



RECENT FISHERY PUBLICATIONS

FISH AND WILDLIFE SERVICE PUBLICATIONS

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

- CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES.
- MNL - REPRINTS OF REPORTS ON FOREIGN FISHERIES.
- SEP.- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

Number	Title
FS-3340	- Frozen Fishery Products, October 1963, 8 pp.
FS-3344	- Texas Landings, June 1963, 3 pp.
FS-3345	- Texas Landings, July 1963, 3 pp.
FS-3346	- Texas Landings, August 1963, 3 pp.
FS-3352	- Gulf Coast Shrimp Data, July 1963, 22 pp.
FS-3357	- New York Landings, September 1963, 4 pp.
FS-3358	- Gulf Coast Shrimp Data, 1962 Annual Summary, 38 pp.
FS-3360	- Massachusetts Landings, May 1963, 8 pp.
FS-3361	- North Carolina Landings, October 1963, 4 pp.
FS-3362	- California Landings, August 1963, 4 pp.
FS-3363	- Alabama Landings, September 1963, 4 pp.
FS-3365	- Georgia Landings, October 1963, 3 pp.
FS-3366	- South Carolina Landings, October 1963, 3 pp.
FS-3367	- Maine Landings, September 1963, 4 pp.
FS-3368	- Rhode Island Landings, September 1963, 4 pp.
FS-3371	- Florida Landings, October 1963, 8 pp.
FS-3372	- Louisiana Landings, September 1963, 3 pp.
FS-3373	- Gulf Fisheries, 1962 Annual Summary, 13 pp.
FS-3374	- Mississippi Landings, September 1963, 3 pp.
FS-3375	- New York Landings, October 1963, 4 pp.
FS-3376	- Fish Meal and Oil, October 1963, 2 pp.
FS-3377	- New Jersey Landings, September 1963, 4 pp.
FS-3378	- Wisconsin Landings, October 1963, 2 pp.
FS-3379	- Louisiana Landings, October 1963, 3 pp.
FS-3380	- North Carolina Landings, November 1963, 4 pp.
FS-3382	- Shrimp Landings, August 1963, 8 pp.
FS-3389	- Maine Landings, October 1963, 4 pp.
FS-3390	- Alabama Landings, October 1963, 4 pp.

ep. No. 700 - Utilization of U. S. Otter-Trawl Shrimp Vessels in the Gulf of Mexico, 1959-1961.

Report to the Bureau of Commercial Fisheries on the Branch of Economics, by James Crutchfield and others, Circular 173, 15 pp., April 1963. The primary

purpose of the Committee which prepared this report was to establish the appropriate structure and scale of economic effort in the operation of the Bureau of Commercial Fisheries. The report deals with relation of economic analysis to the operation of the Bureau; type of economic program that the Bureau should undertake; type of organization required to implement this program; and type of personnel required. An appendix covers statistical data requirements.

Report of the Bureau of Commercial Fisheries for the Calendar Year 1961, 86 pp., illus., printed 1963.

During the calendar year 1961, the Bureau of Commercial Fisheries continued its efforts to provide the research and services that will assist the Nation to utilize fully and wisely its fishery resources. These efforts cover a wide spectrum of activities, from basic research in such fields as fishery biology or fish oil technology to such practical applications as demonstrations of fish cookery in schools or the dissemination of news of the daily prices for fish landed in principal United States ports. The report touches briefly on phases of biological, economic, engineering, oceanographic, and technological research. It also discusses the many Bureau service programs, such as those involved in fishery products inspection, fishery market promotion, market news reporting, statistics collection, vessel loans, vessel safety promotion, and others.

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, D. C. 20005.

Number	Title
MNL - 23	- Fisheries of Chile, Part I--North Chile, 1960-1963, 52 pp.

THE FOLLOWING ENGLISH TRANSLATION OF A FOREIGN LANGUAGE ARTICLE IS AVAILABLE ONLY FROM THE U. S. BUREAU OF COMMERCIAL FISHERIES BIOLOGICAL LABORATORY, BOX 3830, HONOLULU, HAWAII, 96812.

Biochemical Studies on Fish Blood. V--On the Respiration Elements of Fish Blood, by Kaname Sato, illus., processed, limited distribution, October 1963. (Translated from the Japanese, Memoirs of the Kagoshima University Faculty of Fisheries, vol. 3, no. 1, September 1953, pp. 132-140.)

THE FOLLOWING ENGLISH TRANSLATION OF A FOREIGN LANGUAGE PUBLICATION IS AVAILABLE ONLY FROM THE U. S. BUREAU OF COMMERCIAL FISHERIES BIOLOGICAL LABORATORY, 2725 MONTLAKE BLVD., SEATTLE, WASH., 98102.

