

**FISH AND WILDLIFE SERVICE  
PUBLICATIONS**

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

<u>Number</u>	<u>Title</u>
CFS-3051	- Gulf Fisheries, 1961 Annual Summary, 13 pp.
CFS-3052	- New Jersey Landings, October 1962, 4 pp.
CFS-3054	- Alabama Landings, September 1962, 3 pp.
CFS-3055	- Georgia Landings, October 1962, 2 pp.
CFS-3056	- North Carolina Landings, October 1962, 4 pp.
CFS-3060	- Frozen Fish Report, November 1962, 8 pp.
CFS-3061	- South Carolina Landings, October 1962, 2 pp.
CFS-3064	- Massachusetts Landings, July 1962, 5 pp.
CFS-3065	- Texas Landings, September 1962, 3 pp.
CFS-3066	- Michigan Landings, September 1962, 3 pp.
CFS-3067	- Wisconsin Landings, October 1962, 2 pp.
CFS-3068	- Virginia Landings, October 1962, 4 pp.
CFS-3069	- California Landings, September 1962, 4 pp.
CFS-3070	- Ohio Landings, September 1962, 2 pp.
CFS-3071	- New York Landings, October 1962, 4 pp.
CFS-3072	- Mississippi Landings, October 1962, 3 pp.
CFS-3074	- Texas Landings, October 1962, 3 pp.
CFS-3075	- New Jersey Landings, November 1962, 4 pp.
CFS-3076	- Louisiana Landings, October 1962, 2 pp.
CFS-3077	- Rhode Island Landings, October 1962, 3 pp.
CFS-3079	- Alabama Landings, October 1962, 3 pp.
CFS-3081	- North Carolina Landings, November 1962, 4 pp.
CFS-3083	- Ohio Landings, October 1962, 2 pp.
CFS-3084	- Fish Meal and Oil, November 1962, 2 pp.
CFS-3085	- South Carolina Landings, November 1962, 2 pp.
CFS-3086	- Georgia Landings, November 1962, 2 pp.
CFS-3087	- Michigan Landings, October 1962, 3 pp.
CFS-3088	- Wisconsin Landings, November 1962, 2 pp.
CFS-3089	- Louisiana Landings, November 1962, 2 pp.
CFS-3090	- Ohio Landings, November 1962, 2 pp.
CFS-3091	- Maryland Landings, November 1962, 3 pp.
CFS-3092	- Mississippi Landings, November 1962, 3 pp.
CFS-3150	- Advance Report on the Fisheries of the United States, 1962, 25 pp.

FL-508 - Whirling Disease of Trout, by Glenn Lyle Hoffman, 3 pp., May 1962 (Revised).

Sep. No. 667 - A Trawling Survey of Southern Lake Michigan (August-November 1960).

Sep. No. 668 - Gulf States Shrimp Canning Industry.

SSR-Fish. No. 420 - Physical, Chemical, and Biological Observations in the Eastern Tropical Pacific Ocean: Three Cruises to the Gulf of Tehuantepec, 1958-59, by Maurice Blackburn and others, 173 pp., illus., July 1962

SSR-Fish. No. 429 - Estimating Abundance of Pink and Chum Salmon Fry in Prince William Sound, 1957, by Howard D. Tait and James B. Kirkwood, 23 pp., illus., processed, June 1962.

THE FOLLOWING MARKET NEWS LEAFLET IS AVAILABLE FROM THE FISHERY MARKET NEWS SERVICE, U. S. BUREAU OF COMMERCIAL FISHERIES, SUITE 611, WYATT BLDG., 777 14TH ST. NW., WASHINGTON 5, D. C.

<u>Number</u>	<u>Title</u>
MNL-76	- Japan's Exports of Frozen and Canned Tuna, 1961 and January-June 1962, 20 pp.

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

(Baltimore) Monthly Summary--Fishery Products, November 1962, 8 pp. (Market News Service, U. S. Fish and Wildlife Service, 103 S. Gay St., Baltimore 2, Md.) Receipts of fresh - and salt-water fish and shellfish at Baltimore by species and by states and provinces; total receipts by species and comparisons with previous periods; and wholesale prices for fresh fishery products on the Baltimore market; for the month indicated.

California Fishery Market News Monthly Summary, Part I - Fishery Products Production and Market Data, November and December 1962, 18 and 20 pp., respectively. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) 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 months indicated.

California Fishery Market News Monthly Summary, Part II - Fishing Information, October and December 1962, 10 pp. ea., illus. (U. S. Bureau of Commercial Fisheries, Biological Laboratory, P. O. Box 6121, Pt. Loma Station, San Diego 6, Calif.) Contains sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists; for the months indicated.

(Chicago) Monthly Summary of Chicago's Wholesale Market Fresh and Frozen Fishery Products Receipts, Prices, and Trends, November and December 1962, 14 pp. ea. (Market News Service, U. S. Fish and Wildlife Service, U. S. Customs House, 610 South Canal St., Room 1014, Chicago 7, Ill.) Receipts at Chicago by species and by states and provinces for fresh- and salt-water fish and shellfish; and weekly wholesale prices for fresh and frozen fishery products; for the months indicated.

Gulf of Mexico Monthly Landings, Production and Shipments of Fishery Products, November and December 1962, 8 pp. ea. (Market News Service, U. S. Fish and Wildlife Service, Rm. 609, 600 South St., New Orleans 12, La.) Gulf States shrimp, oyster, finfish, 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 menhaden landings and production of meal, solubles, and oil; and sponge sales; for the months indicated.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, December 1962 and January 1963, 4 pp. ea. (Market News Service, U. S. Fish and Wildlife Service, 18 S. King St., Hampton, Va.) Landings of food fish and shellfish and production of crab meat and shucked oysters for the Virginia areas of Hampton Roads, Chincoteague, Lower Northern Neck, and Lower Eastern Shore; the Maryland areas of Crisfield, Cambridge, and Ocean City; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data on fishery products and shrimp production; for the months indicated.

New England Fisheries--Monthly Summary, November and December 1962, 23 pp. ea. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston 10, Mass.) Review of the principal New England fishery ports. Presents data on fishery landings by ports 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 months indicated.

New York City's Wholesale Fishery Trade--Monthly Summary--November 1962, 22 pp. (Market News Service, U. S. Fish and Wildlife Service, 155 John St., New York 38, N. Y.) Includes summaries and analysis 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.; for the month indicated.

(Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, December 1962 and January 1963, 7 pp. ea. (Market News Service, U. S. Fish and Wild-

life Service, 706 Federal Office Bldg., 909 First Ave., Seattle 4, Wash.) Includes Seattle's landings by the halibut and salmon fleets reported through the exchanges; landings of halibut reported by the International Halibut Commission; landings by otter-trawl receipts 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 months indicated.

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Accumulation and Retention of Cesium 137 by Marine Fishes, by John P. Baptist and Thomas J. Price, Fishery Bulletin 206 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 62, pp. 177-187), 15 pp., illus., printed, 15 cents, 1962.

"The Deposition of Tetracycline Drugs in Bones and Scales of Fish and Its Possible Use for Marking," by Douglas D. Weber and George J. Ridgway, article Progressive Fish-Culturist, vol. 24, no. 4, October 1962, pp. 150-155, illus., processed, 25 cents.

Fish, Wildlife, and Clean Water, 19J--Catalog No. FS 2.6473:F 52/962, 8 pp., printed, 5 cents, revised 1962. Pollution is a growing problem to 50 million American sports fishermen and hunters. This leaflet is intended to show the extent of this problem and its impact on our fish and wildlife.

"Studies of Transmission of Mycobacterial Infections in Chinook Salmon," by A. J. Ross and H. E. Johnson, article, Progressive Fish-Culturist, vol. 24, no. 4, October 1962, pp. 147-149, processed, 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.

### AFRICA:

A Note on the Fisheries of Tropical Africa, FAO Fisheries Paper No. 20, 11 pp., processed. Food and Agriculture Organization of the United Nations, Rome, Italy, 1961.

### ALGAE:

"Carbohydrates and Nucleotides in the Red Alga, Porphyra perforata. I--Isolation and Identification of Carbohydrates," and "II--Separation and Identification of Nucleotides," by Jong-Ching Su and W. Z. Hassid (University of California, Berkeley), articles, Biochemistry, vol. 1, May 1962, pp. 468-480, printed. American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

"Nitrogen Compounds of Algae," by G. P. Serenkov and M. V. Pakhomova, article, Vestnik Moskovski

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Universitet Serie VI: Biologiia Pochvoved, vol. 15, no. 6, 1960, pp. 15-25, printed in Russian. MGU, Leninskiye gory, Moscow, U.S.S.R.

"Studies on the Compounds Specific for Each Group of Marine Algae. I--Presence of Characteristic Ultraviolet-Absorbing Material in Rhodophyceae," and "II--Extraction and Isolation of Characteristic Ultraviolet-Absorbing Material in Rhodophyceae," by Isami Tsujino and Tsuneyuki Saito, articles, Bulletin of the Faculty of Fisheries, Hokkaido University, vol. 12, May 1961, pp. 49-65, printed. Hokkaido University, Kameda-Machi, Hakodate, Japan.

#### BACTERIOLOGY:

"Bacteriology: Collection of Marine Bacteria," article, Torry Research Station, Annual Report 1960, pp. 28-29, printed. Torry Research Station, Aberdeen, Scotland, 1961.

"Bacteriology: Effect of Temperature on the Multiplication of Marine Bacteria," article, Torry Research Station, Annual Report 1960, pp. 29-30, printed. Torry Research Station, Aberdeen, Scotland, 1961.

Commensal Bacteria of Marine Animals--A Study of Their Distribution, Physiology and Taxonomy, by R. B. R. Colwell, Dissertation for Ph.D., 225 pp., printed. University of Washington, Seattle, Wash., 1961.

#### BASS:

The Largemouth Bass: Its Life History, Ecology and Management, by Donald Mraz, Stanley Kmietek, and Ludwig Frankenberger, Publication No. 232, 15 pp., illus., printed. Wisconsin State Conservation Department, Madison, Wis., 1961.

#### BLUEGILL:

The Bluegill: Its Life History, Ecology and Management, by Howard Snow, Arthur Ensign, and John Klingbiel, Publication No. 230, 14 pp., illus., printed. Wisconsin State Conservation Department, Madison, Wis., 1960.

#### BRAZIL:

"Decree No. 50,872 Establishing the Fisheries Development Council and Making Other Provisions," FAO--Food and Agricultural Legislation, vol. XI, no. 1, September 1, 1962, Brazil, XVIII/I, 10 pp., printed, \$1. Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y. Covers the provisions of Brazil Decree No. 50,872, June 28, 1961 (Diario Oficial, Year C, No. 144, June 28, 1961, p. 5849). Describes the establishment of the Fisheries Development Council (Conselho de Desenvolvimento da Pesca--CODEPE), its aims, component bodies and their functions, and related information.

#### CANADA:

Annual Report of the Fisheries Research Board of Canada, 1961/62 (For the Fiscal Year Ended March 31, 1962), 206 pp., illus., printed in English, introduction also in French, 50 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada, 1962. A comprehensive summary of the work of the Fisheries Research Board of Canada

and its field stations during 1961/62. The research work of the Board is divided into three principal areas: aquatic biology with emphasis on fishery biology, fishery technology, and oceanography. Cooperative programs with other Canadian as well as international agencies were conducted during the year. A new research vessel was under construction and another in the planning stage. Oceanographic studies in Atlantic, Arctic, and Pacific waters are described in the report. Also covered are activities of the Board's biological and technological stations. A list of the publications and reports published during 1961 by the Board is included.

