

# RECENT FISHERY PUBLICATIONS

## FISH AND WILDLIFE SERVICE PUBLICATIONS

THESE PROCESSED PUBLICATIONS ARE AVAILABLE FREE FROM THE OFFICE OF INFORMATION, U.S. FISH AND WILDLIFE SERVICE, WASHINGTON, D. C. 20240. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

- CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES.
- MNL - REPRINTS OF REPORTS ON FOREIGN FISHERIES.
- SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.
- SSR.- FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).

- | Number  | Title  |
|---------|--|
| FS-3291 | Middle Atlantic Fisheries, 1962, Annual Summary (Revised), 6 pp.                         |
| FS-3417 | Fish Sticks and Fish Portions, 1963 Annual Summary, 3 pp.                                |
| FS-3442 | Gulf Coast Shrimp Data, September 1963, 22 pp.   |
| FS-3459 | Gulf Coast Shrimp Data, October 1963, 23 pp.   |
| FS-3460 | Massachusetts Landings, July 1963, 9 pp.   |
| FS-3462 | Georgia Landings, February 1964, 3 pp.   |
| FS-3463 | North Carolina Landings, February 1964, 4 pp.  |
| FS-3465 | Massachusetts Landings, August 1963, 9 pp.   |
| FS-3466 | South Carolina Landings, February 1964, 3 pp.  |
| FS-3467 | Oregon Landings, 1963 Annual Summary, 2 pp.  |
| FS-3469 | California Landings, January 1964, 4 pp.   |
| FS-3470 | Frozen Fish Report, March 1964 (Preliminary), 2 pp.                                      |
| FS-3471 | United States Fisheries, 1962 Annual Summary, 16 pp.                                     |
| FS-3472 | Massachusetts Landings, September 1963, 9 pp.  |
| FS-3473 | Gulf Coast Shrimp Data, November 1963, 22 pp.  |
| FS-3474 | Maine Landings, 1963 Annual Summary (by months), 7 pp.                                   |
| FS-3479 | Shrimp Landings, November 1963, 8 pp.  |
| FS-3482 | Maine Landings, January 1964, 4 pp.  |
| FS-3485 | Massachusetts Landings, October 1963, 9 pp.  |
| FS-3486 | Massachusetts Landings, November 1963, 9 pp.   |
| FS-3488 | Maryland Landings, February 1964, 3 pp.  |
| FS-3497 | Maine Landings, February 1964, 4 pp.   |
| FS-3501 | Breaded Shrimp, January-March 1964, 2 pp.  |
| FS-3500 | Fisheries of the United States, 1963 (A Preliminary Review), 79 pp., illus., April 1964. |
- Contains detailed information on the United States catch of fish and shellfish, production of manufactured fishery products, and foreign trade in fishery commodities. Data contained in the report reveal

that the catch in 1963 amounted to 4,750 million pounds valued at \$378 million ex-vessel. Of the catch, 2,490 million pounds were used for human food while the remainder was used for the manufacture of industrial products and for bait and animal food. In 1963, for the first time, over half of the U. S. supply of fishery products available was imported--6,500 million pounds, representing 58 percent of the total. A new high was reached in shrimp supplies with 318 million pounds available, in contrast to only 272 million pounds in 1962. The menhaden catch of 1,800 million pounds accounted for 37 percent of the total U. S. catch of all species. Shrimp was the most valuable item (\$70 million) taken, with Pacific salmon running second. The new long-line fishery, principally for Atlantic swordfish, took 2.7 million pounds in comparison to 1.7 million pounds in 1962. During 1963, a considerable migration of the Gulf and South Atlantic shrimp fleet to central and South American countries occurred.

Sep. No. 704 - Shrimp Explorations off Vancouver Island (British Columbia), October-November 1962.

SSR-Fish, No. 469 - Success of Pink Salmon Spawning Relative to Size of Spawning Bed Materials, by William J. McNeil and W. H. Ahnell, 20 pp., illus., January 1964.

SSR-Fish, No. 470 - The Segregation of Red Salmon in the Escapements to the Kvichak River System, Alaska, by Howard Donald Smith, 25 pp., illus., January 1964.

SSR-Fish, No. 472 - Use of Plant Extracts in Serological Studies of Fish, by Fred M. Utter, George J. Ridgway, and Harold O. Hodgins, 22 pp., illus., February 1964.

Drip Formation in Fish. 1--A Review of Factors Affecting Drip, by David T. Miyauchi, 8 pp. (Reprinted from Fishery Industrial Research, vol. 2, no. 2, December 1963, pp. 13-20.)

Inventory of Oceanographic Data for the Western North Atlantic Ocean and the Gulf of Mexico (oceanographic station data, bathythermograph observations, and sea-surface temperature observations), Circular 176, 41 pp., illus., December 1963. A compilation of charts.

THE FOLLOWING REPRINTS FROM FISHERY BULLETIN, VOL. 63, NO. 1, 1963, ARE AVAILABLE FROM THE OFFICE OF INFORMATION, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON, D. C. 20240.

Abundance, Age, and Fecundity of Shad, York River, Va., 1953-59, by Paul R. Nichols and William H. Massmann, pp. 179-187, illus., printed.

Age, Growth, and Maturity of Round Whitefish of the Apostle Islands and Isle Royale Regions, Lake Superior, by Merrill M. Bailey, pp. 63-75, illus., printed.

Age and Growth of the Whitefish in Lake Superior, by William R. Dryer, pp. 77-95, illus., printed.

Cod Groups in the New England Area, by John P. Wise, pp. 189-203, illus., printed.

Comparison of Growth of Four Strains of Oysters Raised in Taylors Pond, Chatham, Mass., by William N. Shaw and James A. McCann, pp. 11-17, illus., printed.

Development of a Mathematical Relationship between Electric-Field Parameters and the Electrical Characteristics of Fish, by Gerald E. Monan and Derek E. Engstrom, pp. 123-136, illus., printed.

Distinguishing Tuna Species by Immunochemical Methods, by George J. Ridgway, pp. 205-211, illus., printed.

Early Larval Stages of the Sea, XIPHOPENEUS KROYERI (Heller), by William C. Renfro and Harry L. Cook, pp. 165-177, illus., printed.

Effect of Fishway Slope on Performance and Biochemistry of Salmonids, by Gerald B. Collins and others, pp. 221-253, illus., printed.

Further Studies on Fishway Slope and Its Effect on Rate of Passage of Salmonids, by Joseph R. Gauley and Clark S. Thompson, pp. 45-62, illus., printed.

Herring Tagging Experiments in Southeastern Alaska, by Bernard Einar Skud, pp. 19-32, illus., printed.

Identification of New England Yellowtail Flounder Groups, by Fred E. Lux, pp. 1-10, illus., printed.

Influence of Water Velocity upon Orientation and Performance of Adult Migrating Salmonids, by Charles R. Weaver, pp. 97-121, illus., printed.

Some Aspects of the Oceanography of Little Port Walter Estuary, Baranof Island, Alaska, by Charles F. Powers, pp. 143-164, illus., printed.

Theory on Development of Mounds Near Red Bluff, Calif., by Harold A. Gangmark and F. Bruce Sanford, pp. 213-220, illus., printed.

Use of Plant Hemagglutinins in Serological Studies of Clupeoid Fishes, by Carl Sindermann, pp. 137-141, illus., printed.

THE FOLLOWING MARKET NEWS LEAFLETS ARE AVAILABLE FROM THE FISHERY MARKET NEWS SERVICE, U. S. BUREAU OF COMMERCIAL FISHERIES, WYATT BLDG., SUITE 611, 777 14TH ST. NW., WASHINGTON, D. C. 20005.

Number	Title
MNL - 7	Mexican Fisheries, 1961-63, and First Quarter 1964, 6 pp.
MNL - 23	Fisheries of Chile, Part II and Part III - Central and South Chile, 1960-1962, 18 pp.

MNL-14 - United Kingdom's Fishing Industry, 1959-1963, 40 pp.

MNL-32 - Venezuelan Commercial Catch, Foreign Trade, and Major Developments for 1961-1962, 17 pp.

MNL-89 - Peru: Fish Meal and Oil Report, 1963, 8 pp.

THE FOLLOWING ENGLISH TRANSLATIONS OF FOREIGN LANGUAGE ARTICLES ARE AVAILABLE ONLY FROM THE U. S. BUREAU OF COMMERCIAL FISHERIES BIOLOGICAL LABORATORY, BOX 3830, HONOLULU, HAWAII 96812.

On the hydrographic condition accelerating the skipjack's northward movement across the Kuroshio Front, by Hideo Kawai and Minoru Sasaki, 22 pp., illus., processed, June 1963, limited distribution. (Translated from the Japanese, Bulletin of Tohoku Regional Fisheries Research Laboratory, no. 20, March 1962, pp. 1-27.)

Methods of identification for the young stages of tuna and spearfishes. II, by Shoji Ueyanagi and Hisayoshi Watanabe, 20 pp., illus., processed, April 1964, limited distribution. (Translated from the Japanese, Materials for the Tuna Fisheries Research Council Nankai Regional Fisheries Research Laboratory, February 1964.)

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

California Fisheries, 1963, by V. J. Samson, 47 pp., illus., April 1964. (Market News Service, U. S. Fish and Wildlife Service, Rm. 205, Post Office Bldg., San Pedro, Calif. 90731.) A review of 1963 trends and conditions in the California fisheries, including a summary of the sardine fishery during the 1963 season when landings were the lowest on record. Among the subjects discussed are the tuna industry and cannery receipts; ex-vessel tuna prices; canned tuna pack; and imports of canned and frozen tuna. Also covered are the fishing fleet developments; the anchovy fishery; and fish meal prices and market. Included in the statistical tables are data on tunalike fish--cannery receipts, domestic landings of frozen imported tuna, and canned pack, 1961-63; sardine landings, pack, and meal and oil produced, 1962/63 and 1963/64 seasons; and the cannery receipts and pack of mackerel and jack mackerel, 1963. Also contains data on cannery receipts of mackerel materials and production of anchovies, herring, squid, and pet food; landings of fish and shellfish in the Eureka and San Pedro-Monica areas; imports of fishery products into Arizona and California Custom Districts, 1962-63; and whale fishery, 1961-63. An attractive cover showing the fishermen's Fiesta Time at the Port of Los Angeles enhances this year's report.