Bio-Statistical Material on Salmon Collected by the Soviet Section in 1960, 84 pp., processed. (Trans-

lated from the Russian, Sovetsko-Iaponskaia Kom-
issiiia po Rybolovstvu v Severo-Zapadnoi Chasti
Tikhogo Okeana (SIARK), Piataia Sessiiia, Tokyo,
86 pp.)

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

California Fishery Market News Monthly Summary,
Part II - Fishing Information, December 1963, 8 pp.,
illus. (U. S. Bureau of Commercial Fisheries, Bio-
logical Laboratory, P. O. Box 6317, Pt. Loma Station,
San Diego 6, Calif.) Contains sea-surface tempera-
tures, fishing and research information of interest
to the West Coast tuna-fishing industry and marine
scientists; for the month indicated.

(Chicago) Monthly Summary of Chicago's Wholesale
Market Fresh and Frozen Fishery Products Receipts,
Prices, and Trends, November 1963, 14 pp. (Market
News Service, U.S. Fish and Wildlife Service, U.S.
Customs House, 610 S. Canal St., Rm. 1014, Chicago,
Ill. 60607). 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 month indicated.

Gulf of Mexico Monthly Landings, Production and Ship-
ments of Fishery Products, November 1963, 8 pp.
(Market News Service, U.S. Fish and Wildlife Serv-
ice, Rm. 609, 600 South St., New Orleans, La. 70130).
Gulf States shrimp, oyster, finfish, and blue crab
landings; crab meat production; LCL express ship-
ments 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 month indicated.

Monthly Summary of Fishery Products Production in
Selected Areas of Virginia, North Carolina, and
Maryland, December 1963, 4 pp. (Market News Serv-
ice, U.S. Fish and Wildlife Service, 18 S. King St.,
Hampton, Va., 23369.) Landings of food fish and
shellfish and production of crab meat and shucked
oysters for the Virginia areas of Hampton Roads,
Chincoteague, Lower Northern Neck, and Lower
Eastern Shore; the Maryland areas of Crisfield, Cam-
bridge, and Ocean City; and the North Carolina areas
of Atlantic, Beaufort, and Morehead City; together
with cumulative and comparative data on fishery pro-
ducts and shrimp production; for the month indicated.

(Seattle) Washington and Alaska Receipts and Landings
of Fishery Products for Selected Areas and Fisher-
ies, Monthly Summary, December 1963, 7 pp. (Mar-
ket News Service, U.S. Fish and Wildlife Service,
706 Federal Office Bldg., 909 First Ave., Seattle,
Wash., 98104.) Includes Seattle's landings by the
halibut and salmon fleets reported through the ex-
changes; landing of halibut reported by the Interna-
tional Pacific Halibut Commission; landings of otter-
trawl vessels as reported by the Fishermen's Mar-
keting 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;
Washington shrimp landings; and imports from other
countries through Washington customs district; for
the month indicated.

MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILD-
LIFE 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.

ADDITIVES:

Carcinogenic Substances, Particularly 3,4-Benzpyrene,
in Smoked Products and Measures to Eliminate Them,
by L. M. Shabad, Working Paper No. 12, 12 pp., print-
ed. (Translated from the Russian, Evaluation of the
Carcinogenic Hazards of Food Additives, 1960). Food
and Agriculture Organization of the United Nations,
Viale delle Terme di Caracalla, Rome, Italy.

ALGAE:

"Algenprodukte in der Pharmazie" (Algal Products in
Pharmacy), by H. von Czetsch Lindenwald, article,
Botanica Marina, vol. 3, no. 1, 1961, pp. 22-29, print-
ed in German with English, French, and Spanish summar-
ies. Studiengesellschaft zur Erforschung von Meeres-
salgen, e. V. Hamburg, Germany.

"The Blue-Green Algae," by M. V. Gusev, article,
Microbiology, vol. 30, May-June 1962, pp. 897-911,
printed. American Institute of Biological Sciences,
2000 P. St. NW., Washington 6, D. C.

"Chemical Composition of Some Philippine Algae,"
by Antonio I. de Leon, Natividad Eufemio, and Maxima
Pineda, article, The Philippine Journal of Science,
vol. 92, no. 1, March 1963, pp. 77-87, printed, single
copy \$2. National Institute of Science and Technolo-
gy, P. O. Box 774, Manila, Philippines.

"Cytochromes of a Blue-Green Alga: Extraction of a
c-Type with a Strongly Negative Redox Potential,"
by Raymond W. Holton and Jack Myers, article,
Science, vol. 142, no. 3589, October 11, 1963, pp. 234-
235, printed, single copy 35 cents. American Society
for the Advancement of Science, 1515 Massachusetts
Ave. NW., Washington 5, D. C.