Journal of the Fisheries Research Board of Canada, vol. 19, no. 6, November 1962, 205 pp., illus., printed, single copy C\$1.50, Queen's Printer and Controller of Stationery, Ottawa, Canada. Includes, among others, articles on: "Bacteriological Studies of Freshwater Fish. II--Furunculosis in Ontario Fish in Natural Waters," by L. Rabb and L. A. McDermott; "Relation between Water Temperature and Gastric Digestion of Large-Mouth Bass (Micropterus salmoides Lacepede)," by Gyula Molnar and Istvan Tolg; "The Occurrence of the Longjaw Cisco, Leucichthys alpenae, in Lake Erie," by W. B. Scott and Stanford H. Smith; "Some Considerations in the Study of Respiratory Metabolism in Fish, Particularly Salmon," by J. R. Brett; "An Improved Method for the Preparation of Fish Protein Concentrate from Cod," by H. E. Power; "Aggressive Behavior in Juvenile Coho Salmon as a Cause of Emigration," by D. W. Chapman; "The Free Fatty Acids of Cod Oil. 1--Anomalous Composition by Fatty Acid Chain Length," by R. G. Ackman, R. D. Burgher, and M. L. Hughes; "The Relative Efficiency of Nylon and Cotton Gill Nets for Taking Lake Trout in Lake Superior," by Richard L. Pycha; "The Enzymic Digestion of Cod Tropomyosin," by B. Truscott and others; "Amphipods in Low-Oxygen Marine Waters Adjacent to a Sulphite Pulp Mill," by M. Waldichuk and E. L. Bousfield; "Range Extension for Two Species of Caridean Shrimps (Order Decapoda) from the North-eastern Pacific," by Lael L. Ronholt; "Egg Masses and Early Development Stages of the Scorpaenid Fish, Sebastolobus," by W. G. Percy; and "Age of Young Sablefish, Anoplopoma fimbria (Pallas) 1811," by H. Heyamoto.

Progress Reports of the Atlantic Coast Stations, no. 73, 73 pp., illus., printed in English with summaries in French, 75 Canadian cents. Queen's Printer and Controller of Stationery, Ottawa, Canada, August 1962. Contains, among others, the following articles: "The Utilization of Fish Skins for Glue and Other Products," by A. Guttman; "Sea Temperatures Along the Canadian Atlantic Coast, 1958-1960," by L. M. Lauzier and J. H. Hull; and "Salt-Fish Flavour in Frozen Cod Fillets Prepared from Stored Frozen Shore Cod Thawed in Sea Water," by W. J. Dyer and others.

#### CLAMS:

"The Quahog," by Robert E. Hillman, article, Estuarine Bulletin, vol. 7, no. 1, January 1963, pp. 13-15, illus., printed. University of Delaware, Department of Biological Sciences, Newark, Del. The Northern Quahog, Mercenaria mercenaria, unlike other sand-dwelling clams, has a self-cleansing process which

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enables it to free itself of debris. Epicures who relish the cherry stone stage of this clam note that it rarely contains sand. The quahog has a unique fourth fold in its mantle which traps foreign particles, wraps them in mucus, and exudes them between the mantle margins out across the shell.

#### COMPOSITION:

"Mineralnyi sostav nekotorykh vidov ryby i proverka sootnoseniia mezdu soderzaniem mineral'nykh elementov i belka" (Mineral Composition of Some Species of Fish and Relations between Contents of Minerals and Proteins), by E. N. Vasil'eva, N. E. Diubiuk, and T. D. Lyncikova, article, Voprosy Pitaniia, vol. 20, no. 2, 1961, pp. 54-59, printed in Russian with English summary. Voprosy Pitaniia, Gosudarstvennoe Izdatel'stvo Meditsinskoi Literatury, Moscow, U.S.S.R.

"Soderzanie mineral'nia elementov v miase ryb" (Mineral Content of Fish Flesh), by N. E. Kasinova, article, Voprosy Pitaniia, vol. 20, 1961, pp. 74-77, printed in Russian with English summary. Voprosy Pitaniia, Gosudarstvennoe Izdatel'stvo Meditsinskoi Literatury, Moscow, U.S.S.R.

"Total Solids and Ether Extract in Fish and Other Marine Products," by H. M. Risley, article, Journal of the Association of Official Agricultural Chemists, vol. 45, May 1962, pp. 259-261, printed. Association of Official Agricultural Chemists, P. O. Box 540, Benjamin Franklin Station, Washington 4, D. C.

#### CRAB MEAT:

Preservation of Canned Crab, British Patent, 870,926, June 21, 1961, printed. British Patent Office, 25 Southampton Bldgs., London WC2, England.

"The Prevention of Blue Discoloration of Frozen Crab Meat and Canned Crab Meat by Fractional and Low Temperature Cooking Methods," by I. Osakabe, article, Refrigeration (Japan), vol. 36, no. 409, November 1961, pp. 18-49, illus., printed in Japanese with English summary. Refrigeration, Japanese Association of Refrigeration, Kenchiku Kaikan Bldg., 3-1 Ginza Nishi, Chuo-ku, Tokyo, Japan.

#### CRABS:

A Partial Bibliography on Some Crabs of Commercial Importance, by M. A. Benarde, FAO Fisheries Biology Technical Paper No. 17, 5 pp., processed. Biology Branch, Fisheries Division, Food and Agriculture Organization of the United Nations, Rome, Italy, 1961.

#### DEFROSTING:

"Electronics Speed Defrosting," by John Grindrod, article, Food Engineering, vol. 34, May 1962, p. 128, printed. Chilton Company, Chestnut and 46th Sts., Philadelphia 36, Pa.

#### DENMARK:

Kongeriget Danmarks Fiskeribank--Beretning og Regnskab for 29. Regnskabsar (1. April 1961-31. Marts 1962) (Kingdom of Denmark Fisheries Bank--Report and Statement for 29th Fiscal Year--April 1, 1961-March 31, 1962), 8 pp., printed in Danish. Kongeriget Danmarks Hypotekbank, Niels Juels Gade 5, Copenhagen K, Denmark.

#### DRYING:

"Solar Drying Devices May Save Money in Fishing," article, Canadian Fisherman, vol. 48, no. 10, 1961, p. 23, printed. Canadian Fisherman, National Business Publications Ltd., Gardenvale, Quebec, Canada.

#### EAST AFRICA:

Annual Report of the East African Marine Fisheries Research Organization, 1961, 17 pp., illus., printed, 4s. (about 56 U.S. cents). East African Common Services Organization, Zanzibar, Zanzibar, 1962. Discusses activities of the East African Marine Fisheries Research Organization during 1961; the Organization's research vessels; a Rockefeller Foundation grant; and the International Indian Ocean Expedition. Also covers the scientific work accomplished: pelagic fish--deep long-line operations, surface shoaling fish, and sardine investigations; demersal fish--fisheries of the North Kenya Coast; inshore and estuarine fisheries--shrimps, spiny lobsters, crustacean taxonomy and biology, and fish stomach contents; plankton studies; and hydrological investigations.

#### EGYPT:

Import Tariff System of Egypt (U.A.R.), by Robison H. Barber, OBR-62-8, 2 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., November 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Covers units of currency, weights, and measures; ad valorem duties; specific duties; method of payment of duty; and sales and other internal taxes. Also discusses preferential duties, consular documents and fees, trade restrictions, and special regulations.

#### FACTORYSHIP:

"Large Japanese-Built Refrigerating Factory Ship," article, Motor Ship, vol. 42, no. 495, 1961, pp. 304-306, illus., printed. Motor Ship, Temple Press Ltd., Bowling Green Lane, London EC4, England.

#### FILLETS:

"Fat Hydrolysis in Frozen Fillets of Lingcod and Pacific Gray Cod," by J. D. Wood and S. A. Haqq, article, Journal of the Fisheries Research Board of Canada, vol. 19, no. 1, January 1962, pp. 169-171, illus., printed. Journal of the Fisheries Research Board of Canada, Sir Charles Tupper Bldg., Riverside Dr., Ottawa, Canada. (For sale by Queen's Printer and Controller of Stationery, Ottawa, Canada.)

#### FISH AS EXPERIMENTAL ANIMALS:

Maintaining Fishes for Experimental and Instructional Purposes, by William M. Lewis, 100 pp., illus., printed, \$5.00 cloth, \$1.45 paper. Southern Illinois University Press, Carbondale, Ill., January 1963. The selection and maintenance of fish for experimental purposes has always been a problem for research workers. Fish as experimental animals have contributed to our knowledge not only of fish but of animal science in general. There isn't too much information readily available on the use of fish as experimental animals. The author, in my opinion, has succeeded in bringing together some of the important elements (like nutrition, disease, and the artificial maintenance of suitable environmental conditions) associated with this problem. Only fresh-water

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fish are covered. After a discussion of the types of waters and fish-holding procedures, there is a chapter on the aquarium building and another on the selection of experimental fish. Food, diseases, parasites, and special problems in handling fish are covered. There are chapters on aquarium plants and other miscellaneous considerations (including control of reproduction, anesthetization, sterilization of tanks and equipment); chemical variables of aquarium water and their determination; and the transport of live fish. An appendix contains a number of conversion tables. The literature cited section seems to contain the relevant literature on the subject of the book. An index is also included. This book would be useful to anyone maintaining live fish for experimental or other purposes.

--Joseph Pileggi

#### FISH COOKERY:

"Catch 'em and Cook 'em, by Bunny Day, 111 pp., illus., printed. Doubleday and Company, Inc., Garden City, N. Y., 1961. Presents, with flashes of wit, information on catching, opening, cleaning, and cooking shellfish. Includes sections on clams, crabs, lobster, mussels, oysters, and scallops. Also includes lists of gadgets for cooking and catching shellfish, and recipes for a bouillabaisse and shellfish sauces.

#### FISH CULTURE:

"Foundation Studies in Culturing of the Japanese Loach, *Misgurnus anguillicaudatus* (Cantor). III--Storing of Spermatozoon," by Z. Kubota; and "V--Sex Reversal Induced by Follicular Hormone," by Z. Kubota and others, articles, *Journal of the Shimonoseki College of Fisheries*, vol. 11, no. 1, 1961, pp. 247-269, and pp. 287-295, respectively, illus., printed in Japanese with English summary. Shimonoseki College of Fisheries, Jamaguchi Prefecture, Yoshimi, Shimonoseki, Japan.

#### FISH FINDER:

"Explorator' a French Horizontal Shoal Detector," article, *Norwegian Fishing and Maritime News*, vol. 9, no. 2, 1962, pp. 33, 35, printed. *Norwegian Fishing and Maritime News*, Torolf Holme, P. O. Box 740, Slottsgt. 3, Bergen, Norway.

#### FISH LIVERS:

"Sterylizatsia pecheni treski v balonakh na traulere i prigotovlenie iz nee konservov" (Sterilization of Cod Livers Aboard and the Production of Cod Liver Preserves), by K. A. Mrochkov, article, *Trudy, Tekhnologia Rybnykh Productov*, vol. 60, 1959, pp. 38-45, illus., printed in Russian. Four Continent Book Corp., 156 5th Ave., New York 10, N. Y.

#### FISH OIL:

"The Effect of Fish-Oil Fraction on Plasma Lipids," by L. W. Kinsell and others (Institute for Metabolic Research, Oakland, Calif), article, *Diabetes*, vol. 10, 1961, pp. 316-319, printed. American Diabetes Association, 1 E. 45th St., New York 17, N. Y.

"A Hypercholesterolemic Factor in Marine Sterols," by E. Reiner, D. R. Idler, and J. D. Wood, article, *Canadian Journal of Biochemistry and Biophysics*, vol. 38, 1960, pp. 1499-1550, printed. Canadian Journal of Biochemistry and Biophysics, National Research Council, Ottawa, Canada.

#### FISH PROTEIN CONCENTRATE:

"Microbiological Process for the Production of a Bland Fish Meal," by S. G. Wiechers, F. Schweigart, and M. K. Rowan, article, *Research Report, Council of Scientific and Industrial Research, South Africa*, No. 179, 1960, 21 pp., printed. Council of Scientific and Industrial Research, P. O. Box 395, Pretoria, South Africa Republic.