California Fishery Market News Monthly Summary - Part I - Fishery Products Production and Market Data, March 1964, 14 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif. 90731.) California cannery receipts of tuna and tunalike fish and other species used for canning; pack of canned tuna, tunalike fish, mackerel, and anchovies; market fish receipts at San Pedro, Santa Monica, and Eureka areas; California and Arizona imports; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; for the month indicated.

California Fishery Market News Monthly Summary - Part II - Fishing Information, April 1964, 9 pp., 1

U. S. Bureau of Commercial Fisheries, Biological Laboratory, P. O. Box 6121, Pt. Loma Station, San Diego 6, Calif. 92100.) Contains sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists; for the month indicated.

ery Industrial Research, vol. 2, no. 2, December 1963, 88 pp., illus., processed. (Branch of Reports, Bureau of Commercial Fisheries, U. S. Fish and Wildlife Service, Washington, D. C. 20240.) This is the third issue of a new periodical which is being published irregularly and which presents papers devoted to research on problems of the fishing industry. This issue has: "Economic Factors Related to Lake Trout Quotas on Lake Superior, by Keith D. Couillard; "Effect of Storage in Refrigerated Sea Water on Amino Acids and Other Components of Herring (*Merluccius bilinearis*)," by Edward H. Cohen and John A. Peters; "Drip Formation in Fish. A Review of Factors Affecting Drip," by David T. Taniuchi; "Storage of Fish in Refrigerated Sea Water," by Edward H. Cohen and John A. Peters; "Technological Investigations of Pond-Reared Fish. Product Development from Buffalo fish," by Leo Sullivan and Harry L. Seagran; and "Bibliography of Publications--Division of Industrial Research, by Branch, Year, and Author, 1955-1961 Inclusive," by Virginia Whorley.

of Mexico Monthly Landings, Production and Shipments of Fishery Products, February and March 1964, 12 pp. each. (Market News Service, U. S. Fish and Wildlife Service, Rm. 609, 600 South St., New Orleans 12, La. 70130.) Gulf States shrimp, oyster, snfish, and blue crab landings; crab meat production; LCL express shipments from New Orleans; wholesale prices of fish and shellfish on the New Orleans French Market; fishery imports at Port Isabel and Brownsville, Texas, from Mexico; Gulf of Mexico Landings and Production of Meal, Solutions, and Oil; and sponge sales; for the months indicated.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, April 1964, 4 pp. (Market News Service, U. S. Fish and Wildlife Service, 18 S. King St., Hampton, Va. 23369.) Landings of food fish and shellfish and production of crab meat and shucked oysters for the Virginia areas of Hampton Roads, Chesapeake, Lower Northern Neck, and Lower Eastern Shore; the Maryland areas of Crisfield, Cambridge, Ocean City; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data on fishery production and shrimp production; for the month indicated.

New England Fisheries--Monthly Summary, March 1964, 22 pp. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston 10, Mass. 02210.) Review of the principal New England fishery ports. Presents data on fishery landings by species and species; industrial fish landings and ex-vessel prices; imports; cold-storage stocks of fishery products in New England warehouses; fishery landings and ex-vessel prices for ports in Massachusetts (Boston, Gloucester, New Bedford, Provincetown, and Woods Hole), Maine (Portland and

Rockland), Rhode Island (Point Judith), and Connecticut (Stonington); frozen fishery products prices to primary wholesalers at Boston, Gloucester, and New Bedford; and Boston Fish Pier and Atlantic Avenue fishery landings and ex-vessel prices by species; for the month indicated.

New York City's Wholesale Fishery Trade--Monthly Summary--March 1964, 19 pp. (Market News Service, U. S. Fish and Wildlife Service, 155 John St., New York, N. Y. 10038.) Includes summaries and analyses of receipts and prices on wholesale Fulton Fish Market, including both the salt- and fresh-water sections; imports entered at New York customs district; primary wholesalers' selling prices for fresh, frozen, and selected canned fishery products; marketing trends; and landings at Fulton Fish Market docks and Stonington, Conn.; U. S. shrimp supply indicators; for the month indicated.

(Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, April 1964, 7 pp. (Market News Service, U. S. Fish and Wildlife Service, 706 Federal Office Bldg., 909 First Ave., Seattle, Wash. 98104.) Includes Seattle's landings by the halibut and salmon fleets reported through the exchanges; landings of halibut reported by the International Pacific Halibut Commission; landings of otter-trawl vessels as reported by the Fishermen's Marketing Association of Washington; local landings by independent vessels; coastwise shipments from Alaska by scheduled and non-scheduled shipping lines and airways; imports from British Columbia via rail, motor truck, shipping lines, and ex-vessel landings; and imports from other countries through Washington customs district; for the month indicated.

THE FOLLOWING SERVICE PUBLICATIONS ARE FOR SALE AND ARE AVAILABLE ONLY FROM THE SUPERINTENDENT OF DOCUMENTS, U. S. GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C. 20402.

Anglers' Guide to Sharks of the Northeastern United States, Maine to Chesapeake Bay, by John G. Casey, Circular 179, 34 pp., illus., printed, April 1964, 25 cents.

"Comparison of Various Methods of Hemoglobin Determination on Catfish Blood," by Howard N. Larsen, article, *The Progressive Fish-Culturist*, vol. 26, no. 1, January 1964, pp. 11-15, illus., processed, single copy 25 cents.

"Dry Concentrates as Complete Trout Foods," by Arthur M. Phillips, Jr., Glen L. Hammer, and Earl A. Pyle, article, *The Progressive Fish-Culturist*, vol. 26, no. 1, January 1964, pp. 21-24, processed, single copy 25 cents.

"An Experimental Sea Lamprey Barrier," by Thomas M. Stauffer, article, *The Progressive Fish-Culturist*, vol. 26, no. 2, April 1964, pp. 80-83, illus., processed, single copy 25 cents.

"A Modified Scoop Trap for Sampling Downstream-Migrant Salmon in Turbid Glacial Rivers," by William R. Meehan, article, *The Progressive Fish-Culturist*, vol. 26, no. 1, January 1964, pp. 42-46, illus., processed, single copy 25 cents.



## 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.

### ALGAE:

"Algae, The Pondowners Scummy Scourge," by H. D. Kelly, article, *Alabama Conservation*, vol. XXXIV, no. 1, December 1963-January 1964, pp. 14-16, illus., printed. Alabama Department of Conservation, 64 N. Union St., Montgomery 4, Ala.

### AMINO ACIDS:

"Fish and Fish Products. Part IV--Evaluation of Certain Important Types of Fish for Their Valuable Constituents and Essential Amino Acids," by M. Qudrat-I-Khuda, Kh. M. Quddusur Rahman, and N. A. Khan, article, *Scientific Researches*, vol. 1, no. 1, January 1964, pp. 49-56, illus., printed. East Regional Laboratories of P.C.S.I.R., Mirpur Rd., Dhahmond, Dacca-2, East Pakistan.

### ANCHOVY:

"Experiencias sobre el Empleo de Anchoveta Fresca (*Engraulis ringens*) en la Alimentacion de Cerdos" (Research on the Use of Fresh Anchovy--*Engraulis ringens*--in the Feeding of Hogs), by A. Bacigalupo and others, article, *Anales Cientificos*, vol. 1, no. 1, April-May-June 1963, pp. 18-39, illus., printed in Spanish with English summary. Universidad Agraria, Departamento de Publicaciones, Apartado 456, Lima, Peru.

### ANTIBIOTICS:

Problems in the Use of Antibiotic Dips for the Preservation of Fresh Atlantic Groundfish Fillets, by C. H. Castell and Jacqueline Dale, Bulletin No. 138, 70 pp., 1963, printed. Fisheries Research Board of Canada, Ottawa, Canada.

### ANTIOXIDANTS:

"Nutritive Value of Marine Oils. II--Effects of in Vivo Antioxidants in Feeding of Menhaden Oil to Swine," by J. E. Oldfield, R. O. Sinnhuber, and A. A. Rasheed, article, *Journal of the American Oil Chemists' Society*, vol. 40, August 1963, pp. 357-360, printed. American Oil Chemists' Society, 35 East Wacker Dr., Chicago 1, Ill.

### ARGENTINA:

"Piscicultura del Pejerrey" (Pond Culture of the Pejerrey), article, *Asuntos Agrarios*, vol. XI, no. 125, January 1964, p. 5, illus., printed in Spanish. Ministerio de Asuntos Agrarios, Departamento de Publicaciones, Ava. 51, no. 774, La Plata, Argentina.

### ARTIFICIAL REEFS:

Artificial Habitat in the Marine Environment, by John G. Carlisle, Jr., Charles H. Turner, and Earl E. Ebert, *Fish Bulletin* 124, 94 pp., illus., printed. Documents Section, Department of Fish and Game, P. O. Box 1612, Sacramento, Calif. 95807. A study of changes, caused by offshore drilling, in the habitat of marine fish dwelling in artificial reefs. Findings showed that those changes were generally beneficial to the fish and plants; and depositing washed drill cuttings on the bottom at those sites was neither deleterious nor beneficial to the marine life in the area.