"First All-Union Conference on the Cultivation of
Unicellular Algae," by L. K. Osnitskaya and S. V.
Goryunova, article, Microbiology, vol. 30, May-June
1962, pp. 918-921, printed. American Institute of
Biological Sciences, 2000 P. St. NW., Washington
6, D. C.

"Protein Fat, Carbohydrate, and Ash Content of Some
Mass Black Sea Planktonic Algae Grown in Cultures,
U.S.S.R., by L. A. Lanskaya and T. I. Pshenina, OTS
63-31615, 17 pp., printed, 50 cents, August 26, 1963.
Office of Technical Services, U.S. Department of
Commerce, Washington, D. C., 20235.

ANCHOVY:

"Un Analisis del Numero de Vertebras de la Anchoveta
Peruana (Engraulis ringens J.)" (An Analysis of the
Number of Vertebrae of the Peruvian Anchovy, En-
graulis ringens J.), by R. Jordan, article, Boletín,
vol. 1, no. 2, 1963, pp. 25-43, illus., printed in Span-
ish with English summary. Library, Instituto de In-
vestigación de los Recursos Marinos, P. O. Box 3734,
Lima, Peru.

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

Descripcion de Huevos y Larvas de Anchoveta Peruana (Engraulis ringens J.)" (Description of Eggs and Larvae of the Peruvian Anchovy, Engraulis ringens J.), by H. Einarsson and B. Rojas de Mendiola, article, Boletin, vol. 1, no. 1, 1963, pp. 1-23, illus., printed in Spanish with English prologue and summary. Library, Instituto de Investigacion de los Recursos Marinos, P.O. Box 3734, Lima, Peru.

La Pesca de la Anchoveta--Estadística de Pesca y Esfuerzo en los Meses de Julio-Diciembre de 1962 y Resumen de los Resultados de la Pesca Total durante el Año 1962 (The Anchovy Fishery--Statistics of the Fishery and Fishing Effort in the Months of July-December 1962 and Summary of the Entire Fishery during the Year 1962), by W. F. Doucet, G. Saetersdal, and I. Vasquez A., Report No. 15, 26 pp., illus., processed in Spanish, 1963. Library, Instituto de Investigacion de los Recursos Marinos, P. O. Box 3734, Lima, Peru.

ANTIBIOTICS:

Observations on the Action of Tetracyclines on the Preservation of Adriatic Codfish. I--Plan of Investigation and Experimental Methods," by Guglielmo Ciani and others, article, Chemical Abstracts, vol. 57, October 29, 1962, 11613f, printed. American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

Studies on Food Preservatives. V--Antagonism between CTC-Resistant and CTC-Sensitive Bacteria," by Tomoaki Okitsu and Toshiharu Kawabata, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, August 1962, pp. 837-840, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.

BACTERIOLOGY:

Investigations of the Abundance of Saprophytic Bacteria in Lake Dalnee, by E. M. Krokhn, Translation Series No. 419, 5 pp., processed, 1962. (Translated from the Russian, Mikrobiologiya, vol. 23, no. 1, 1954, pp. 49-52.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

BIOCHEMISTRY:

A New Technique for the Isolation of Flavor Components from Fats and Oils," by S.S. Change, article, Journal of the American Oil Chemists' Society, vol. 38, 1961, pp. 669-671, illus., printed. American Oil Chemists' Society, 35 E. Wacker Dr., Chicago 1, Ill.

Properdin Content of Fish U.S.S.R., by V. I. Luk'yanenko and G. A. Mikheyeva, OTS 63-31659, 7 pp., 50 cents, August 30, 1963. Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20235.

Studies on Muscle of Aquatic Animals. XXXI--Extractability of Fish Myosin (Part 2) Salting-Out Analysis of Short-Time Extract of Fish Myosin," by Tadao Ueda, Shimizu Yutaka, and Wataru Simidu, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, October 1962, pp. 1,005-1,009, printed Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.

BORERS:

Marine Borers--An Annotated Bibliography, by William F. Clapp and Roman Kenk, 1136 pp., printed, \$7, 1963. Office of Naval Research, U.S. Department of the Navy, Washington, D.C. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C., 20402.) A compilation of all essential published literature on marine borers up to 1954. Comprises about 3,540 items, each with a concise informative abstract. Two indexes are appended; one a geographic index of borer damage in the various areas of the world, the other a subject index leading to information on the morphology, distribution, life cycle, and physiology of the marine-boring animals and on the various methods of borer control and damage prevention.

BREAM:

On the Effect of Feeding Conditions and Abundance of Spawners on the Amount of Progeny Produced by Caspian Bream, by K. S. Zemskaja, Translation Series No. 438, 10 pp., illus., processed, 1963. (Translated from the Russian, Trudy Soveshchaniy Iktologicheskoi Komissii Akademii Nauk SSSR, no 13, 1961, pp. 307-313.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B.C., Canada.