"Preparation of Edible Fish Flour from Oil-Sardine (*Clupea longiceps*)," by N. L. Lahiry and others, article, *Food Science (India)*, vol. 11, 1962, pp. 37-39, printed. Central Food Technological Research Institute, Mysore, India.

"Preparation of Protein-Rich Biscuit with Fish Flour from Hammer-Head Shark (*Zygoena blochii*)," by R. L. Nath, N. K. Ghosh, and R. Dutt, article, *Bulletin, Calcutta School of Tropical Medicine*, vol. 9, 1961, pp. 12-13, printed. Calcutta School of Tropical Medicine, Chittaranjan Ave., Calcutta 12, India.

"Use of Fish-Protein Hydrolysate in the Diet. I--Preparation of Biscuit from Protein Hydrolysate of Fish," by R. L. Nath, S. K. Pain, and R. Dutt, article, *Journal and Proceedings of the Institution of Chemists (India)*, vol. 33, 1961, pp. 64-68, printed. Chemical Department, Medical College, Calcutta 12, India.

#### FISH SAUSAGE:

"Fish Sausage Processing in Japan," by Keishi Amano (Marine Food Preservation Division, Tokai Regional Fisheries Research Laboratory, Ministry of Agriculture and Forestry, Tokyo, Japan), article, *Fishing News International*, vol. 1, no. 5, October 1962, pp. 29-30, 32-34, illus., printed, single copy 6s. 6d., (about 91 U. S. cents). Fishing News International, Arthur J. Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England. Discusses the increased production of fish sausage in Japan since 1954, raw materials used, steps in preparation and processing, recipes, shelf life of the product, quality control, and chemical composition.

#### FISH SOLUBLES:

*Animal Feed from Fish Solubles*, by J. Kruss, U. S. Patent No. 2,986,469, May 30, 1961, printed. U. S. Patent Office, Washington 25, D. C.

*Studies on an Unidentified Growth Factor (UGF) for Chicks in Fish Solubles* (Paper presented at the 50th Annual Meeting of the Poultry Science Association, Pennsylvania State University, August 8-11, 1961), by F. H. Steinke, H. R. Bird, and F. M. Strong, printed. Poultry Science Association, Ohio State University, Columbus 10, Ohio. (Abstract in *Poultry Science*, vol. 40, 1961, pp. 1460-1461.)

#### FISH STICKS:

"Microbial Analysis of Commercial Frozen Fish Sticks," by J. T. R. Nickerson and others (Massachusetts Institute of Technology, Cambridge, Mass.), article, *Journal of Milk and Food Technology*, vol. 25, no. 2, 1962, pp. 45-47, printed. International Association of Milk and Food Sanitation, Box 437, Shelbyville, Ind.

#### FOOD:

"Chemical Opening of Bivalves for the Removal of Edible Meats," by Clyde J. Welcker and Roland L.

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Welcker, article, *Chemical Abstracts*, vol. 56, April 2, 1962, 7761i. The American Chemical Society, 1155 16th St. NW., Washington, D. C.

Fish as Food. Vol. II--Nutrition, Sanitation, and Utilization, edited by Georg Borgstrom, 794 pp., illus., printed, \$25. Academic Press Inc., 111 Fifth Ave., New York 3, N. Y., November 1962. This is the second of a three-volume work which reviews today's science of fish as food (covers all marine and fresh-water organisms used as food). The basic fields of production, biochemistry, and microbiology were reviewed in the first volume. Presented in this second volume are the "public health" aspects of fish, its handling and processing. Covered are the major areas of nutrition, sanitation, and utilization. The historical aspects of fish are discussed in the first chapter. The section on nutrition covers the nutritive aspects of fish and shellfish protein (including protein content, amino acid composition, digestibility, fish flour, fish and shellfish meals, fish solubles, and whale protein). Also, the same section discusses nutritive aspects of fish oils, fat-soluble vitamins, fish as a source of mineral nutrition, and changes in nutritive value through handling and processing procedures. Following a chapter on fish in world nutrition are chapters on the role of fishery foods in the Japanese diet; fish meal and condensed solubles in poultry and livestock feeding; and fish for feeding minks. The sanitation section reviews food poisoning caused by fish and fishery products; fish-borne food poisoning in Japan; polluted waters and the contamination of fish; salmonella problems in the sea; biotoxins, allergies, and other disorders; diseases of marine and fresh-water fish; transportation of live fish; and radioactivity and seafood. The section on trends in utilization of fish and shellfish includes all types of fishery products, utilization patterns in selected countries, waste utilization, trade patterns, and many other phases. Very successfully the book maps the alternative ways that fish, as food, reaches the consumer as well as the relative significance of major preserving and processing methods. In the preface, the author points out: "The prevailing idea that fisheries contribute little to human feeding is substantially revamped when the character of fish as a rich source of protein and its great marginal effect in amino acid supplementation is properly considered." Besides a subject index, this volume contains a list of common food fish, and each chapter is followed by a list of references. This particular volume as well as the first volume should be valuable to fish and food scientists, public health workers, fishery biologists, nutritionists, sanitary engineers, and to anyone interested in any phase of fish and shellfish production and processing. No fishery library will be complete without this set of books, to which most of the world's leading fish scientists have contributed. Of particular importance is the inclusion of Soviet and Japanese studies previously unavailable in English. (See *Commercial Fisheries Review*, September 1962, p. 132, for review of Volume I.)

--Joseph Pileggi

#### FOOD AND AGRICULTURE ORGANIZATION:

Yearbook of Fishery Statistics, 1960-61 (International Trade), vol. XIII, 539 pp., processed in English,

French, and Spanish, \$5. Food and Agriculture Organization of the United Nations, Rome, Italy, 1962. (For sale by Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.) The present biennial issue brings up to date the statistics relating to international trade in fishery products, up to and including the 1960-61 biennium. The coverage of this volume has been extended by adding approximately 20 countries now comprising import and export data for 125 countries or customs territories. Mainland China remains the only fishing country with significant exports still omitted from the Yearbook. According to the report, the volume of international fishery trade in 1961 was over 4,300,000 tons and its value between \$1,300 and \$1,400 million. Into these 4,300,000 tons of fishery products went approximately 11,800,000 tons of fish as they come out of the water, i.e., one third of the estimated world catch for 1961.

Yearbook of Fishery Statistics, 1961 (Production), vol. XIV, 423 pp., illus., processed in English, French, and Spanish, \$4.50. Food and Agriculture Organization of the United Nations, Rome, Italy, 1962. (For sale by the Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.) This edition contains all sections that appeared in the 1960 edition except for that pertaining to fishing craft. It covers fishery statistics on catches, production of preserved and processed commodities, and whaling by countries. It reports that "The total nominal catch of fish, crustaceans and molluscs and other aquatic animals (except seals and whales), residues and aquatic plants, throughout the world in 1961 is estimated at over 41 million metric tons, an increase of 8 percent over the nominal catch of 1960, and is once more greater than in any other year. Out of this total of over 41 million tons, nearly 10 million tons were used for the manufacture of fish meals for animal feeding, and approximately another million tons for miscellaneous purposes. The balance of approximately 30 million tons was used for human food in fresh, frozen, cured, or canned form."

#### FOREIGN TRADE:

"Commerce Leads Way--Trade Expansion Act of 1962 is Law," by Luther H. Hodges; "Trade Act Details," by Harold T. Lamar, articles, *International Commerce*, vol. 68, no. 19, October 22, 1962, pp. 2-6, printed, single copy 35 cents. U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Discusses the impact of the Trade Expansion Act of 1962 on the United States as well as on the international economy and explains details of the Act and how it will operate. The Act was signed into law on October 11, 1962, extending the authority of the President to enter into trade agreements and to modify import restrictions for a period of 5 years ending June 30, 1967. Congress grants to the President adequate authority to deal with the problems and challenges facing the United States in its trading relations with other countries. This will assure expanded export opportunities in the growing markets abroad, which will benefit American industry, agriculture, and labor, according to the authors.

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## FRANCE:

"La Peche Industrielle" (Commercial Fishing), by F. Dorville, article, Revue Maritime, No. 183, 1961, pp. 1563-1577, illus., printed in French. Departement des Peches Maritimes, Societe MacGregor-Comarain, Paris, France.

## FREEZE-DRYING:

"Accelerated Freeze-Drying of Food," by S.W.F. Hanson, article, New Scientist, no. 304, September 13, 1962, pp. 570-572, illus., printed. New Scientist Cromwell House, Fulwood Place, High Holborn, London WC1, England.

"Freeze-Drying in the Food Industry," by L. Rey, article, Revue Generale du Froid, vol. 39, no. 3, March 1962, pp. 355-360, printed in French. Revue Generale du Froid, Association Nationale des Ingenieurs et Techniciens du Froid et des Industries Connexes, 129 Boulevard St. Germain, Paris VI, France.

"Freeze-Drying: What It Is and What It Costs," by E.P. Mehrlich, article, Canadian Refrigeration and Air-Conditioning Journal, vol. 28, no. 2, February 1962, pp. 14-17, illus., printed. Canadian Refrigeration and Air-Conditioning Journal, National Business Publications Ltd., 137 Wellington St. W., Toronto, Canada.

Optimum Processing Conditions for Freeze-Drying

(Paper presented at the 21st Annual Meeting of the Institute of Food Technologists, New York, May 7-11, 1961), by W.R. Smithies (Defence Research Medical Laboratories, Toronto, Canada), printed. Institute of Food Technologists, 510 No. Hickory St., Champaign, Ill. (Abstract in Food Trade Review, vol. 31, no. 6, 1961, p. 56.)

Progres recents en lyophilisation (Recent Advancement in Freeze-Drying), by L. Rey and others, 196 pp., illus., printed in French, NF33 (about US\$6.75). Hermann, 115 Blvd. St. Germain, Paris 6<sup>e</sup>, France.

The Stability of Freeze-Dried Foods, by R. M. Ballantyne, T. S. Blakley, and others, Defence Research Medical Labs. rpt. no. 232-11, 10 pp., printed. Defence Research Board, Medical Research Section, 125 Elgin St., Ottawa, Canada, February 1962. Results of organoleptic tests on stored freeze-dried raw meats, cooked meats, fish, vegetables, and fruits are given. An estimate is given of the storage life of a variety of products.

## FREEZING:

"Freezing and Cold Storage," article, Torry Research Station, Annual Report 1960, pp. 18-19, printed. Torry Research Station, Aberdeen, Scotland, 1961.

"The Freezing of Crustacea," by J. Deniel, article, Revue Generale du Froid, vol. 39, no. 1, January 1962, pp. 33-37, illus., printed in French. Revue Generale du Froid, Association Nationale des Ingenieurs et Techniciens du Froid et des Industries Connexes, 129 Boulevard St. Germain, Paris VI, France.

"Uber das Gefrieren von seefischen" (On the Freezing of Salt Water Fish), by J. Gutschmidt, article, Kalttechnik, vol. 13, no. 6, June 1961, pp. 216-225, illus., printed in German. Kalttechnik, C.F. Muller Verlag, Karlsruhe, Germany.

## FROZEN FISH:

"Freezing and Cold Storage: Quality of Frozen, Packaged Fish in Shops," article, Torry Research Station, Annual Report 1960, pp. 20-21, printed. Torry Research Station, Aberdeen, Scotland, 1961.

"Protein Denaturation in Frozen Fish. Cold Storage Studies on Cod Using the Cell Fragility Method," by R.M. Love, article, Journal of the Science of Food and Agriculture, vol. 13, no. 5, May 1962, pp. 269-278, illus., printed. Journal of the Science of Food and Agriculture, The Society of Chemical Industry, 14 Belgrave Square, London SW1, England.