### BACTERIAL CONTAMINATION:

Coliform Contamination in Lobster Meat Traced to Cooler Construction, by John M. Graham, 3 pp., illus., printed. (Reprinted from *Canadian Fisheries Reports*, no. 2, September 1963, pp. 25-27.) Fish Inspection Laboratory, Department of Fisheries of Canada, Shediac, N. B., Canada.

### BACTERIOLOGY:

"Radiation-Resistant, Pigmented Coccus Isolated from Haddock Tissue," by Norman S. Davis, Gerald J. Silverman, and Edmund B. Masurovsky, article, *Journal of Bacteriology*, vol. 86, August 1963, pp. 294-298, printed. Williams and Wilkins Co., 428 E. Preston St., Baltimore 2, Md.

### BALTIC SEA:

Changes in Commercial Fish Stocks in Baltic Sea under Influence of Oceanologic Factors, USSR, by T. Dement'yeva, OTS 64-21653, 15 pp., illus., printed February 26, 1964, 50 cents. (Translated from the Russian, *Okeanologiya*, vol. 3, no. 5, 1963.) Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20235.

### BARRACUDA:

Systematics and Life History of the Great Barracuda *SPHYRAENA BARRACUDA* (Walbaum), by Donald DeSylva, *Studies in Tropical Oceanography* No. 1, pp., illus., printed, October 1963, \$2.50. Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Miami, Fla. 33149. The great barracuda is found in all tropical seas, with the exception of the eastern Pacific Ocean. Poisoning in humans who have eaten fresh barracuda is due to a toxin in the meat and not from bacterial poisoning. In the western Atlantic, poisonings have occurred throughout the year. There seems to be no relation between attainment of maturity or the spawning cycle and the poisonous nature of the flesh. Evidence is presented in this report for a food-chain origin of the toxin; mechanisms are discussed for the transmission of the toxin from planktonic and benthic algae to barracuda by way of intermediate organisms. A summary of the 29 attacks reputedly made by these fish on humans is presented and analyzed.

### BELGIUM-LUXEMBOURG:

Foreign Trade Regulations of Belgium-Luxembourg, by Robert H. Walker, OBR 64-26, 12 pp., printed, March 1964, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) The Belgium-Luxembourg Economic Union (BLEU) has followed a liberal, outward-looking trade policy, reflecting its heavy dependency on foreign markets and suppliers. Imports have been almost completely liberalized; i.e. admitted without quantitative restrictions, and items still restricted or subject to licensing are for the most part liberally treated. The report discusses trade policy, import tax system, sales and other internal taxes, documentation, and labeling and marking requirements. Also covers special customs provisions, nontariff import trade controls, BLEU export controls, United States import and export controls, and diplomatic representation between the two countries.

### BIOCHEMISTRY:

"Determination of Ammonia Nitrogen in Salted Sardines," by C. Bibic, article, *Chemical Abstracts*,

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58, April 29, 1963, 9558d, printed. American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

Introduction to the Biochemistry of Foods, by J.B.S. Braverman, 351 pp., printed, 1963, 70s. (about US\$9.80). Elsevier Publishing Company, 52 Vanderbilt Ave., New York, N. Y. 10017.

#### BRAZIL:

Laboratório do Projeto de Pesca Exploratória na Costa do Estado de Santa Catarina, Janeiro-Fevereiro, 1963 (Report on the Exploratory Fishing Project along the Santa Catarina Coast, January-February 1963), 65 pp., illus., processed, 1964. Setor de Pesquisas, Departamento Estadual de Caca e Pesca, Estado de Santa Catarina, Florianópolis, Santa Catarina, Brazil. This is a report on an exploratory fishing project carried out by the State of Santa Catarina Fish and Game Department, with technical assistance from FAO, along the coast of that State in southern Brazil, between latitudes 26° S. and 29°20' S., during January and February 1963. The vessel used was a small research vessel of 15 meters length. The otter trawl used was 12 meters long (with headline of 24 meters, and footrope of 30 meters), made of cotton, with internal stretched mesh sizes from 10 centimeters in the foreparts to 58 millimeters in the cod end. Species trawled included sea bob, white shrimp (Penaeus schmitti), sharks, and flatfish.

#### CANADA:

The Commercial Fisheries of British Columbia, 100 pp., illus., processed, December 1963. Bureau of Economics and Statistics, Department of Industrial Development, Trade, and Commerce, Victoria, B. C., Canada. Provides a general survey of the fishing industry and relates the industry's markets, production, labor force, capital investment, and other expenditures to the provincial economy. The principal emphasis is on the following aspects of the industry rather than on species of fish, areas of catch, or conservation problems: markets; production; capital investment and other expenditures; the labor force; and other aspects of the industry (including international relations and the role of government in the fisheries). While the most current statistics and information available are presented, the principal years surveyed are 1960 and 1958. The general conclusion is that the industry is an important contributor to the provincial economy in terms of employment, production, and investment.

Fisheries Statistics of British Columbia, 1963 (Primary), 14 pp., processed, April 1964. Canadian Department of Fisheries, Pacific Area, Economics Branch, 1155 Robson St., Vancouver 5, B. C., Canada. Discusses the total value of fish and fish products produced in 1963 with an analysis of the decrease in market value from the previous year; marketing by species, and landed and market value, 1950-63; canned pack, and production and utilization of salmon; and landings and value of herring and byproducts, halibut, soles, crab and shrimp, and other species. Also covers fishing vessels, gear and equipment, and number of licensed fishermen. Includes statistical tables on landings and values by species and by years; landings and manufactured products; salmon pack, 1963; and other similar data.

Fisheries Statistics of Canada 1961 (Canada Summary), vol. I, part 3A, March 1964, 60 pp., printed in French and English, 75 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada. This report provides a summary of the Canadian fisheries, arranged to show separately the three main fisheries--Atlantic, Pacific, and Inland. Also contains statistical tables on landings, quantity, and value by species and provinces; value of exports and imports of fish and fishery products; employment in the primary industry; Canadian lobster pack; British Columbia salmon pack; and fishing bounties paid to vessels and boats.

Journal of the Fisheries Research Board of Canada, vol. 21, no. 2, March 1964, 214 pp., illus., printed, single copy C\$2. Queen's Printer and Controller of Stationery, Ottawa, Canada. Contains, among others, these articles: "Winter Cod Taggings off Cape Breton and on Offshore Nova Scotia Banks, 1959-62," by W. R. Martin and Yves Jean; "Variability in Paper Electrophoretic Patterns of the Serum of Landlocked Sea Lamprey, Petromyzon marinus Linnaeus," by M. L. H. Thomas and H. R. McCrimmon; "Structural Homogeneity in Unsaturated Fatty Acids of Marine Lipids. A Review," by R. G. Ackman. "Changes in Glycogen and Lactate Levels in Migrating Salmonid Fishes Ascending Experimental 'Endless' Fishways," by Anne R. Connor and others; "Cod Liver Oil: Component Fatty Acids as Determined by Gas-Liquid Chromatography," by R. G. Ackman and R. D. Burgher; and "Observations on the Milky Condition in Some Pacific Coast Fishes," by Max Patashnik and Herman S. Groninger, Jr.

Statistics on Salmon Sport Fishing in the Tidal Waters of British Columbia, 1963, 26 pp., illus., processed, March 31, 1964. Department of Fisheries of Canada, Pacific Area, 1155 Robson St., Vancouver 5, B. C., Canada.

#### CANNING:

"Canning Fresh-Water Fish. Part 3," by A. W. Lantz, article, Progress Reports of the Biological Station and the Technological Unit, No. 2, May 1961, pp. 37-47, printed. Fisheries Research Board of Canada Technological Unit, Ontario, Canada.

#### CHESAPEAKE BAY:

Chesapeake Science, vol. 4, no. 4, December 1963, 62 pp., illus., printed, single copy 75 cents. Natural Resources Institute, University of Maryland, Chesapeake Biological Laboratory, Solomons, Md. Includes, among others, these articles: "Monogenetic Trematodes from Some Chesapeake Bay Fishes. Part I--The Superfamilies Capsaloidea Price, 1936 and Diclidophoroidia Price, 1936," by J. W. McMahon; "Summer Food of Juvenile American Shad in Virginia Waters," by W. H. Massmann; and "Sport Fishing Survey of the Lower Potomac Estuary, 1959-1961," by C. M. Frisbie and D. E. Ritchie, Jr.

#### CHILE:

Foreign Trade Regulations of Chile, by William E. Spruce, OBR 64-23, 8 pp., printed, March 1964, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) A

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report offering information to businessmen interested in export-import trade with Chile. Discusses Chile's trade policy, import tariff system, sales and other internal taxes, documentation and fees, and labeling and marking requirements. Also covers special customs provisions, nontariff import trade controls, Chile's export controls, United States foreign trade controls, and diplomatic representation between the two countries.

#### CHLORTETRACYCLINE:

"Method for Chlortetracycline Determination in Fish," by G. B. Dubrova and Yu. I. Rubinshtein, Chemical Abstracts, vol. 57, October 29, 1962, 11614e printed. American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

#### CHOLESTEROL:

"A Comparison of the Effects of the Polyunsaturated Fatty Acids of Cuttlefish Liver Oil and Cottonseed Oil on Cholesterol Metabolism," by T. Kaneda and R. B. Alfin-Slater, article, Journal of the American Oil Chemists' Society, vol. 40, August 1963, pp. 336-338, printed. American Oil Chemists' Society, 35 East Wacker Drive, Chicago 1, Ill.

#### COLOMBIA:

"Cinco Especies de Peces se Han Escogido para una Campaña" (Five Species of Fish Have Been Selected for a Campaign), article, El Tiempo (Bogota), May 1, 1964, p. 34, printed in Spanish. El Tiempo, Bogota, Colombia. (A limited number of copies of a translation are available from Social Projects Department, American Institute for Free Labor Development, 1925 K St. NW., Suite 406, Washington, D. C. 20006.) Discusses the proposed fresh-water fish-culture program in Colombia; the five species of both temperate zone and tropical-type fish chosen for culture; and the projected establishment of a Pisciculture Institute at Buga. The purpose of the program is the ultimate establishment of fish ponds throughout Colombia and their production of supplemental protein for the national diet.

