countries that have grown up since the war; and the changes made in quantitative trade restrictions and exchange controls by countries with which the United States has trade agreements.

## TRAWLERS:

The Design of the "Sir William Hardy", by G. C. Eddie, DSIR Food Investigation Memoir No. 1087, 6 pp., illus., printed. (Reprinted from The Shipbuilder and Marine Engine Builder, August 1957) Department of Scientific and Industrial Research, Food Investigation, Torry Research Station, Aberdeen, Scotland. The purpose of this article is to set forth the considerations which governed the design and specification of the first British Diesel-electric trawler--the Sir William Hardy, which is equipped for research in the field of fish preservation. The work of the Torry Research Station is outlined

to show the requirements for the new vessel and details concerning the choice of the propulsion system, the winch drive, the constant-current control system, bridge control, the high-speed engines, the engineroom, the trawl winch, and other notable features of the ship.

## TROUT:

Experiencias Sobre Alimentacion de Truchas en Rio Blanco (Some Findings on the Food of Trout in Rio Blanco), by Antonio Bories Valenzuela and Alberto Schifferli Chaumont, 12 pp., processed in Spanish. Ministerio de Agricultura, Direccion General de Pesca y Caza, Santiago, Chile, April 1957.

## TUNA:

"La Campagne Thoniere d'Hiver 1957-1958 a Dakar" (The 1957-1958 Winter Tuna Fishery at Dakar), article, La Peche Maritime, vol. 37, no. 963, June 1958, pp. 346-348, illus., printed in French. La Peche Maritime, 190 Boulevard Haussmann, Paris, France.

"Datos Sobre el Desarrollo de la Pesca del Bonito en Cuba y su Industrializacion" (Information on the Development of the Fishery for Bonito and Its Industrialization in Cuba), by Ignacio Palomera, article, Mar y Pesca, vol. II, no. 2, April 1958, pp. 34-35, illus., printed in Spanish. Instituto Nacional de la Pesca, Malecon 59, Havana, Cuba. A brief review of the fishery for bonito in Cuba, which has increased steadily since 1942. Reports on the bonito canning industry which uses materials manufactured entirely in Cuba.

Geographical Distribution of the Annual Catches of Yellowfin and Skipjack Tuna from the Eastern Tropical Pacific Ocean from Vessel Logbook Records, 1952-1955, by Bell M. Shimada, 77 pp., illus., printed in English and Spanish. (Reprinted from Inter-American Tropical Tuna Commission Bulletin, vol. II, no. 7, pp. 289-363) Inter-American Tropical Tuna Commission, La Jolla, Calif., 1958.

La Peche Maritime (Marine Fishery), vol. 37, no. 962, May 1958, 63 pp., illus., printed in French. Les Editions Maritimes, 190 Boulevard Haussmann, Paris, France. Contains articles on various aspects of marine fisheries, including the following articles on tuna: "Regards sur l'Evolution de l'Industrie du Thon" (Notes on the Evolution of the Tuna Industry), by L. Plouas; "Le Marche International du Thon et des Conserves de Thon" (International Trade in Tuna and Canned Tuna), by Geep; "Le Probleme du Thon dans la Conserverie" (The Problem of Tuna in the Canning Industry), by A. de Torquat; "Concarneau et le Thon Tropical" (Concarneau and Tropical Tuna); "Resultats de l'Annee 1957 et Perspectives pour la Prochaine Campagne du Thon a Saint-Jean-de-Luz" (Results of the Year 1957 and Prospects for the Next Tuna Season in Saint-Jean-de-Luz), by G. Pommereau; "Dakar, Premier Port Thonier de l'Union Francaise en 1957" (Dakar, the Principal Tuna Port of France), by A. Sahut-Morel; and "L'Utilisation du Froid dans la Peche au

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Thon" (The Use of Refrigeration in the Tuna Fishery), by Pierre-Henri Lecler.

Proposed Kauai Tuna Cannery, 8 pp., printed. Kauai Engineering Works, Ltd., Kauai, Territory of Hawaii.

A Study of the Dynamics of the Fishery for Yellowfin Tuna in the Eastern Tropical Pacific Ocean, by Milner B. Schaefer, 41 pp., illus., printed in English and Spanish. (Reprinted from Inter-American Tropical Tuna Commission Bulletin, vol. II, no. 6, pp. 247-285.) Inter-American Tropical Tuna Commission, La Jolla, Calif., 1957.

UNITED KINGDOM:

Scottish Sea Fisheries Statistical Tables, 1957, 48 pp., printed. Her Majesty's Stationery Office, 13a Castle St., Edinburgh 2, Scotland, 1958. Contains 23 statistical tables of the fish landed and cured, vessels and fishermen, and

creek returns. Tables 1 through 16 cover quantity and value of fish landed by British and foreign vessels; landings of British vessels according to methods of fishing from 1938 through 1957; quantity, value, and average value of each kind of fish landed by British vessels in 1913, 1930, and 1950-1956; quantity and value of each kind of fish landed in specific districts by British vessels of various types; quantity of each kind of fish landed from and expenditure of fishing effort in each fishing region by British vessels; quantity of each kind of fish landed by foreign vessels from each fishing region and quantity and value of fish landed by each nationality; and seasonal landings of herring. Tables 17 through 23 cover quantity of herring cured from 1913 through 1957; quantity and value of whitefish cured and herring cured in each district, according to method of cure; fishing vessels; fishermen employed; greatest number of vessels and persons employed by districts in herring fishing; and vessels, fishermen, and quantity and value of fish landed in creeks.



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