"Reducing Moisture Loss from Frozen Meat and Fish," by Thomas Reid Anderson, article, Chemical Abstracts, vol. 55, December 11, 1961, 26307c, printed. The American Chemical Society, 1155 16th St. NW., Washington, D. C.

## GEAR:

"A Note on the Night Fishing Observations from a 'Kelong'," by E.D. Chelappa, article, Journal of the Marine Biological Association of India, vol. 1, no. 1, 1959, pp. 93-94, printed. Central Marine Fisheries Research Institute, Marine Fisheries (P.O.), Madras, India.

"Le Rolling-bowl dispositif de levage pour bolinche ou filets tournants" (The "Rolling-Bowl," a Hauling Gear for Seine Nets), article, Peche Maritime, vol. 40, no. 1001, 1961, pp. 592-593, illus., printed in French. La Peche Maritime, 190, Boulevard Haussmann, Paris, France.

"O vyborie ratzional'noy formy tralovoy doski" (Choosing Rational Shape of Otter Boards), by I.R. Matrosov, article, Rybnoe Khoziaistvo, vol. 34, no. 1, 1958, pp. 36-42, illus., printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

## GERMAN FEDERAL REPUBLIC:

Jahresbericht uber die Deutsche Fischwirtschaft, 1961/62 (Annual Report on German Fisheries, 1961/62), issued by the Ministry of Food, Agriculture, and Forestry in cooperation with the Federal Statistical Office, 316 pp., illus., printed in German with English table of contents and summaries, DM 25 (about US\$6.25). (Available from Gebr. Mann, Hauptstrasse 26, Berlin 62, Germany, 1962.) A review covering all phases of the German fisheries in 1961/62. Part I contains information on fishery policy, legislation, the sea and coastal fisheries as well as the fish supply, the German fishing fleet, biological-statistical report on the German deep-sea fishery, and foreign trade in fishery products. Part II includes information on cruises of the fishery protection and fishery research vessels, the fishing industry and the Seamen's Vocational Association, work of the German Scientific Commission for the Exploration of the Sea, and fishery research. Part III presents data on the German deep-sea fishery in 1961, the lugger herring fishery, the cutter deep-sea and coastal fisheries, fresh-water fisheries, processing of fish and shellfish, publicity campaign, and promotion of fish marketing. Part IV gives data on foreign fisheries and whaling.

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#### HORSE MACKEREL:

La Caballa del Mar Argentino. I--Sistemática, Distribución y Pesca (The Horse Mackerel of the Argentine Sea. I--Description, Distribution, and Fishery), by Rogelio B. Lopez, 38 pp., illus., printed in Spanish. (Reprinted from Comunicaciones del Museo Argentino de Ciencias Naturales BERNARDINO RIVADAVIA e Instituto Nacional de Investigación de las Ciencias Naturales, Ciencias Zoológicas, vol. 3, no. 3, 1959, pp. 95-130.) Ministerio de Educación de la Nación, Dirección General de Cultura, Buenos Aires, Argentina.

#### ICELAND:

Fjarmalatidindi, no. 3, August-December 1962, 247 pp., illus., printed in Icelandic. Fjarmalatidindi, Lansbæva Islands, Reykjavik, Iceland. Includes, among others, statistical tables giving data on production of fishery products.

#### INTERNATIONAL COMMISSIONS:

International North Pacific Fisheries Commission, Bulletin No. 8, 113 pp., illus., printed. International North Pacific Fisheries Commission, 6640 Northwest Marine Dr., Vancouver 8, B.C., Canada, 1962. Includes articles on "Intraspecific Differences in Serum Antigens of Red Salmon Demonstrated by Immunochemical Methods," by George J. Ridgway, George W. Klontz, and Charles Matsumoto; and "Continental Origin of Red Salmon as Determined from Morphological Characters," by Francis M. Fukuhara and others.

(International North Pacific Fisheries Commission) The Exploitation, Scientific Investigation and Management of Salmon (Genus ONCORHYNCHUS) Stocks on the Pacific Coast of Canada in Relation to the Abstention Provisions of the North Pacific Fisheries Convention, Bulletin No. 9, 120 pp., illus., printed. International North Pacific Fisheries Commission, 6640 Northwest Marine Dr., Vancouver 8, B.C., Canada, 1962. Under the provisions of the International Convention for the High Seas Fisheries of the North Pacific Ocean, Japan and, in one instance, Canada agree to abstain from fishing Pacific salmon (genus Oncorhynchus) in portions of the Convention area off the coasts of Canada and the United States. The Commission is required to study the stocks of fish under abstention for the purpose of determining annually whether such stocks continue to qualify for abstention. The purpose of the papers contained in this bulletin was to provide information which would aid the Commission to carry out the above duty, that is to determine annually, beginning in 1958, whether the salmon stocks originating in the rivers of Canada continued to meet the requirements for abstention given in the Convention.

#### INTERNATIONAL FISHERIES CONVENTION:

International Fisheries Convention of 1946, The Permanent Commission, Report by the President on the Tenth Meeting, 29 pp., processed in French and English. Office of the Permanent Commission, Rm. 617, East Block, Whitehall Pl., London SW1, England, 1962. Includes a report by the President on the Tenth Meeting of the Permanent Commission, held in Hamburg, May 1962; a list of names and descriptions of delegates, advisors, and observers attending the meeting; and the agenda. Also presents a report by the

Finance Committee in regard to the financial year ended June 30, 1961, and estimate of payments and receipts for the year ending June 30, 1962; provisional budget for the year ending June 30, 1963; and a press notice issued after the Tenth Meeting.

#### IRRADIATION PRESERVATION:

"Progress in Food Irradiation," by M. Ingram and D. N. Rhodes (Low Temperature Research Station, Cambridge, England), article, Food Manufacture, vol. 37, July 1962, pp. 318-320, 323-326, printed. Leonard Hill Ltd., 9 Eden St., London NW1, England.

#### ISRAEL:

Bamidgeh (Bulletin of Fish Culture in Israel), vol. 14, no. 3, September 1962, 42 pp., illus., printed in Hebrew and English. Fisheries Division and Fish Breeders' Association, Nir-David, D. N., Hakiryia, Israel. Contains, among others, articles on: "An Exposition of the Terms 'Pond Productivity' and 'Carrying Capacity' of Ponds," by S. Tal; and "Primary Production in Fishponds and Its Application to Fertilization Experiments," by B. Hefher.

#### JAPAN:

Japan's Licensing and Exchange Controls, by Tatsuo A. Miyakawa, OBR-62-6, 4 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., November 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Presents information on Japan's import and export controls and United States controls on exports and imports.

Memoirs of the Faculty of Fisheries, Kagoshima University, vol. 11, no. 1, September 1962, 109 pp., illus., printed in Japanese with English abstracts. The Faculty of Fisheries, Kagoshima University, Kagoshima, Japan. Includes, among others, these articles: "Studies on the Catch Efficiency Derived from the Difference in the Construction of Tuna Long-Line Gear. III--On the Results of the Test Operations by the Long-Line Gear with 2-5 Hooks," by Tomokazu Morita and Nobuo Higo; "Notes on Some Marine Algae from Viet-Nam. I" (in English), by Takeshi Tanaka and Pham-Hoang Ho; "On the Deterioration of Frozen Fishes during Storage," by Jun-ichi Nishimoto; and "Studies on the Tannage of Fish Skin," by Michitoshi Ochi.

#### KING CRABS:

Loss of Isthmus Tags from King Crabs (PARALITHODES CAMTSCHATICA (Tilesius) (Final Report), by George W. Gray, Jr., Informational Leaflet No. 22, 5 pp., illus., processed. Alaska Department of Fish and Game, Subport Bldg., Juneau, Alaska. Discusses the discrepancies in percentages of tag losses found by various observers. An experiment was conducted in which tagged king crab were retained in a tank of sea water, fed, and observed for tag losses. Findings showed that with proper methods and materials the loss of isthmus tags immediately prior to molting is negligible.

#### KOREA:

Agriculture Year Book, 1962, 512 pp., illus., printed in Korean with English tables. The National Agricultural Co-Operatives Federation, Seoul, Korea. Includes,



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among others, statistical tables on tonnage of fishing vessels, production of marine products, fishery population, products of aquatic culture, processed marine products, and foreign trade in marine products.

#### LIPID DEPRESSANT:

"The Lipid Depressant Activities of Whole Fish and Their Component Oils," by James J. Peifer, F. Janssen, R. Muesing, and W. O. Lundberg (The Hormel Institute, University of Minnesota, Austin), article, Journal of the American Oil Chemists' Society, vol. 39, June 1962, pp. 292-296, printed. American Oil Chemists' Society, 35 East Wacker Dr., Chicago 1, Ill.

#### LOBSTERS:

"Control of Blackening of Lobster," by Michinori Yamaga and others (Taiyo Fishery Co., Shimono-seki, Japan), article, Chemical Abstracts, vol. 56, April 2, 1962, 7758e, printed. The American Chemical Society, 1155 16th St. NW., Washington, D. C.

The Food of the Norway Lobster, NEPHROPS NORVEGICUS (L.), by H. J. Thomas and C. Davidson, Marine Research 1962, No. 3, printed, \$1.10. British Information Services, 45 Rockefeller Plaza, New York 20, N. Y., April 1962.

#### LOUISIANA:

"A Study of the Fauna of the Offshore Waters in Louisiana," by C. E. Dawson, article, Proceedings of the First National Coastal and Shallow Water Research Conference, October 1961, pp. 445-446, printed. Gulf Coast Research Laboratory, Ocean Springs, Miss.

#### LUMINESCENCE:

"Comparative Studies of Luminescence in Copepods and Other Pelagic Marine Animals," by G. L. Clarke and others, article, Journal of the Marine Biological Association of the United Kingdom, vol. 42, no. 3, October 1962, pp. 541-564, illus., printed, 70s. (about US\$13). Cambridge University Press, 32 E. 57th St., New York 22, N. Y.

#### MALAGASY REPUBLIC:

"Evolution de la Pisciculture et de la Peche dans les eaux interieures de Madagascar depuis 1950" (Development of Fish Culture and the Inland Waters Fishery of Madagascar since 1950), by A. Kiener, article, Bulletin de Madagascar, vol. 12, no. 199, December 1962, pp. 1033-1044, illus., printed in French. Bulletin de Madagascar, M. le Directeur de l'Imprimerie nationale, Tananarive, Malagasy Republic.

#### MALAYA FEDERATION:

"Weight Increase in Toddler Children in the Federation of Malaya: A Comparison of Dietary Supplements of Skim Milk and Fish Biscuits," by Florence A. Thomson and Elizabeth Merry (Institute for Medical Research, Kuala Lumpur, Federation of Malaya), article, British Journal of Nutrition, vol. 16, no. 2, 1962, pp. 175-183, printed. Cambridge University Press, 200 Euston Rd., London NW1, England.

#### MEXICO:

Economic Developments in Mexico, 1961, by Katherine E. Rice, WTIS Part 1, Economic Report No. 62-79, 16 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., November 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Includes a review of 1961, relations between Mexico and the United States and between Mexico and other countries, finance, changes in tariffs and trade controls, economic development program, and investment climate. Also covers economic trends, manufacturing and extractive industries, electric power, agricultural production and distribution, and farm programs. A section on fisheries discusses shrimp landings and exports, total value of fishery products exports and imports, edible fishery products landings, and the more important commercial species.

#### MISSISSIPPI:

"Report on the Gulf Coast Research Laboratory, 1955-1960," by G. Gunter, article, Journal of the Mississippi Academy of Science, vol. 7, 1961, pp. 22-28, printed. Gulf Coast Research Laboratory, Ocean Springs, Miss.

#### MOLLUSKS:

Shells of the New York City Area: A Handbook of the Land, Fresh Water and Marine Mollusks Ranging from Cape Cod to Cape May, by Morris K. Jacobson and William K. Emerson, 142 pp., illus., printed. Argonaut Books, Larchmont, N. Y., 1961.