#### CUBA:

World Trade with Cuba, 1961-62, OBR 64-41, 4 pp., processed, March 1964, 15 cents. Bureau of International Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) This special report presents statistics on free-world and Sino-Soviet bloc trade with Cuba. The statistical tables show: the value of this trade as reported by Cuba's trading partners, 1961-62; a historical series of data through 1960, based on Cuban statistics; and tabulations made from official foreign trade publications of the free-world countries.

#### ECUADOR:

Foreign Trade Regulations of Ecuador, by Gary D. Adams, OBR 64-28, 8 pp., printed, March 1964, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Current import policy, although still largely oriented toward revenue collection, is also designed to help stimulate Ecuadorian industry and agriculture, to discourage contraband imports, and to preserve foreign exchange for the importation of items considered essential for national economic well-being. The

report includes information on Ecuador's import tariff system, sales and other internal taxes, documentation and fees, and labeling and marking requirements. Also covers special customs provisions, nontariff import trade controls, Ecuador's export controls, United States foreign trade controls, and diplomatic representation between the two countries.

#### EDUCATION:

Bulletin, Institute of Marine Science, University of Miami, 1964-1965, vol. 38, no. 7, February 1964, 3 pp., illus., printed. University of Miami, Coral Gables, Fla. Describes graduate degrees and courses offered in fisheries, marine biology, and oceanography under the Department of Marine Science.

#### ENZYMES:

"Glycolytic Enzymes in the Tissues of a Salmonid Fish (Salmo gairdnerii gairdnerii), by Robert A. MacLeod, R. E. E. Jonas, and E. Roberts, article, Canadian Journal of Biochemistry and Physiology, vol. 41, September 1963, pp. 1971-1981, printed. National Research Council, Ottawa 2, Canada.

"Studies on Proteolytic Enzyme of Liver of King Crab (Paralithodes camtschatica (Tilesius)). I--Isolation of the Crystalline Enzyme," by Tsuneyuki Saito, and others. Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, October 1962, pp. 1015-1019, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.

#### EUROPEAN FREE TRADE ASSOCIATION:

The European Free Trade Association--Today and Tomorrow, 49 pp., illus., printed, January 1964, \$1. McGraw-Hill, Inc., TMIS Annex, 351 W. 41st St., New York, N. Y. In 5 main sections this report examines the development of EFTA; organizational matters; policy; markets and trade patterns in the EFTA area; EFTA and the 1964 Kennedy Round of tariff negotiations; and other matters essential to understanding of the Association.

#### FARM PONDS:

"Use and Value of Farm Ponds," article, The Tennessee Conservationist, vol. XXX, no. 4, April 1964, pp. 14, 22, illus., printed. The Tennessee Conservationist, 264 Cordell Hull Bldg., 436 Sixth Ave. N., Nashville Tenn. A fishpond can be a delightful part of a farm, according to the author. A good pond makes use of the land; provides water for livestock fire protection, and recreation; and when properly managed it can be an extra source of income to the owners.

#### FATTY ACIDS:

"Incorporation of Linolenic-1, 4 Acid into Eicosapentaenoic and Docosahexaenoic Acids in Fish," by Mitsu Kayama, and others, article, Journal of the American Oil Chemists' Society, vol. 40, September 1963, pp. 499-502, printed. American Oil Chemists' Society, 35 East Wacker Dr., Chicago 1, Ill.

"A Study of the Hypocholesterolemic Activity of the Ethyl Esters of the Polyunsaturated Fatty Acids of Cod Liver Oil in the Chicken. I--Effect on Total Serum Cholesterol; II--Effect on Serum and Tissue Cholesterol and Aortic and Coronary Atherosclerosis," by Samuel G. Kahn and others, article, Journal of Nutrition, vol. 80, August 1963, pp. 403-413,



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

Printed, American Institute of Nutrition, 36th St.,  
at Spruce, Philadelphia 4, Pa.

#### FEDERAL REGULATIONS:

Cumulative Pocket Supplement to Code of Federal Regulations, Title 50, Wildlife and Fisheries (as of January 1, 1964), 126 pp., printed, 1964, 50 cents. Federal Register Office, General Services Administration, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

#### BEHAVIOR:

The Schooling of Fishes, " by E. Shaw, article, Scientific American, vol. 206, no. 6, 1962, pp. 128-134, pp. 137-138, printed. Scientific American Inc. 415 Madison Ave., New York 17, N. Y.

#### BLOOD:

Studies on the Auto-Oxidation Velocity of Fish Myoglobin, " by Fumio Matsuura, and others, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, February 1962, pp. 201-216, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori, Minato-Ku, Tokyo, Japan.

#### FISHERY REGULATION:

Optimization and Suboptimization in Fishery Regulation, " by Ralph Turvey, article, The American Economic Review, vol. LIV, no. 2, Part I, March 1964, pp. 64-76, illus., printed, single copy \$2. The American Economic Review, Stanford University, Stanford, Calif. 94305. The purpose of this article is to show that fishery regulation is one of those spheres of economic policy where what is the best thing to do depends on what can be done. This is usually illustrated by the analogy that, if one wants to climb as high as possible but cannot climb all the way up the highest mountain, the best thing to do may be to walk in the opposite direction and climb to the top of a lower one. If the highest mountain is to be climbed, then regulation must extend not only to the scope of the problem but to the mode of operation as well.

#### FISHERY RESEARCH:

Research in Fisheries, 1963, edited by Ted S. Y. Koo, Distribution No. 166, 79 pp., illus., printed, March 1964. Research in Fisheries, University of Washington, Fisheries Center, Seattle, Wash. 98105. Presents papers on Alaska salmon studies, other fish projects, ecology and taxonomy, shellfish, food science, and related subjects.

#### FAT:

The Structure of the Depot Fats of Marine Fish and Mammals, " by H. Brockerhoff and R. J. Hoyle, article, Archives of Biochemistry and Biophysics, vol. 102, September 1963, pp. 452-455, printed. Academic Press Inc. 111 Fifth Ave., New York 3, N. Y.

#### FOOD:

Evolution in Fish Diets, " by Keen Buss, article, The Aquarium, vol. 33, no. 5, May 1964, pp. 16-17, printed, single copy 40 cents. The Aquarium Publishing Co., Box 832, Norristown, Pa. 19404.

#### MEAL:

Trophic Method of Obtaining Fish Meal, USSR, by S. Davydova, OTS 64-21691, 10 pp., printed, Feb-

ruary 29, 1964, 50 cents. (Translated from the Russian, Trudy Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta Morskogo Rybnogo Khozyaystva i Okeanografii, vol. 45, 1962.) Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20235.

#### FISH MUSCLE:

Studies on Bound Water in Fish Muscle, " by Minoru Akiba, article, Memoirs of the Faculty of Fisheries, vol. 9, no. 2, 1961, pp. 85-179, printed. Faculty of Fisheries, Hokkaido University, Kameda-Machi, Hakodate, Japan.

#### FISH OILS:

The Oxidation of a Highly Unsaturated Herring Oil, " by Harald Astrup, article, Chemistry and Industry, January 18, 1964, pp. 107-108, printed. Society of the Chemical Industry, 14 Belgrave Sq., London SW1, England.

#### FREEZING:

Air Blast Freezing of Kippers, " by J. Graham and J. H. Merritt, article, Modern Refrigeration, vol. 66, September 1963, pp. 837-840, 862, printed. Refrigeration Press Ltd. Maclaren House, 131 Great Suffolk Street, London, SE1, England.

#### FUR SEALS:

The Return of the Antarctic Fur Seal, " by Fergus O'Gorman, article, New Scientist, vol. 20, no. 365, November 14, 1963, pp. 374-376, illus., printed, single copy 1s. (about 15 U. S. cents). Cromwell House, Fulwood Pl., High Holborn, London WC1, England. The Antarctic fur seal's reappearance on the South Georgia, South Orkney, South Shetland, and South Sandwich Islands provides an example of a population recovery, since the species was almost wiped out by sealers in the last century. Today, there are at least 20,000 individuals on one island and they will doubtless be harvested again--after scientific study.

#### GAR:

The Longnose Gar, " by Norvel Netsch, article, The Tennessee Conservationist, vol. XXX, no. 4, April 1964, pp. 14, 22, illus., printed. The Tennessee Conservationist, 264 Cordell Hull Bldg., 436 Sixth Ave. N., Nashville, Tenn.

#### GEAR:

Shock Absorber for Driftnet Warp, " by V. B. Fershtman, article, Rybnoe Khozyaystvo, vol. 38, no. 2, 1962, pp. 36-42, printed in Russian. V. Krasnosel'skaia 17, Moscow, U.S.S.R.

#### GERMAN FEDERAL REPUBLIC:

Informationen für die Fischwirtschaft, vol. 10, no. 6, 1963, 39 pp., illus., processed in German. Bundesforschungsanstalt für Fischerei, Hamburg-Altona 1, Palmaille 9, Germany. Contains, among others, these articles: "FFS 'Walther Herwig' von Erster Forschungsfahrt Zurück" (The Walther Herwig Has Just Returned from Her First Research Trip); "Fischerei auf den Bankhering in der Nordsee 1963" (Fisheries of Bank-Herring in the North Sea in 1963); "Heringsfischerei der USSR in der Nordsee" (Herring Fisheries of the U.S.S.R. in the North Sea); and "Die Thunfischerei in Deutscher Sicht" (German Outlook on Tuna Fishery).