#### NETS:

How to Make and Set Nets; or, the Technology of Netting, by John Garner, 103 pp., illus., printed. Fishing News (Books) Ltd., Ludgate House, 110 Fleet St., London EC4, England, 1962. A valuable reference for both the net maker and the fisherman who uses and operates the nets. The earlier chapters explain the basic technology of preparing the looms in order to make and shape the various nets with maximum efficiency and economy. The later chapters deal with the specific nets used by fishermen and give an understanding of the principles of operation and rigging by which they give best results. Discusses in detail, with the aid of many sketches, mesh size, net-making machines, loom planning, shaping netting, and hanging netting. Further discussions cover seine net patterns, trawls, pound nets, and surround nets. A dictionary of fishing gear and terminology is included.

"Prufmethoden fur Netzgarne und Netzzeuge" (Testing Methods for Net Twine and Webbing), by A. von Brandt, article, Protokolle zur Fischereitechnik, vol. 30, no. 7, 1960, 92 pp., illus., printed in German. Institut fur Netz- und Materialforschung, Bundesforschungsanstalt fur Fischerei, Palmaille 9, Hamburg-Altona 1, Germany.

#### NEW CALEDONIA:

"Thriving Fishermen's Co-Operative in Noumea," by Raymond Cassier, article, South Pacific Bulletin, vol. 12, no. 4, October 1962, pp. 29, 56, illus., printed.

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single copy 30 cents. South Pacific Commission, Box 5254, G.P.O., Sydney, Australia. Established in mid-1960, the Fishermen's Co-Operative of Noumea has shown steady progress. In the first year, 48 tons of fish were sold, and production was doubled within 12 months. The Co-Operative receives the catch from the fishermen, deep-freezes it, and sells it on the Noumea market, either wholesale or retail. Assets include a freezing plant and 100-foot wharf.

#### NEW ENGLAND:

Terrestrial and Marine Mammals of Massachusetts and Other New England States, by Joseph H. Waters C. Jean-Jacques Rivard, 157 pp., illus., printed, Standard-Modern Print Co., Brockton Mass., 1962.

#### NIGERIA:

Report on the Fisheries of Nigeria, by A. R. Longhurst, 53 pp., printed, Federal Fisheries Service, Ministry of Economic Development, Lagos, Nigeria, 1962. Sums up the fisheries situation in Nigeria and its future requirements. Only about one-fourth of Nigeria's fisheries products supplies are produced locally. The author believes that the best prospects for increasing production lie in the exploitation of distant-water fisheries, both pelagic (especially the tunas) and demersal. There is an account of the fresh-water fisheries, indicating scope for expansion in the potentially rich fisheries of Lake Chad. Research work conducted by the Federal Fisheries Service is described, including surveys made by the 70-foot research vessel, a study of the life histories of the most important species, and studies of mesh-selection and the fishing effort.

#### OCEANOGRAPHY:

Fisheries Hydrography. How Oceanography and Meteorology Can and Do Serve Fisheries, by Timo Hela and Taivo Laevastu, 137 pp., illus., printed, Fishing News (Books) Ltd., Ludgate House, 110 Fleet St., London EC4, England, 1961.

Fishes and Fish Larvae Collected from Atlantic Plankton Cruises of R. V. "Pathfinder," 1961/62, by William Henry Massmann, Special Scientific Report No. 33, no. 1, printed, Virginia Fisheries Laboratory, Gloucester Point, Va., 1962.

The Johns Hopkins Oceanographic Studies, No. 1, 68 pp., illus., printed, Johns Hopkins Press, Homewood, Baltimore 18, Md., 1962.

Journal du Conseil, vol. 27, no. 3, November 1962, pp. 219-335, illus., printed, single copy Kr. 16 (about US\$2.32). Conseil Permanent International pour l'Exploration de la Mer, Charlottenlund Slot, Denmark. (Available from Messrs. Andr. Fred. Host & Son, Bredgade, Copenhagen, Denmark.) Includes, among others, articles on: "The Effect of Tidal Streams on the Presence of an Extensive Layer of Midwater Echo Traces," by V. Valdez and D. H. Cushing; "Asdic as an Aid to Spawning Ground Investigations," by A. R. Stubbs and R.G.G. Lawrie; "Measurement of the Dimensions of Fish to Facilitate Calculations of Echo-Strength in Acoustic Fish Detection," by R. W. G. Haslett; "The Correlation Table Analysis of a Sprat (*Clupea sprattus* L.) Year-Class to Separate Two Groups Differing in Growth

Characteristics," by T. D. Iles and P. O. Johnson; "The Use of the Scales of the Brown Trout (*Salmo trutta* L.) for the Back-Calculation of Growth," by Charlotte Kipling; "Some Observations on the Whiting (*Gadus merlangus* L.) of the Inshore Winter Fishery Off Lowestoft," by D. W. R. Rout; and "Transatlantic Migration of Two Large Bluefin Tuna," by Frank J. Mather III.

The Ocean, by Francis Downes Ommanney, No. 203, 244 pp., illus., printed, \$1.75. The Home University Library of Modern Knowledge, Oxford University, Amen House, Warwick Sq., London EC4, England, 1961.

Proceedings of the First National Coastal and Shallow Water Research Conference, October 1961, Baltimore, Maryland, Los Angeles, California, Tallahassee, Florida (Sponsored by The National Science Foundation and The Office of Naval Research), edited by D. S. Gorsline, 900 pp., illus., processed. Acting Director, Oceanographic Institute, Florida State University, Tallahassee, Fla., February 1962. Contains programs of the meetings held at Baltimore, Los Angeles, and Tallahassee, and abstracts of papers presented. Also includes the texts of all papers presented by American as well as foreign scientists.

#### OYSTERS:

Useful Publications for Oyster Farmers of the Maritimes, by J. C. Medcof, General Series Circular No. 32, October 1958, 3 pp., printed, Fisheries Research Board of Canada Biological Station, St. Andrews, N. B., Canada.

#### PAKISTAN:

Establishing a Business in Pakistan, by George S. Ayres, WTIS Part 1, Economic Report No. 62-44, 24 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., November 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) A report summarizing the major legal requirements for establishing a business and investing in Pakistan. Outlines the pertinent sections of Pakistan's laws, regulations, and policies affecting the establishment and operation of business enterprises in Pakistan by foreign nationals. Attention also has been given to the factors governing foreign participation in joint ventures with Pakistani nationals. Covers Government policy on investments, entry and repatriation of capital, trade factors affecting investment, and business organization. Also discusses patents, copyrights, and trademarks; regulations affecting employment; taxation; avoidance of double taxation; and miscellaneous overhead costs.

Pakistan's Licensing and Exchange Controls, by George S. Ayres, OBR-62-5, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., November 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Contains information on Pakistan's import policy--licensing controls, and exchange controls; Pakistan's export controls--administration and extent, and promotion plan; and United States controls on exports and imports, and other related topics.

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## PERU:

Establishing a Business in Peru, by R. F. Rodriguez, WTIS Part I, Economic Report No. 62-78, 32 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., October 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Discusses in detail investment outlook, business organizations, business record, organization costs, taxation, labor legislation, and other related subjects.

## PILCHARDS:

The Pilchard of South West Africa (SARDINOPS OCELLATA), General Hydrography of the Waters Off Walvis Bay, South West Africa, 1957-1958, by G. H. Stander, Investigational Report No. 5, 61 pp., illus., printed. Administration of South West Africa, Marine Research Laboratory, Windhoek, South West Africa, 1962. Figures for temperature, salinity, and sigma-T are considered on a monthly and a seasonal basis. The data obtained in respect to the dissolved inorganic phosphorus in the upper 50 meters of the sea are discussed. Brief reference is made to wind data collected at Pelican Point.

## PORTUGAL:

"La industria portuguesa de conservas de pescado y los problemas de su reorganizacion" (The Portuguese Canned Fish Industry and Problems of Its Reorganization), by Mario de Sousa, article, Industria Conservera, vol. 28, no. 280, October 1962, pp. 253-254, printed in Spanish. Industria Conservera, Calle Marques de Valladares, 41, Vigo, Spain.

## PROTEIN:

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## PURSE SEINING:

"Lov na svet koshel kovym nevodom s motodori" (Purse Seining with Lights from a Motorized Dory), by V. M. Kirillov, article, Rybnoe Khoziaistvo, vol. 37, no. 1, 1961, pp. 27-31, illus., printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

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## QUALITY:

"Frozen-Food Indicator Checks Product Quality," article, Food Engineering, vol. 34, February 1962, p. 100, printed. Chilton Company, Chestnut and 56th Sts., Philadelphia 36, Pa.

## RADIATION PRESERVATION:

Radiation Preservation of Food, PB 151 493, 461 pp., printed, \$5. Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., August 1957.

## REFRIGERATED WAREHOUSES:

"Air Doors for Refrigerated Warehouses--a Review," article, Information Bulletin, The Refrigeration Research Foundation, No. 61-11, 1961, pp. 2-3, illus., printed. The Refrigeration Research Foundation, 12 N. Meade Ave., Colorado Springs, Colo.

## REFRIGERATION:

"Problems and Progress in Retaining Fish Quality by Refrigeration--Paper 1," by Charles L. Cutting (British Food Manufacturing Industries Research Association, Randalls Road, Leatherhead, Surrey, England), article, Modern Refrigeration, vol. 65, May 1962, pp. 448-451, printed. Refrigeration Press Ltd., Maclaren House, 131 Great Suffolk St., London SE1, England.

"Refrigeration and Fish: Recent Developments in Cooling and Freezing," by J. R. Crepey, article, Genie Rural, vol. 55, no. 4, April 1962, pp. 203-205, 231, illus., printed in French. J. H. LaGrange, 39 Rue du General Foy, Paris 8e, France.

## SALMON:

Salmon Forecast Studies on 1963 Runs in Prince William Sound, by Wallace A. Noerenberg, Informational Leaflet No. 21, 30 pp., illus., processed. Alaska Department of Fish and Game, Subport Bldg., Juneau, Alaska, January 1, 1963. Discusses the value of salmon run forecasts to industry; methods used in obtaining data; and approximate numbers of pink, chum, and red salmon expected in the 1963 run. Also includes a number of detailed statistical tables and graphs giving data on commercial catches of salmon, 1920-61; escapement-return ratios; live counts of salmon in various areas; and other similar data.

## SALT FISH:

Quantitative Characteristics of Fish after Salting, by L. P. Levanidov, Israel Program for Scientific Translations, PST Cat. No. 109, pp. 39-45, processed. Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., 1960.

"Studies on Dry-Salting and Sundrying of Mackerel (Rastrelliger kanagurta Cuv.); "Effect of Chlortetracycline, Sorbic Acid, Sodium Propionate, Sodium Benzoate and Sodium Acid Phosphate on the Keeping Quality of Sun-Dried Salted Mackerel;" and "Effect of Varying Proportions of Salt to Fish on the Quality of Sun-Dried Mackerel," by D. P. Sen, K. Visweswariah, and N. L. Lahiry, articles, Food Science, vol. 10, 1961, pp. 123-131, 132-138, and 139-143, respectively, illus., printed. Central Food Technological Research Institute, Mysore, India.

## SEAWEED:

"Chemical Studies on Volatile Constituents of Seaweed. XVIII--Analysis of the Volatile Constituents of Laminaria by Gas Chromatography," by Teruhisa Katayama, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 27, July 1961, pp. 703-709, printed. Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-Ku, Tokyo, Japan.