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

## GHANA:

Establishing a Business in Ghana, by Evelyn M. Schwartztrauber, OBR 64-12, 8 pp., printed, February 1964, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) A report of help to businessmen considering an investment in Ghanaian industry. The Capital Investments Act 1963 aims to encourage foreign private investment by providing incentives, such as tax exemptions, and by guaranteeing the repatriation of profits and capital. The report discusses government policy on private foreign investment; entry, remittance, and repatriation of capital; and trade factors--tariff and trade concessions, and advantage of location in Ghana. Also covers business organization, laws and regulations affecting employment, and cost factors.

## GULF AND CARIBBEAN:

Bulletin of Marine Science of the Gulf and Caribbean, vol. 14, no. 1, March 1964, 187 pp., illus., printed, single copy \$2. University of Miami Press, Coral Gables, Fla. Includes, among others, article on: "Observations on Burrowing Behavior of the Pink Shrimp, *Penaeus duorarum*, Burkenroad," by Charles M. Fuss; "Single File Migration of the Spiny Lobster, *Panulirus argus* (Latreille)," by William F. Herrnkind and William C. Cummings; and "Enoplotheuthis anapsis, a New Species of Enoplotheuthid Squid (Cephalopoda: Oegopsida) from the Atlantic Ocean," by Clyde F. E. Roper.

## HONDURAS:

Foreign Trade Regulations of Honduras, OBR 64-21, 8 pp., printed, February 1964, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.) Present Honduran trade policy is intended to implement the Central American Common Market agreements. Although these agreements tend to be restrictive compared to past Honduran trade policy, simplified procedures and an expanding Central American market may make the overall trade picture favorable for U. S. exports. The report includes information on the Honduran system, sales and other internal taxes, documentation and fees, and labeling and marking requirements. Also covers special customs provisions, nontariff import trade controls, Honduras' export controls, United States foreign trade controls, and diplomatic representation between the two countries.

## INDIA:

The Wealth of India. Raw Materials 4, Supplement: Fish and Fisheries, 132 pp., printed, 1962. Council of Scientific and Industrial Research, New Delhi, India.

## INTERNATIONAL FISHERIES CONVENTION:

International Fisheries Convention of 1946, The Permanent Commission, Report by the President on the Eleventh Meeting, 29 pp., processed in French and English, 1964. Office of the Permanent Commission, Rm. 620, East Block, Whitehall Pl., London SW1, England. Includes a report by the President on the Eleventh Meeting of the Permanent Commission, held in London, May 1963; a list of names of dele-

gates, advisors, and observers attending the meeting and the agenda. Also presents a report by the Final Committee; and a press notice issued after the Eleventh Meeting.

## ISRAEL:

Foreign Trade Regulations of Israel, OBR 64-30, 8 pp., printed, March 1964, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Israel uses its trade policy to further its developing economy by assigning the highest priority to imports of foods, industrial raw materials, machinery, and such other products as are considered economic necessities. The report discusses Israel's import tariff system, sales and other internal taxes, documentation and fees, and labeling and marking requirements. Also covers special customs provisions, nontariff import trade controls, Israel's export controls, United States foreign trade controls, and diplomatic representation between the two countries.

## ITALY:

Bolletino di Pesca, Piscicoltura e Idrobiologia, vol. XVII, no. 2, July-December 1962, 133 pp., illus., printed in Italian with French and English summaries, single copy L. 600 (about 95 U. S. cents). Laboratorio Centrale di Idrobiologia, Piazza Borghese, 91, Rome, Italy. Contains, among others, article on: "Studi sulla Biologia e Pesca di *Xiphias gladius* (Study on Biology and Fishery of Swordfish, *Xiphias gladius* L.), by Antonino Gavaliere; "Osservazioni sul Ritmo di Accrescimento e sullo Sviluppo di Prolazioni di Trote (*Salmo trutta fario* L.)" (Observation on the Rate of Increase and Its Influence on the Population of Trout--*Salmo trutta fario* L.) and "Esperimenti di Allevamento di Trota Marmorata (*Salmo marmoratus* Cuv.)" (Experiment in Rearing Marmorata Trout--*Salmo marmoratus* Cuv.).

## JAPAN:

Bulletin of the Faculty of Fisheries, Hokkaido University, vol. 14, no. 2, August 1963, 86 pp., illus., printed in Japanese with English abstracts and tables. Faculty of Fisheries, Hokkaido University, Hakodate, Japan. Includes, among others, articles on: "The Egg and Young of the Whiting, *Theragra chalcogramma* (Pallas) from the North Pacific," by K. Kobayashi; "Freeze Vacuum Drying of Marine Products. I. K. Kobayashi and S. Igarashi; "Studies on Air Sparging in Water. II-(1)," by S. Igarashi; "Lipids of Fleeter. III; IV," by H. Igarashi and others; "Studies on Spoilage of Fish Sausage. I; II," by E. Tanikawa, Motohiro, and M. Akiba.

Bulletin of the Faculty of Fisheries, Hokkaido University, vol. 14, no. 3, November 1963, 76 pp., illus., printed in English except as noted. Faculty of Fisheries, Hokkaido University, Hakodate, Japan. Includes, among others, article on: "The Normal Developmental Stages of the Pond Smelt, *Hypomesolichthys olidus* (Pallas)," by Juro Yamada; "Photosynthesis of a Natural Phytoplankton Population Mainly Composed of a Cold Diatom, *Thalassiosira hyalina*, Hakodate Harbor, March 1962," by Shigeru Motohiro and others; "On the Effects of Environmental Factors upon the Reproduction of Fishes," by Hiroshi Yamaoka; "Devices of Simple Plankton Apparatus."



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Sigeru Motoda; "Freeze Vacuum Drying of Marine Products. II," by Kiichiro Kobayashi and Shuzo Harashi (in Japanese with English abstract); "Studies on Complete Utilization of Squid (*Ommastrephes omani pacificus*). XIX," by Eiichi Tanikawa, Akiba Toru, and Terushige Motohiro (Japanese with English abstract); "Likes and Dislikes of Fish Meat. Part 1-By Some Americans," by Keiichi Oishi and Masako Okumura (Japanese with English abstract).

*Gai Gyogyo* (Overseas Fisheries), no. 16, 1964, 51 illus., printed in Japanese. International Fisheries Co-Operative Organization, 3 Banchi, 2 Chome, Nishi-Shinjuku-cho, Chiyoda-ku, Tokyo, Japan. Includes the following articles: "Establishment of an Overseas Fisheries Policy," by K. Nakatani; "International Problems Facing the Tuna Industry," by A. Takahashi; "A Visit to the Cook Islands," by N. Sumida; "Present Condition of Overseas Fisheries;" "Overseas Advancement of the Japanese Coastal and Offshore Fisheries," by Y. Ikeda; "Foreign Private Capital Investment Structure of Developing Nations;" "Tanganyika Fisheries Survey Report."

*Book of Fisheries--1963*, No. 10, 910 pp., illus., printed in Japanese, May 15, 1963, 1,700 yen (about \$12.) Suisan Sha, 8, San'ei-cho, Shinjuku-ku, Tokyo, Japan. This report covers the period July 1961 through December 1962. Includes sections on fishery legislation and administration; fishery products production--whaling, salmon and trout industries, fisheries crab operations, bonito and tuna fishing, saury fishery, and other important fisheries; and economics of the fishery industries--prices, transportation, consumption, foreign trade, labor, and government's policy. Also covers management--capitalism, cooperatives, unions, and trade associations; international relations--commissions and conventions, Japan's overseas fisheries, and world fishery industries. Presents many statistical tables showing data on landings of whales, marine and freshwater fish, and processed products; number of fishermen; quantity of fishery products purchased in family in rural and in urban areas; quantity of exports of fresh and frozen, dried and smoked, and processed fish; amount of capital invested in the fishing industries; and other related information.

*Journal of Fisheries College, Pusan National University*, vol. V, no. 1, September 1963, 76 pp., illus., printed in Korean with English abstracts. Fisheries College, Pusan National University, Pusan, Korea. Includes, among others, these articles: "On Some Parasitoides Whose Intermediate Hosts are Brackish Water Fishes. II--The Life History of *Pygidioopsis japonica*, the Intermediate Host of Which is *Mugil cephalus*," by Seh Kyu Chun; "On the Development of a Freshwater Snail, *Parafossaralus manchouricus* (Miyake), a Parasitoid of *Mugil cephalus*," by Seh Kyu Chun; "Food Preservation by Ionizing Radiation. I--The Combined Effects of Ionizing Radiation and Smoking on Fish Meat Preservation, and the Preservation of the Dried Laver," by Byung Sun Park; "On the Preservation of Korean Fish-Cake Products. I--On the Preservative Effects by Food Preservatives," by Wi Kyung Choi; and "An Example of Raising Korean Catfish *Parasilurus asotus* (Linne) in a Small Pond," by In Bae Kim.

#### LOUISIANA:

Louisiana Fishery: The Coastal Marshes, by Larry H. Ogrén, Wildlife Education Bulletin No. 35, 7 pp., illus., printed. (Reprinted from Louisiana Conservationist, April 1962.) Louisiana Wildlife and Fisheries Commission, Wild Life and Fisheries Bldg., 400 Royal St., New Orleans 16, La. Discusses estuarine biology and the fishery for brackish-water fish in Louisiana.

#### MARINE ALGAE:

Evaluation of Certain Marine Algal Flagellates for Mass Culture, by Richard W. Eppley, OTS 63-10364, 15 pp., processed, November 1963, \$1.60. Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20230.

Research on the Chemical Composition and Digestibility of Algal Cell Walls, by Milton J. Becker and Alan M. Shefner, OTS 63-10066, 28 pp., processed, November 1963, \$1. Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20230.

#### MECHANICAL DRYING:

"Drying Fish Quickly Without Cooking It," article, New Scientist, vol. 19, September 5, 1963, p. 490, printed. Cromwell House, Fulwood Pl., High Holborn, London WC1, England.

#### MISCELLANEOUS:

Fisheries as a Profession, 5 pp., processed, September 1, 1963. Division of Salt Water Fisheries, Florida Board of Conservation, W. V. Knott Bldg., Tallahassee, Fla. Discusses briefly the importance of the fishery resource, educational requirements for work in fisheries biology and related fields, and types of work in those fields. Also covers personal requirements, salaries, benefits, and opportunities for employment.

#### NERVOUS SYSTEM:

The following processed reports are for sale by the Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20230, at 50 cents a copy.

Chemoreception in Crustaceans. Report No. 1: Variability in the Chemoreception of Amphipods (*GAMMARUS LOCUSTA* and *G. LACUSTRIS*), by A. N. Zubov, OTS 63-11164, 8 pp., illus., 1963. (Translated from the Russian, Akademiya Nauk SSSR, Trudy Murmanskogo Morskogo Biologicheskogo Instituta, vol. 6, no. 2, 1960, pp. 245-252.)

Role of the Receptors of the Body Surface in the Mechanism of the Reaction of Fish to Electric Currents, by N. V. Bodrova and B. V. Krayukhin, OTS 63-11111, 8 pp., 1963. (Translated from the Russian, Trudy Instituta Biologii Vodokhranilishch, vol. 6, no. 3, 1960, pp. 266-272.)

#### NETHERLANDS:

Foreign Trade Regulations of the Netherlands, by Ann P. Brosnan, OBR 64-31, 8 pp., printed, March 1964, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

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Because of the importance of foreign trade to the country's economy, the Netherlands has been traditionally in favor of the greatest possible elimination of trade barriers. This report discusses the import tariff system, sales and other internal tax, documentation and fees, and special customs provisions. Also covers nontariff import trade controls, Netherlands' export controls, United States foreign trade controls, and government representation between the two countries.

#### NEVADA:

Fishes and Fisheries of Nevada, by Ira La Rivers, 782 pp., illus., printed, 1962, distribution limited. Nevada Fish and Game Commission, Box 678, Reno, Nev.

#### NORWAY:

Fiskeriene i Norge; Økonomi og Politikk (The Fisheries in Norway; Economics and Politics), by Gerhard Meidell Gerhardsen, 192 pp., illus., printed, 1964, Kr. 38.50 (about US\$5.40). Oslo University Press, Universitetsforlaget, Oslo, Norway. The early chapters of this book cover the background and problems of the Norwegian fisheries; natural resources; fishermen and their equipment; and profitability and regulation of the industry. Later chapters discuss landings and ex-vessel prices; processing and exporting of fish; government fishery institutions and administration; and related information.

#### NUTRITION:

Let the Sea Nourish Your Health, by Earl Ubell, 4 pp., illus., printed. (Reprinted from House Beautiful, June 1963.) Hearts Corp., 572 Madison Ave., New York, N. Y. 10022.

#### OCEANOGRAPHY:

Explorers of the Sea. Famous Oceanographic Expeditions, by Muriel L. Guberlet, 234 pp., illus., printed, 1964, \$4.50. Ronald Press, 15 E. 26th St., New York 10, N. Y.

International Indian Ocean Expedition Newsletter, India, no. 3, December 1963, 12 pp., printed. The Indian National Committee on Oceanic Research, Council of Scientific and Industrial Research, B-7, Hauz Khas Enclave, New Delhi-16, India.

National Oceanographic Program, Fiscal Year 1965, ICO Pamphlet No. 15, 54 pp., printed, March 1964. Interagency Committee on Oceanography, Federal Council for Science and Technology, Office of Naval Research, Rm. 1818, 17th St. and Constitution Ave. NW., Washington, D. C. 20360. Outlines a coordinated plan for the accomplishment of national goals while pursuing individual agency missions. Part I, a summary of the Fiscal Year 1965 National Oceanographic Program, discusses oceanic research to meet National goals; 1965 plans and budgets; interpretation of the 1965 budget; program management; problems and emerging issues; and other related topics. Part II, a review of the Program and its cost, covers oceanographic effort--international oceanographic programs, and National services and facilities in oceanographic sciences; oceanographic resources--ships, instrumentation, and manpower and training; and the National budget for oceanography in detail.

Progress in Oceanography, vol. 1, edited by Mary Sears, 391 pp., illus., printed, 1963, \$15. Pergamon Press, 122 E. 57th St., New York 22, N. Y. Includes 5 papers: "Geological investigation of near-shore sand-transport," by E. Seibold; "Electrification of the atmosphere," by D. C. Blanchard; "Suspended organic matter in sea water," by T. R. Parsons; "The salinity problem," by R. A. Cox; and "Gulf stream '60," by F. C. Fuglister.

Recent Oceanographic Expeditions, USSR, OTS 64-21588, 59 pp., illus., printed, February 18, 1964, \$1.50. (Translated from the Russian, Okeanografiya, vol. 3, no. 3, 1963.) Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20235.)

Role of Marine Fungi in the Biochemistry of the Ocean II--Effect of Glucose, Inorganic Nitrogen, and Trihydroxymethyl Aminomethane on Growth and pH Changes in Synthetic Media, by Peter L. Sguero and Jacqueline Simms, Contribution No. 491, 14 pp., illus., printed. (Reprinted from Mycologia, vol. LV, no. 1, November-December 1963, pp. 728-741.) Marine Laboratory, Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

#### PERU:

"Contribucion al Conocimiento de la Zona de Littoral en la Costa Peruana" (Contribution to the Knowledge of the Shallow-Water Zone of the Peruvian Coast) by M. Vegas V., article, Anales Cientificos, vol. 1, no. 2, July-August-September 1963, pp. 174-193, illus., printed in Spanish with English summary, single copy \$2. Universidad Agraria, Departamento de Publicaciones, Apartado 456, Lima, Peru.

#### PHYSIOLOGY:

Investigation into the Mode of Action of the Lateral Line System of Fish, by E. E. Sucklin and J. A. Sullivan, OTS 64-11018, 11 pp., processed, January 8, 1964, \$1.10. Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20230.

Studies in Gas Metabolism of Cold-Blooded Animals and Migrations and Radioactivity of Certain Marine Animals, USSR, OTS 64-21592, 56 pp., illus., printed, February 18, 1964, \$1.50. (Translated from the Russian, Zoologicheskii Zhurnal, November 1963.) Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20235.

#### PLANKTON:

Feeding of Zooplankton, with Special Reference to Some Experiments with SAGITTA, by M. R. Reevy, Contribution No. 510, 4 pp., printed. (Reprinted from Nature, vol. 201, no. 4915, January 11, 1964, pp. 211-213.) Marine Laboratory, Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

#### PRESERVATIVES:

"Effect of Preservatives on Ripening and Keeping Qualities," by L. S. Levieva and S. I. Ivanova, Chemical Abstracts, vol. 59, July 22, 1963, 2097, printed. American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

#### PROCESSING:

"Recent Advances in Fish Processing Technology," R. Spencer and R. B. Hughes, article, Food Magazine

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re, vol. 38, August 1963, pp. 407-412, printed, Leonard Hill, Ltd., Stratford House, 9 Eden Street, London NW1, England.

#### IRADIATION:

histosomiasis: Age of Snails and Susceptibility to Irradiation," by Alina Perlowagora Szumlewicz, article, *Science*, vol. 144, no. 3616, April 17, 1964, pp. 302-303, printed, single copy 35 cents. American Association for the Advancement of Science, 15 Massachusetts Ave. NW., Washington, D. C. 20005.

#### RESEARCH VESSEL:

Report on the Conversion of U. S. Army T-Boat to an Oceanographic Research Vessel, by James Spoons, OTS 63-10043, 25 pp., processed, November 1963, \$2.60. Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20230.

#### RESEARCH FISH:

Experimental Crappie Removal; Final Report, by James P. Carter, 18 pp., printed, 1963. Division of Fisheries, Department of Fish and Wildlife Resources, New State Office Bldg., Frankfort, Ky.

#### RESEARCH:

Atlantic Salmon Journal, no. 1, March 1964, 39 pp., illus., printed. Atlantic Salmon Association, 1559 Gregor St., Montreal 25, Canada. Contains, among others, articles on: "Salmon Spawning Channel," by J. Quigley; "The Atlantic Salmon Commercial Fishery;" and "Moving Forward in Salmon Conservation," by H. J. Robichaud.

Atlantic Dominance in Adams River Sockeye Salmon, by F. J. Ward and P. A. Larkin, Progress Report No. 120 pp., illus., processed, 1964. International Pacific Salmon Fisheries Commission, New Westminster, B. C., Canada.

Scientists Probe Celebrated Salmon Enigma," article, *Trade News*, vol. 16, no. 9, March 1964, pp. 3-4, illus., processed. Information and Consumer Service, Department of Fisheries, Ottawa. Both Canadian and United States fisheries scientists are interested in finding out why all five species of Pacific salmon spawn only once and die shortly afterwards; why Atlantic salmon frequently survive, return to fresh-water, and come back again to fresh-water spawning grounds. Halifax, Nova Scotia researchers are trying to provide an answer.

of Chinook Salmon Spawning Grounds in the Upper Salmon River Drainage, 1962, by Ted Bjornn, Corley, and Jerry Mallet, 41 pp., illus., printed, Fisheries Division, Idaho Fish and Game Commission, 518 Front St., Boise, Idaho.

Spawning for Pacific Salmon," article, *Trade News*, vol. 16, no. 9, March 1964, pp. 7-9, illus., processed. Information and Consumer Service, Department of Fisheries, Ottawa, Canada. A pictorial story of the British Columbia salmon industry.