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

## SHARKS:

"Cetorhinus" en Atlantico Sur, (Elasmobranchii: Cetorhinidae) (Cetorhinus in the South Atlantic--Elasmobranchii: Cetorhinidae), by Elvira M. Siccardi, 43 pp., illus., printed in Spanish with English summary. (Reprinted from Revista del Museo Argentino de Ciencias Naturales BERNARDINO RIVADAVIA e Instituto Nacional de Investigacion de las Ciencias Naturales, Ciencias Zoológicas, vol. 6, no. 2, 1961, pp. 59-101.) Ministerio de Educacion de la Nacion, Direccion General de Cultura, Buenos Aires, Argentina.

## SHRIMP:

"Investigation of the Effect of Packaging Frozen Cooked Shrimp under Vacuum and in an Atmosphere of CO<sub>2</sub>," by Olaf Karsti and Dagfinn Hakvag, article, Reports on Technological Research Concerning Norwegian Fish Industry, vol. 4, no. 1, 10 pp., printed in Norwegian with summary in English. Fiskeridirektoratet, Bergen, Norway, 1961.

"Microbial Analysis of Frozen Raw and Cooked Shrimp. I--General Results," by G. J. Silverman and others, article, Food Technology, vol. 15, 1961, pp. 455-458, illus., printed. Food Technology, The Garrard Press, 510 No. Hickory, Champaign, Ill.

"On the Qualitative Distribution of Amino Acids in Different Species of Prawns," by N. K. Velanker (Central Fisheries Technological Research Station, Ernakulam, South India) and K. Mahadeva Iyer, article, Journal of Scientific and Industrial Research, vol. 20C, no. 2, 1961, pp. 64-65, illus., printed. Council of Scientific and Industrial Research, Old Mill Rd., New Delhi 2, India.

"Studies on the Nutritive Value of Bombay Prawns. II--Chemical Composition and Nutritional Constituents of Penaeid Prawns," by F. S. Shaimkahmud (Department of Biochemistry, Institute of Science, Bombay, India) and N. G. Magar, article, Journal of Scientific and Industrial Research, vol. 20D, no. 4, 1961, pp. 157-158, printed. Council of Scientific and Industrial Research, Old Mill Rd., New Delhi 2, India.

"Undersøkelse over effekten av vakuumpakking og lagring i kullsyreatmosfære ved frysing av reker" (Study of the Effect of Vacuum-Packing and Storage in Carbon Dioxide on Frozen Shrimp), by O. Karsti and D. Hakvag, article, Fiskeridirektoratets Skrifter, vol. 4, no. 1, 1961, pp. 3-10, illus., printed in Norwegian. Fiskeridirektoratets Skrifter, Fiskeridirektoratet, Bergen, Norway.

## SMALL BUSINESS MANAGEMENT:

Growth: Implications for Small Marketers, by Albert Christopher, Small Marketers Aid No. 86, 4 pp., processed. Small Business Administration, Washington 25, D. C., December 1962. A leaflet to help small businessmen in their individual efforts to explore opportunities resulting from the Nation's expansion. At least six trends are on the increase in the country's growth. They are population, urban areas, productivity, automation, income, and leisure. Although growth is uneven and varies with localities, these trends are resulting in conditions that can help small marketers. The leaflet suggests ways by which the small retailer, wholesaler, or service operator can keep aware of the Nation's growth and its affects on his business.

## SMOKING:

"Smoking of Foods. III--Mechanism of Smoking," by P. Spanyol (Central Research Institute of Food Industries, Budapest, Hungary) and E. Kevai, article, Zeitschrift für Lebensmittel-Untersuchung und -Forschung, vol. 115, 1961, pp. 1-9, printed in German. Zeitschrift für Lebensmittel-Untersuchung und -Forschung, Springer Verlag, 3 Heidelberger Platz, Wilmersdorf, Berlin, Germany.

## SOUTH AFRICA REPUBLIC:

The South African Fishing Industry Handbook and Buyers' Guide, 1962/63, 251 pp., illus., printed, R4.20 (about US\$5.90). Thomson Newspapers, South Africa (Pty.) Ltd., Box 80, Cape Town, South Africa Republic, 1962. The sixth edition of this handbook reviews the progress of the South African and South-West African fishing industry during 1961 and 1962 and gives details of the catch and production of fishery products. Included is information on recent developments in the fishing industry; fish-processing factories; fish meal industry; South African fish species; legal minimum size limits of South African fish; and organizations serving the industry. Also covers leading personalities in the industry; South and South-West African fishing companies; fishery products; buyers' guide; details of vessels; motor fishing boats; motor and steam trawlers; details of marine engines; and suppliers of fuels and lubricants.

## SOUTHEAST ASIAN WATERS:

Physical Oceanography of the Southeast Asian Waters, NAGA Report Vol. 2--Scientific Results of Marine Investigations of the South China Sea and the Gulf of Thailand, 1959-61, by Klaus Wyrтки, printed. Scripps Institute of Oceanography, La Jolla, Calif., 1961.

## SOUTHEAST PACIFIC:

"Research on Marine Resources in Chile, Ecuador and Peru," by Robert Clarke (National Institute of Oceanography, England), article, Fishing News International, vol. 1, no. 5, October 1962, pp. 44-50, illus., printed, single copy 6s. 6d. (about 91 U.S. cents). Fishing News International, Arthur J. Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England. Discusses the ocean currents along the Pacific Coast of South America and their relation to marine life; known marine resources such as the anchoveta, centolla, shrimp, tuna, whales, and seals; and present exploitation--fishing, guano harvesting, fishing methods, and whaling. Also covers future research and development, earlier research work, United Nations Special Fund fishery projects, and Ecuadorean and Peruvian research plans.

## SPAIN:

"Las exportaciones de conservas de pescado gallegas en 1961" (Galician Exports of Canned Fish in 1961), by Manuel Ordax Ordax, article, Industria Conservera, vol. 28, no. 279, September 1962, pp. 222-224, 225, printed in Spanish. Industria Conservera, Calle Marques de Valladares, 41, Vigo, Spain.

"La exportacion española de productos pesqueros. III-La exportacion de conservas de pescados y mariscos" (Spanish Export of Fishery Products. III--Export of Canned Fish and Shellfish), by V. Paz-Andrade, article, Industrias Pesqueras, vol. 36, no. 853, November 1962, pp. 370-372, printed in Spanish, single

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copy 10 ptas. (about 17 U. S. cents). Industrias Pesqueras, Policarpo Sanz, 21-20, Vigo, Spain.

#### SPINY LOBSTERS:

Le rôle prépondérant des pêcheurs Cornouaillais dans la Recherche et l'Exploitation de nouveaux Fonds langoustiers (The Leading Role of the Fishermen of Cornouaillais in the Search and Exploitation of New Spiny Lobster Grounds), by E. Postel, 14 pp., illus., printed in French. (Reprinted from Penn Ar Bed, vol. 3, March 1962, pp. 141-152.) Office de la Recherche Scientifique et Technique Outre-Mer, Service Central de Documentation, 80, route d'Aulnay, Bondy (Seine), France.

#### SPONGES:

"Sponge Profits in a Squeeze," article, Chemical Week, vol. 91, no. 17, October 27, 1962, pp. 43-44, 46, 50, 55, illus., printed, single copy 50 cents. Chemical Week, McGraw-Hill Publishing Co., 330 W. 42nd St., New York 36, N. Y. Four different kinds of sponges are currently on U. S. markets; the natural sea-sponge, which is a marine animal's skeleton (generally, Phylum porifera), and three synthetics: cellulose, vinyl, and urethane. Natural sponges are harvested by local fishermen both in the Mediterranean and the Gulf of Mexico. In 1939 a severe sea blight off the Florida Keys decimated the U. S. crop--sending the synthetics into their first spurt of popularity. While the synthetics are most popular in household uses, natural sponges have greatest use by painters, janitors, artists, window-washers, and in industrial applications (printing, cleaning, painting, ceramics).

#### SQUID:

"Squid Tropomyosins," by Shuichiro Kubo, article, Memoirs of the Faculty of Fisheries Hokkaido University, vol. 9, no. 1, 1961, pp. 57-83, printed, Faculty of Fisheries, Hokkaido University, Kameda-Machi, Hakodate, Japan.

#### TAIWAN:

"Model Fishery Development in Taiwan," by E. Stuart Kirby, article, Fishing News International, vol. 1, no. 5, October 1962, pp. 16-20, illus., printed, single copy 6s. 6d. (about 91 U. S. cents). Fishing News International, Arthur J. Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England. Covers the fishery resources of Taiwan, fisheries administration and research, vocational and professional fisheries education, and fishermen's associations. Also discusses the types of fisheries--deep-sea, inshore, coastal, and fresh-water; fish processing; and marketing of fishery products.

Taiwan Fisheries, 1962, 59 pp., printed in Chinese and English. Taiwan Fisheries Bureau, Provincial Government of Taiwan, 1688 Chung Cheng Rd., Taipei, Taiwan. Covers in detail the four types of fisheries--deep-sea, inshore, coastal, and fish culture; fisheries production and value since 1931; fishing craft; fishing population and fishermen's associations; and harbors and fish production areas. Also discusses species of commercial importance; fish marketing and transportation; ice making, cold storage, and freezing; processing; education, training, and research; and foreign trade. Includes statistical tables on annual fisheries production, 1949-61, status of fishing craft, fishing population,

production by species, and foreign trade in fishery products.

#### TARPON:

"The Biology of the Tarpon, Megalops atlanticus, and the Ox-Eye, Megalops cyprinoides, with Emphasis on Larval Development," by Richard A. Wade, Contribution No. 424, article, Bulletin of Marine Science of the Gulf and Caribbean, vol. 12, no. 4, December 1962, pp. 545-622, illus., printed, single copy \$2. Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Virginia Key, Miami 49, Fla.

#### TAX GUIDE:

Tax Guide for Small Business, 1963 Edition, 143 pp., illus., printed, 40 cents. Internal Revenue Service, U. S. Treasury Department, Washington, D. C., 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) A handbook to assist individuals as well as firms in coping with their tax problems. The new tax guide answers most questions which arise in connection with starting, operating, or selling a business. Practical explanations and examples are provided to show how the Federal income, excise, social security, and withholding taxes apply to proprietorships, partnerships, and corporations. A tax calendar provides the dates for filing returns, paying taxes, and carrying out other operations under the Federal tax laws during 1963. A check list is helpful to the inexperienced in telling him what taxes he may be liable for and what forms he may be required to file. Also covered are the new rules under the Revenue Act of 1962, such as tax credit for investment in newly acquired equipment, extent to which expenses for business travel and entertainment may be deducted, and requirements for filing information returns for payments of dividends and interest.

#### TRADE LIST:

The U. S. Department of Commerce has published the following mimeographed trade list. Copies may be obtained by firms in the United States from the Commercial Intelligence Division, Office of Trade Promotion, Bureau of Foreign Commerce, U. S. Department of Commerce, Washington 25, D. C., or from Department of Commerce field offices at \$1 each.

Oils (Animal, Fish and Vegetable)--Importers, Dealers, Producers, Refiners, and Exporters, Republic of South Africa, 25 pp., processed (November 1962). Lists the names and addresses, size of firms, and types of products handled by each firm. Includes firms dealing in fish and whale oils.

#### TRAWLERS:

"Bulb-Trawlers," by D. J. Doust, article, Ship and Boat Builder, vol. 14, no. 6, 1961, pp. 40-42, illus., printed, Ship and Boat Builder, John Trundell Ltd., St. Richards House, Eversholt St., London NW1, England.

#### TRAWLING:

"O raznoglubinnom love seldi v Severnoi Atlantike" (On Midwater Trawling for Herring in the North Atlantic), by E. V. Kamenskii and V. R. Trebushnoi, article, Rybnoe Khoziaistvo, vol. 36, no. 11, 1960, pp. 42-49, illus., printed in Russian. Rybnoe Khoziaistvo, VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

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#### TRAWLS:

"Mechanical Analysis on the Working Behavior of Midwater Trawl," by Otohiko Suzuki, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 27, October 1961, pp. 903-907, printed, Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-Ku, Tokyo, Japan.