#### SHRIMP:

of the Family Lamnidae, by G. Brooke Farquhar, Translation No. 157, 16 pp., printed, April 1963, U. S. Naval Oceanographic Office, Washington, D. C. 20390.

#### SHRIMP:

"Los Camarones Comerciales de la Familia Penaeidae de la Costa Atlantica de America del Sur: Clave para el Reconocimiento de las Especies y Datos Biocologicos" (The Commercial Shrimp of the Family Penaeidae of the Atlantic Coast of South America: Key to the Recognition of the Species and Biocological Data), by Enrique E. Boschi, article, *Boletin del Instituto de Biologia Marina*, no. 3, February 1963, pp. 1-39, illus., printed in Spanish. Instituto de Biologia Marina, Universidades Nacionales de Buenos Aires, La Plata y del Sur, Mar del Plata, Argentina.

"Greatest Shrimping Grounds in Western Hemisphere," article, *The Fish Boat*, vol. 9, no. 3, March 1964, pp. 69-139, illus., printed, single copy 50 cents. H. L. Peace Publications, 624 Gravier St., New Orleans 12, La. A group of articles devoted to the new shrimping grounds off northern South America--Barbados, Paramaribo, St. Laurent, Cayenne, and Georgetown. Includes individual articles on: "U. S. 'Know-How' is Building Greatest Shrimp Fishery in the Western Hemisphere--75,000 Square Miles;" "Deep-Water Harbor, Modern Facilities Aid Newest Bid for Shrimp Business;" "Top Builder: Mr. Standardized Fleet;" and "British Guiana: Marketing 'Know-How,' Standardization Are Major Keys to Continuing Growth." Also presents articles about: "Dutch Guiana: Pioneer in New Fisheries Has Outstanding Plant and Facilities;" "Surinam and French Guiana Plants Boast Modern Freezing Equipment;" "French Guiana: New Plants and Fleets Being Readied in Expansion Program; Henderson Goes from Tangled Jungle to Elaborate Plant in Single Year;" "Will Fisheries Provide the Basis for Economic Revolution to the South?" by David B. Lord; "Trawlers with Many Novel Features Joins French Guiana Shrimp Fleet;" and others.

"Management of Marine Resources: Hydrography," by T. B. Ford, article, *Louisiana Conservationist*, vol. 16, nos. 5 and 6, May-June 1964, pp. 20-22, illus., printed. Louisiana Wild Life and Fisheries Commission, Wild Life and Fisheries Bldg., 400 Royal St., New Orleans, La. 70130. With an understanding of various water conditions in the coastal areas, Louisiana researchers expect to be able to predict in advance production trends for the shrimp industry, determine causes of erratic changes in populations, and develop sound management practices for the commercially important shrimp species.

"Succulent Shrimp," by George Allen, article, *Alabama Conservation*, vol. XXXIV, no. 1, December 1963-January 1964, pp. 17-19, illus., printed, Alabama Department of Conservation, 64 N. Union St., Montgomery 4, Ala.

#### SMALL BUSINESS MANAGEMENT:

*Accounting and Financial Data for Small Retailers*, by Homer A. Brown and Alva A. Cummings, Management Research Summary, 2 pp., processed, 1964. Small Business Administration, Washington, D. C. 20416. An accounting system for small retailers should provide, among other things, a means of: recording all transactions of the business; safeguarding the business from errors and fraud; and controlling operations. Good accounting records are the basis for many analyses that can be helpful in interpreting the results of past operations and in planning for the



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future. The value of the analyses, however, depends on proper application of their results.

Export Marketing for Smaller Firms, 101 pp., processed, May 1963, 50 cents. Small Business Administration, Washington, D. C. 20416. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) With the owner or manager of a small firm lies the ultimate responsibility for the decision to commit his firm's resources toward the search for profits in foreign markets. The successful exploitation of overseas opportunities requires good business planning and judgment coupled with accurate and up-to-date facts about the overseas environment. This report covers these topics: "Measuring Your Export Potential;" "Selection of an Attractive Market for Detailed Analysis;" "Detailed Evaluation of Markets and Requirements for Successful Exporting;" and "Channels of Distribution."

Financial Facts which Lenders Require, by Selwin E. Price, Management Aids for Small Manufacturers 164, 4 pp., processed, May 1964. Small Business Administration, Washington, D. C. 20416. This leaflet discusses the various kinds of financial facts which lenders require of prospective borrowers when considering a loan. The lending officer bases his judgment upon: (1) The type and nature of business collateral such as accounts receivable and inventory; (2) the company's audited financial statements; (3) the company's sales and cash projections; and (4) the company's operating and financial ratios. He also needs additional information so he can keep abreast of the company's progress during the life of the loan.

Financing Problems of Small Manufacturers, by Seymour Friedland, William A. Dymaza, and Thomas Moranian, Management Research Summary, 2 pp., processed, 1963. Small Business Administration, Washington, D. C. 20416. A summary of a report on financing problems of small producers. Findings of the report identify the basic problem of small-business financing as low net worth resulting from low profitability. The report suggests that more of the resources available for helping small business be applied to this problem. Areas recommended for consideration include counseling of small-business managers, redesigning of some control techniques for small-scale operations, and a mutual fund to facilitate stock financing by small firms.

Keeping Machines and Operators Productive, by Howard Pyle, Management Aid for Small Manufacturers 162, 4 pp., processed, April 1964. Small Business Administration, Washington, D. C. 20416. Plant safety pointers for owner-operators are offered in this leaflet. Points out that false attitudes of supervisors and employers can hamper the owner-manager's accident prevention efforts. Describes the kinds of moving parts of machinery which should be guarded and suggests kinds of guards that can be used to prevent injuries. Sources of help which the owner-manager may find useful in setting up a machine guarding program are also listed.

#### SMOKING:

"Pretreatment for Smoking Oily Fish," by Minoru Fujii and others, article, Chemical Abstracts, vol. 58, May 27, 1963, 11899b, printed, American

Chemical Society, 1155 16th St. NW., Washington 6, D. C.

#### SPAIN:

"Asturias y el Mar en la Estadística de 1963" (Asturias and the Sea in the 1963 Statistics), by Daniel Arbesu, article, Puntal, vol. XI, no. 119, February 1964, pp. 23-24, printed in Spanish. Puntal, Apartado de Correos 316, Alicante, Spain.

"España, Primer País Pesquero de Europa" (Spain, First Fishery Country of Europe), by Fandino, article, Puntal, vol. XI, no. 119, February 1964, pp. 2-illus., printed in Spanish. Puntal, Apartado de Correos 316, Alicante, Spain.

"La Industria Española de Conservas de Pescado" (The Spanish Fish Canning Industry), by Antonio Lafageme del Busto, article, Información Conservas, vol. XI, no. 111-112, March-April 1964, pp. 67-70, printed in Spanish, single copy 60 Ptas. (US\$1). Información Conservas, Colon, 62, Valencia, Spain.

#### SPINY LOBSTER:

"Spiny Lobster Industry in Southern Africa (An Economic Survey)," by D. J. Soares-Rebello, article, South African Journal of Science, vol. 60, no. 3, March 1964, pp. 81-87, printed, single copy 50 cents (about 70 U. S. cents). The South African Association for the Advancement of Science, P. O. Box 68, Johannesburg, South Africa Republic. Detailed information is given on the thriving spiny lobster industry of the Republic of South Africa and of the protected territory of South-West Africa. Spiny lobster fishing, production, exports, consumption, canning and processing, regulation, conservation measures and economic significance in both those countries are discussed at length.

#### STANDARDS:

Standards and Requirements for Fish Handling, Processing, Distribution, and Quality, by D. D. Tapiador and J. E. Carroz, Fisheries Report No. 9, 255 pp., processed, 1963. Fisheries Division, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy. The 11th FAO Conference endorsed under the regular program of the Fish Processing Section, Technology Branch, the preparation of a document on laws and regulations concerning fish handling, processing, distribution, and quality control. In addition, it is the aim of FAO, in launching the Freedom from Hunger Campaign, to encourage increased fish production; promote its greater availability; and wider distribution by building up trade in fishery products ensuring improvements in their quality. This report is essentially a study and digest of governmental codes, laws, and regulations.

#### ST. PIERRE AND MIQUELON:

"St. Pierre et Miquelon Peut Produire du Poisson Surgele au Prix Internationale" (St. Pierre and Miquelon are Able to Produce Frozen Fish at the International Price), by H. Clarieaux, article, France Peche, no. 81, February 1964, pp. 19, 21-22, printed in French. France Peche, Boite Postale Lorient, France.

#### TRAWLERS:

"Some Fundamentals for the Calculation of the Production of a Trawler with Trawl Gear," by H. Steng



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Chemical Abstracts, vol. 58, May 27, 1963, 1189d, printed. American Chemical Society, 1155 16th St., NW., Washington 6, D. C.

#### WHALING:

International Whaling Statistics, no. LII, 48 pp., printed, 1964. Det Norske Hvalrads Statistiske Publikasjoner, Oslo, Norway. Results of the whaling operations in the Antarctic during the season 1962/63. Includes statistical tables on whaling operations of Japan, the Netherlands, Norway, United Kingdom, and the U.S.S.R.; average size of whales caught; and number of whales caught, by species, sex, and size. Also includes data on average production of oil per blue-whale unit.

"Whale Marking Cruises in New Zealand Waters Made between August and December 1963," by D. E. Gas-kin, article, Norsk Hvalfangst-Tidende (The Norwegian Whaling Gazette), vol. 53, no. 2, February 1964, pp. 29-41, illus., printed. Hvalfangerforen-ingen, Sandefjord, Norway.

Whaling: Amendments to the Schedule to the International Whaling Convention Signed at Washington on December 2, 1946 (Adopted at the Fifteenth Meeting of the International Whaling Commission, London, July 5, 1963), Treaties and Other International Acts Series 5472, 3 pp., printed, 1964, 5 cents. Department of State, Washington D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.)