#### TROUT:

"Fecundite et Croissance de la Truite (*Salvelinus fontinalis*) dans Trois Lacs du Parc des Laurentides" (Fertility and Growth of the Trout--*Salvelinus fontinalis*--in Three Lakes of Laurentides Park), by Yves Desmarais, article, Le Naturaliste Canadien, vol. 86, no. 2, February 1959, pp. 31-45, printed in French. Le Naturaliste Canadien, l'Université Laval, Quebec, Canada.

The Lake Trout--Its Life History, Ecology, and Management, by Russell Daly, Vernon A. Hacker, and Lawrence Wiegert, Publication No. 233, 15 pp., illus., printed, Wisconsin Conservation Department, Madison 1, Wis., 1962. Covers the classification, distribution, and description of the lake trout. Also describes its habits and habitat, reproduction, population size and mortality rates, and ecology. Angling and commercial fishing for lake trout, its economic value, and management are also described.

#### TUNA:

"Horizontal Distribution of Catch by the Longline," by Nobuo Hirayama, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 27, November 1961, pp. 987-989, printed, Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-Ku, Tokyo, Japan.

"Studies on the Tuna Longline Fishery in the Eastern China Sea and Okinawa Region. I--Fish Composition," by Ichiro Furukawa, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 27, June 1961, pp. 558-565, printed, Japanese Society of Scientific Fisheries, 6-chome, Shiba-Kaigandori, Minato-Ku, Tokyo, Japan.

#### UNITED KINGDOM:

Annual Abstract of Statistics, 1962, No. 99, 334 pp., printed, £1 2s. 6d. (about US\$3.15). Her Majesty's Stationery Office, York House, Kingsway, London WC2, England, 1962. Includes, among others, statistical tables giving data on the value and volume of fishery products landings and the composition of the British fishing fleet.

Licensing and Exchange Controls in the United Kingdom, by Thomas Brian Ketchum, OBR-62-1, 4 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., November 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Discusses import and export controls of the United Kingdom and United States controls on imports from and exports to that country.

#### USE OF EXPLOSIVES:

"Seismic Splash," by William L. Craig, article, Outdoor California, vol. 23, no. 9, Sept.-Oct. 1962, pp. 18-20, illus., printed, California Department of Fish and Game, 722 Capitol Ave., Sacramento, Calif. The

use of explosives in the waters of California can be harmful to fish life. The author tells how the Department of Fish and Game and the Fish and Game Commission regulate the use of explosives in California to keep this loss to a minimum.

#### U.S.S.R.

"Fishing Craft of the USSR," by Alexander Gorinov, article, Fishing News International, vol. 1, no. 5, October 1962, pp. 80-82, illus., printed, single copy 6s. 6d. (about 91 U. S. cents). Fishing News International, Arthur J. Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England. The seven-year economic development plan of the Soviet Union (1959-65) provides for increasing the catch of fish, sea animals, and sea products from 2,900 million kilograms in 1958 to 4,640 million kilograms in 1965. New ships are being built and under the seven-year plan the fishing fleet will get more than 14,000 vessels. This article discusses the specifications and operations of some new floating factoryships, stern ramp trawlers, medium trawlers, motherships, and whaling vessels.

Freshwater Fishes of the U.S.S.R. and Adjacent Countries, by Leo S. Berg, Vol. 1, OTS 61-31218, 511 pp., illus., printed, \$5. (Translated from the Russian, Ryby presnykh vod SSSR i sopredel'nykh stran) Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., 1962. Descriptions are given of all the fresh-water fish (including commercially-valuable species) of the Arctic Sea basins in Europe and Asia, the Pacific Ocean basin from the Bering Sea to the Tumen'-Ula River (on the Korean border), the basins of Lake Balkhash and the Aral Sea, the rivers of Turkmenistan, and the Black and Baltic Sea basins. Only some western European whitefish are excluded. The book can thus be used as a key for the identification of the fresh-water fish of almost all of Europe (except the Mediterranean countries) and North Asia, and covers an area larger than all of North America. Also included are descriptions of all the fish of the Caspian Sea, including those which do not enter fresh water.

Trudy naucno-issledovatel'skogo instituta mehanizacii rybnogo promyslennosti VNIRO (Studies of the Scientific Research Institute of Mechanization of the Fishery Industry--VNIRO), 144 pp., illus., printed, 60 k. (about 70 U. S. cents). Four Continent Book Corp., 156 5th Ave., New York 10, N. Y.

"Utilization of Fish in the Soviet Union," by N. Voskresensky (Department of Technical Science, All-Union Institute of Scientific Research for Fisheries and Oceanography, Moscow, U.S.S.R.), article, Fishing News International, vol. 1, no. 5, October 1962, pp. 9-13, illus., printed, single copy 6s. 6d. (about 91 U. S. cents). Fishing News International, Arthur J. Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England. Discusses the history and expansion of the Russian fishing industry, long-term plans for development, chilling and freezing of fish, methods of preparing canned fish, types of salted fish, production of caviar, and electrical smoking. According to the author, "In the programme adopted at the 22nd Congress of the Communist Party of the Soviet Union, the necessary basis has been laid down for rapid technical progress in the food industry in general and the fishing industry in particular."

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## VESSELS:

Merchant Vessels of the United States, 1962 (Including Yachts), 1183 pp., printed \$6.75. Bureau of Customs, U. S. Department of the Treasury, Washington, D. C., 1962. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.) Covers every American merchant vessel and yacht (including fishing vessels) which had an uncanceled document (register, enrollment and license, or license) on January 1, 1962. The official number, signal and radio-call letters, type of rig, name, tonnage, dimensions, place and date built, name of owner, and home port of every such vessel are provided.

## WATER SAMPLER:

"A New Bottom-Water Sampler for Ecologists," by J. W. Murray, article, *Journal of the Marine Biological Association of the United Kingdom*, vol. 42, no. 3, October 1962, pp. 499-501, illus., printed, 76s. (about US\$13). Cambridge University Press, 32 E. 57th St., New York 22, N. Y.

## WHALES:

"Aerial Photographs Show Sperm Whales' Interesting Habits," by Masaharu Nishiwaki, article, *Norsk Hvalfangst-Tidende (The Norwegian Whaling Gazette)*, vol. 51, no. 10, October 1962, pp. 395-398, illus., printed, Norsk Hvalfangst-Tidende, Hvalfangerforeningen, Sandefjord, Norway.

"Whale of a Rendering Tale," article, *National Provisioner*, vol. 147, July 14, 1962, pp. 24-26, printed, National Provisioner Inc., 15 West Huron St., Chicago 10, Ill.

## WHALING:

"The Tonnages of Whales Taken by Antarctic Pelagic Operations during Twenty Seasons and an Examination of the Blue Whale Unit," by D. T. Crisp, article, *Norsk Hvalfangst-Tidende (The Norwegian Whaling Gazette)*, vol. 51, no. 10, October 1962, pp. 389-393, printed, Norsk Hvalfangst-Tidende, Hvalfangerforeningen, Sandefjord, Norway. The number and tonnages of whales of each species taken by Antarctic pelagic whaling in the years 1932/33 to 1938/39 and 1946/47 to 1958/59 are shown in statistical tables and discussed in detail. The average number of whales taken was about 33,400 per season, but the average tonnage of whales taken per season fell from a pre-war total of about 2 million tons to a post-war total of 1½ million tons. The tonnage of baleen whale material taken each season is compared to the baleen oil production. The results suggest that the total tonnage of raw material in a catch is a useful means of estimating the production potential of that catch. One Blue Whale Unit consists of 80-100 tons of blue, fin or humpback material, but of about 130 tons of sei whale material. It is suggested that a realistic allowance for sei whales would be four individuals, about 87 tons, to one B. W. U.



## FLORIDA'S ARTIFICIAL REEFS

Since "fish-drops" or artificial reefs have become productive, they have become more and more popular. There are some 20 established reefs or reefs being built on both coasts of Florida.

Interest in this "make-it-yourself" fishing has become so great that the State has set up rules and procedures for those interested in establishing a reef. After a site is chosen, application is made to the Internal Improvement Fund Trustees who in turn transmit their recommendation to the State Board of Conservation. The Board makes a survey of the proposed site. The Fund Trustees issue a permit if the findings are agreeable. Approval must also be obtained from the U.S. Corps of Engineers.

Latest findings show that a Japanese concrete block 8 feet long, 5 feet wide, and 2½ inches high, with two 15-inch holes on top and bottom and one on each side and one in either end, provide the best substance for artificial reefs. These can be planted about 24 inches apart or can be pyramided. It has been found that these blocks withstand the changing tides as well as storms and that their lasting qualities are better than anything else that has been used to date. Some have been observed in Japan for over 30 years with little signs of deterioration, also some have been in use in the waters of North Carolina for over 10 years. An estimated cost of this block is around \$20. Reports indicate that good sport fishing is found at almost all of the reefs that have been established.

#### SEA LAMPREYS A GOURMET'S DELIGHT IN SOME PARTS OF THE WORLD

The SEA LAMPREY, reviled generally in North America as an ugly, useless destroyer of other fish, has quite a good reputation in other parts of the world.

As an epicurean delight it is said to have been the unwitting cause of the demise of one monarch, King Henry I of England, who gorged himself to death on them. Later, Henry IV granted protection to ships carrying lampreys for the Royal Consort, and King John so prized them that he once gave a horse in exchange for a single lamprey.

These and other interesting aspects of various people's behavior toward the lamprey, all indicating that "beauty is in the eye of the beholder," formed an interesting report at the annual meeting of the Fisheries Research Board of Canada in 1961.

Most North American interest in the lampreys is generated by the efforts being made to control them in the upper Great Lakes, where they first established a beachhead when the Welland Canal allowed them to circumvent Niagara Falls. They preyed so heavily on lake trout that the latter were almost completely wiped out.

As a table delicacy, however, history as well as present-day gastronomes hold the lamprey in very high esteem. Lampreys, states the report, were formerly used by many North American Indian tribes as food, although some shunned them. During the Nineteenth and Twentieth centuries they were used widely as food by whites as well, particularly by inhabitants of the New England states, among whom it was the custom for families living near a lamprey river to salt down several barrels of lampreys for the winter. Less fortunate families living away from the lamprey rivers considered themselves fortunate when they could exchange a barrel of pork for a barrel of lampreys.

There is a record of one man taking several cartloads of lampreys daily from the St. Lawrence Dam in the Connecticut river in 1847, and around 1880 the going price for lampreys in that district was around five dollars a hundred.

Records of lamprey fisheries in Europe date back to the Romans who are said to have considered them a regal food. Today they are still held in high esteem by many European peoples who prepare them for their own use or carry on a thriving trade in them.

The report indicates that many little Dutch tykes, when not putting their fingers in holes in dikes, had another interesting occupation. Up to 1915 boats fishing out of Holland used to take about 2,000 lampreys aboard to use as bait for catching cod. Also aboard was a boy whose task it was to bite through the head of each lamprey, thus destroying the brain, paralyzing the lampreys, and making them easy to handle. (Canadian Fisherman, February 1962.)



## AMERICA'S RARE SEA MAMMALS

Conservation Note 9, America's Rare Sea Mammals, describes how some of America's most interesting wildlife--seals, whales, and sea otters--were saved from extinction.

When America was discovered, many species of sea mammals were abundant in her waters. As early as 1614, whales were being hunted along the New England shores. By 1835, New England whaling vessels were traveling thousands of miles to reach whaling grounds in the North Pacific. At the same time, the sea otter and fur seals were rapidly being decimated along our Pacific coast.