#### CORRECTION

In the February 1964 issue, page 99, article, "A Study of Redfish, Sciaenops ocellata (Linnaeus) and Black Drum, Pogonias cromis (Linnaeus)," the address of the publisher of the Publications of the Institute of Marine Science, was given in error. The correct address is Institute of Marine Science, University of Texas, Port Aransas, Texas.



#### FISHERIES IMPORTANT TO UNITED STATES

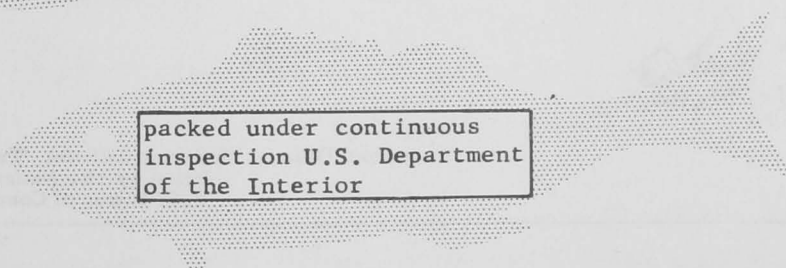
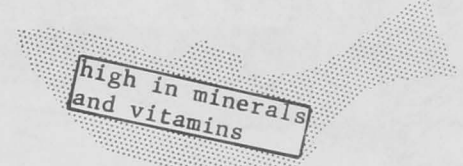
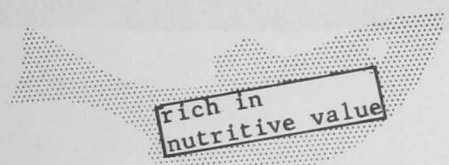
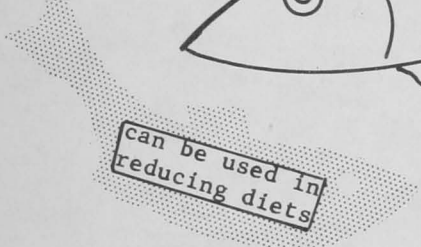
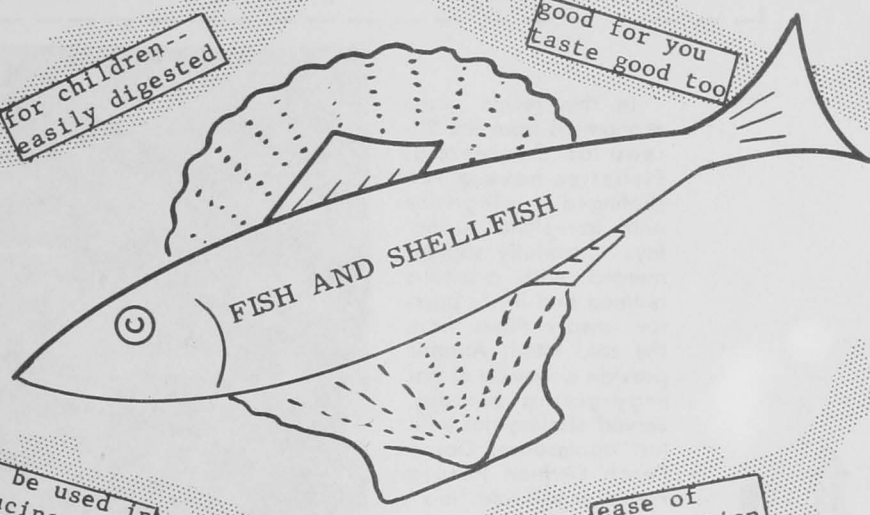
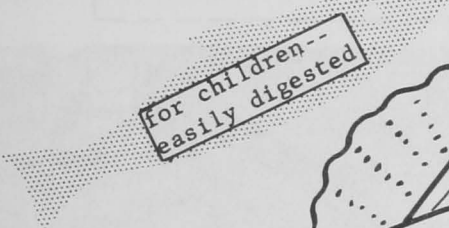
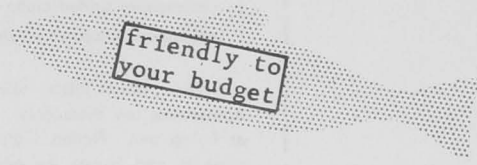
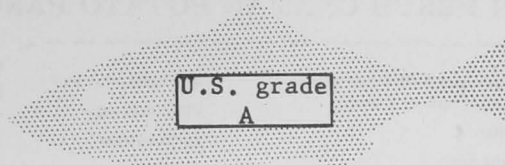
The fisheries of America have played a unique part in this country's economy since its founding. John Cabot, returning to England in 1498 from North America, stated that "the sea there is swarming with fish which can be taken not only with the net, but in baskets let down with a stone." Historians record that the founders of the Plymouth Colony came to America to serve God and to catch fish.

The colorful New Bedford and Nantucket whaling fleets ranging the oceans of the world in the 19th century were a large factor in forming the bonds which eventually joined Hawaii to the United States. The great salmon fisheries have been a principal support of Alaska through the years and have been a greater source of wealth than all the gold produced there since the Alaska gold rushes began. During World War II, the spectacular tuna clipper fleet furnished the ships and the men which maintained contact with our beleaguered troops during their initial days of perilously slight foothold on the Solomon Islands, and these same fishing boats helped supply small island garrisons throughout the vast reaches of the Pacific during the entire war. U. S. trawlers and purse seiners also went to war as minesweepers and patrol vessels.

--Excerpt from Trident--A Long Range Report of the Bureau of Commercial Fisheries, Circular 149.



### THE PLACE OF FISH

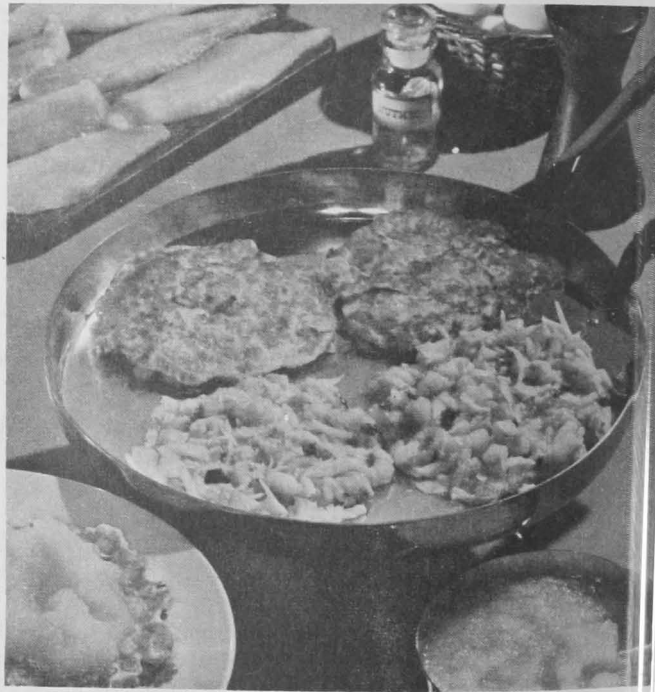
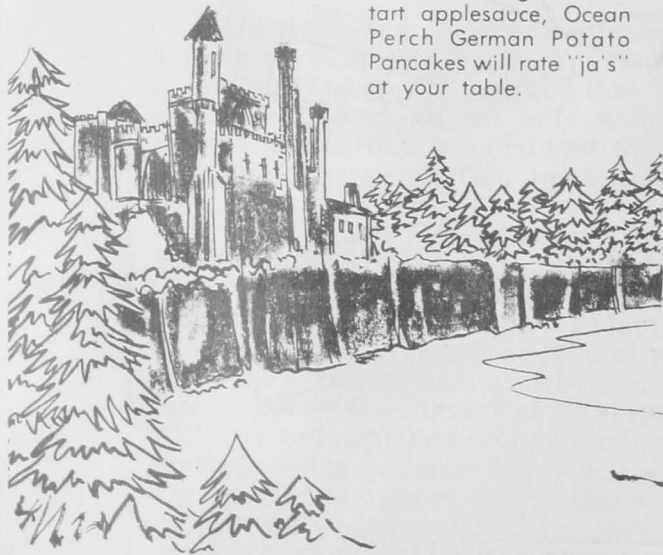


## OCEAN PERCH GERMAN POTATO PANCAKES

- |  |                                   |
|--|-----------------------------------|
| 1 pound ocean perch fillets or other fish fillets, fresh or frozen | 2 teaspoons salt                  |
| 3 eggs, beaten   | Dash nutmeg                       |
| 2 tablespoons flour  | Dash pepper                       |
| 2 tablespoons grated onion   | 2 cups finely grated raw potatoes |
| 1 tablespoon chopped parsley                                       | Applesauce                        |

Thaw frozen fillets. Skin fillets and chop finely. Combine all ingredients except Applesauce; mix thoroughly. Drop  $\frac{1}{3}$  cup fish mixture onto a hot, well-greased griddle or frying pan. Flatten slightly with a spatula. Fry until brown on one side; turn carefully and brown the other side. Cooking time approximately 6 to 8 minutes. Drain on absorbent paper. Keep warm. Serve with Applesauce. Serves 6.

In this recipe home economists from the Bureau of Commercial Fisheries have given chafing-dish elegance with iron-skillet economy. Tastefully supplemented with aromatic nutmeg and lively parsley, meaty fillets from the cold North Atlantic provide a wealth of energy-giving protein. Served sizzling hot with tart applesauce, Ocean Perch German Potato Pancakes will rate "ja's" at your table.



--From Fisheries Marketing Bulletin: "Protein Treasure from the Seven Seas"  
 Issued by the National Marketing Services Office  
 U. S. Bureau of Commercial Fisheries, Chicago, Ill. 60