The sea otter was once the world's most valuable fur animal. Formerly it ranged the coasts of the Pacific Ocean from the islands of Japan to Lower California. For 150 years following its discovery in Kamchatka in 1741, the sea otter was hunted relentlessly in American waters. By 1900 it was nearly extinct, remnants persisting in the wildest, most rugged places in the Aleutians and Alaska Peninsula, on the coast of Vancouver Island, and along the California coast. Only 34 skins were recorded for North America in 1910 and the United States Government closed the season on the species. Since 1911, the taking of sea otters in North America has been forbidden by international treaty.



Three adult sea otter and a pup on rocks.

The greatest need of the sea otter was protection from man. Protected, they began to increase and slowly spread from island to island in Alaska. Wildlife biologists say there may be 30,000 or 40,000 sea otters in Alaska today.

Very young sea otter pups have been seen in Alaska as early as March and as late as the end of August. The pup nurses until it is about a year old--lying on its mother's chest as she lazily paddles along with her broad hind flippers.

The northern fur seal has also been brought back from near extinction by a protective international treaty and careful land management. Now the rookeries in the Pribilof Islands fairly hum with activity each year in June as wave after wave of fur seals haul out on the beaches. An annual harvest of 60,000 to 70,000 fur seals valued at about \$5 million is taken each year by the United States Government.

Far to the south, along the Mexican and southern California coasts, a close relative of the northern fur seal has not fared so well. Killed by the thousands during the 1880's for its beautiful fur, by 1900 the Guadalupe fur seal was nearly gone from the islands along the California and Mexican coasts. For many years it was thought extinct, but in 1949 and again in 1951, lone bulls were seen near Saint Nicolas Island, California. Then in 1954 a group of 14 fur seals was found on Guadalupe Islands, Mexico. Possibly with careful management and protection the Guadalupe fur seal, too, may survive.

The position of the Hawaiian monk seal is also precarious. Monk seals are the only tropical-water seals in the world. In the 1,000-mile-long chain of islands in the Pacific on which it breeds--from Kure Island to French Frigate Shoals--the Hawaiian monk seal has been so reduced that it does not number more than 1,500 animals. With so few left, biologists fear the species will become extinct. Two factors endanger the monk seal; its extreme tameness and man's encroachment on its breeding islands.

Copies of Conservation Note 9 are available from the Office of Information, U. S. Fish and Wildlife Service, Washington 25, D.C.

## SCALLOPS--A TREAT FOR LENT

Why not serve scallops during Lent as a special treat for your family?

Scallops are marketed all year but are at their best when taken from November through April. Scallops are a light cream color, sometimes varying to a delicate pink. Fresh scallops and frozen scallops when thawed, should have a sweetish odor.

Scallops have a lean, light, firm meat and a sweet flavor. They contain high levels of well-balanced protein, very little fat, and many of the minerals and vitamins necessary for the good health of all members of the family.



Scallops Lorraine.

In the past the most familiar scallop dishes served have been deep-fat fried or pan-fried scallops, however, these dishes are only a beginning since scallops can be served in cocktails, appetizers, soups, salads, and main dishes with equally satisfying results.

The home economists of the Bureau of Commercial Fisheries, United States Department of the Interior, recommend "Scallops Lorraine" as a special treat for the family during Lent.

## SCALLOPS LORRAINE

1 pound scallops, fresh or frozen	2 tablespoons sherry
1 quart boiling water	2 tablespoons chopped parsley
2 tablespoons salt	1 teaspoon salt
1 cup pastry mix	$\frac{1}{2}$ teaspoon celery salt
3 eggs, beaten	Dash pepper
$\frac{3}{4}$ cup coffee cream	Paprika

Thaw frozen scallops. Remove any shell particles and wash. Place in boiling salted water. Cover and return to the boiling point. Simmer for 3 to 4 minutes, depending on size. Drain. Chop scallops. Prepare pastry mix as directed. Roll and line a 9-inch pie pan. Combine eggs and cream; add remaining ingredients except paprika. Place scallop mixture in pie shell. Sprinkle with paprika. Bake in a moderate oven, 350° F., for 35 to 40 minutes or until pie is firm in the center. Serves 6.

### CALIFORNIA TELEPHONE CABLE AREA--CAREFUL PLEASE

The chart shows the telephone cables to be found in the waters off California. To avoid the loss of valuable tackle, cargo, otter boards, nets, or anchor hooks, fishing vessels are urged to not drag nets or drop anchors or other heavy gear near the cable routes shown on the chart.

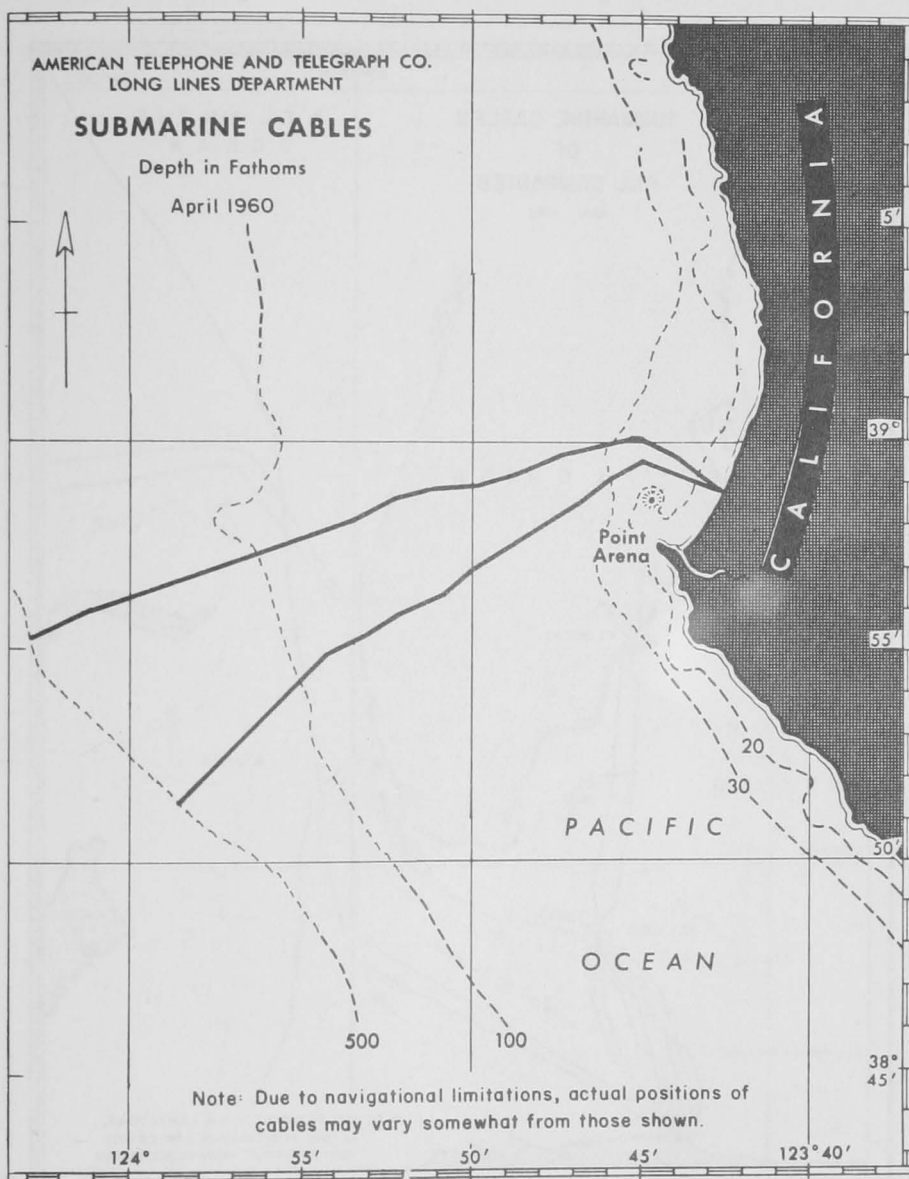
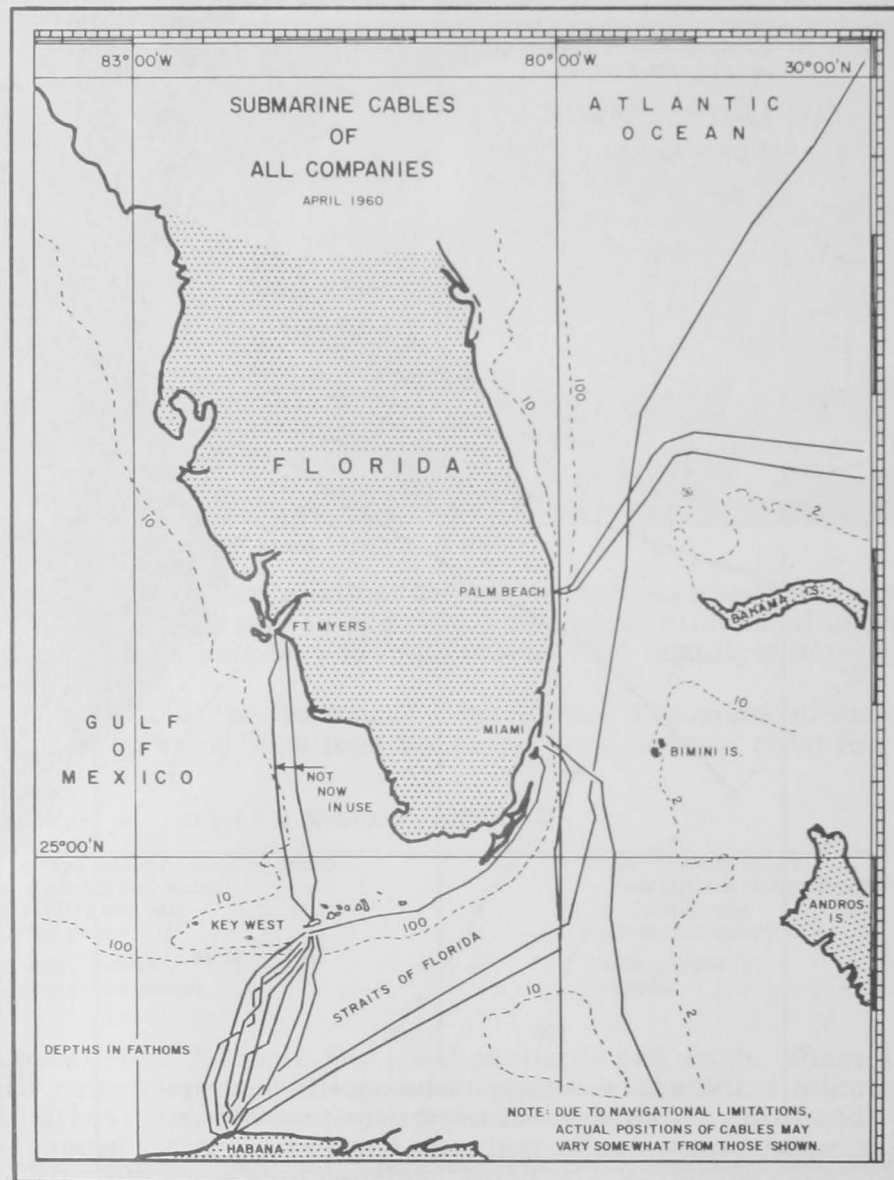


Chart showing the general location of the underseas cables are available from the American Telephone and Telegraph Company, General Manager, Special Projects Area, 32 Ave. of the Americas, New York 13, N. Y.

### FLORIDA TELEPHONE CABLE AREA--CAREFUL PLEASE

The chart shows the telephone cables to be found in the waters off Florida. To avoid the loss of valuable tackle, cargo, otter boards, nets, or anchor hooks, fishing vessels are urged to not drag nets or drop anchors or other heavy gear near the cable routes shown on the chart. Avoid starting your trawling runs so that you cross these underseas telephone cables.



Charts showing the general location of the underseas cables are available from the American Telephone and Telegraph Company, General Manager, Special Projects Area, 32 Ave. of the Americas, New York 13, N. Y.