BROWNING:

Browning Reactions in Dried Fish Products, by N. R. Jones, Torry Memoir No. 107, 7 pp., printed, 1962. Torry Research Station, Aberdeen, Scotland.

BURBOT:

"The Biology and Taxonomy of the Burbot, Lota lota, in Heming Lake, Manitoba," by G.H. Lawler, article, Journal of the Fisheries Research Board of Canada, vol. 20, no. 2, 1963, pp. 417-433, printed. Queen's Printer & Controller of Stationery, Ottawa, Canada.

CALIFORNIA:

California Cooperative Oceanic Fisheries Investigations Reports, vol. IX, 1 July 1960 to 30 June 1962, 74 pp., illus., printed. Marine Research Committee, Department of Fish and Game, Sacramento, Calif. This report consists of two sections. The first contains a brief review of the administrative and research activities during the period July 1, 1960, to June 30, 1962, a description of the fisheries, and a list of publications arising from the program. The second section is comprised of original scientific contributions which are either the direct results of the research programs, or represent research directly pertinent to resource development in the pelagic realm off California.

CANADA:

Guide to Marine Life of British Columbia, by G. Clifford Carl, Handbook No. 21, illus., printed, 50 Canadian cents. British Columbia Provincial Museum, Department of Recreation and Conservation, Victoria, B.C., Canada. A simplified introductory guide to marine flora and fauna of British Columbia, designed particularly for fishermen and boat owners. Included are sections dealing with seaweeds, mammals, birds, fishes, jellyfish, starfish and related forms, crabs, barnacles, molluscs, sea worms, and wood borers.

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Journal of the Fisheries Research Board of Canada, vol. 20, no. 5, September 1963, 252 pp., illus., printed, single copy C\$2. Queen's Printer, Ottawa, Canada. Includes, among others, articles on: "Glycolysis in Lingcod Muscle during Frozen Storage," by N. Tomlinson, R.E.E. Jonas, and S.E. Geiger; "Composition and Palatability of Porbeagle Flesh," by W.J. Dyer, D.I. Frazer, and S.N. Tibbo; "Vertebral Numbers of American Plaice, *Hippoglossoides platessoides* (Fabricius), in the Northwest Atlantic," by T. K. Pitt; "Brine Spray Frozen Tuna. Sodium, Potassium, Lactic Acid and Acid-Soluble Phosphorus in the Muscle, and the Influence Thereon of Thawing and Precooking," by N. Tomlinson and S. E. Geiger; "The Invasion of the Lower Great Lakes by the White Perch, *Roccus americanus* (Gmelin)," by W. B. Scott and W. J. Christie; "Vital Statistics of *Esox masquinongy* in Nogies Creek, Ontario. I--Tag Loss, Mortality Due to Tagging, and the Estimate of Exploitation," by Barry S. Muir; "Factors Influencing the Effectiveness of Fresh Fish Washing Operations," by W. A. MacCallum, M. W. Mullan, and Isabel N. Plaunt; "Effect of Photo-Periods on the Reactions of Juvenile Atlantic Salmon (*Salmo salar* L.) to Light Stimuli," by A. T. Pinhorn and C. W. Andrews; and "Pollock (*Pollachius virens* (L.)) in the Bay of Fundy," by D. H. Steele.

CANNING:

"Change in the Content of Nitrogen-Containing Substances of Fish Prepared and Canned in Tomato Sauce," by M. V. Kalantarova, article, Chemical Abstracts, vol. 57, August 6, 1962, 3838a, printed. American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

"Experiments on Canning Freshwater Fish. III," by A. W. Lantz, article, Progress Reports, Biological Station and Technological Unit, no. 2, 1961, pp. 37-47, illus., printed. Biological Station and Technological Unit, Fisheries Research Board of Canada, London, Ont., Canada.

"The Stability of Canned Foods in Long-Term Storage," by S. R. Cecil and J. G. Woodroof, article, Food Technology, vol. 17, May 1963, pp. 131-138, printed. The Garrard Press, 510 N. Hickory, Champaign, Ill.

CARP:

"Ob Izmenchivosti Sazana *Cyprinus carpio haematopterus* Tem. Et Schl. Basseina Oзера Dalainor (Knr)" (Variability of *Cyprinus carpio haematopterus* in Basin of Lake Dalainor, People's Republic of China), by A. A. Svetovidova, article, Sbornik Trudov Zool. Muzeya. Moscow Univ., vol. 8, 1961, pp. 183-187, printed in Russian. Akademiia Nauk, Moscow, U.S.S.R.

CASPIAN SEA:

"Dinamika Chislennosti Eksploatiruemykh Stad Vobly, Leshcha I Sudaka Severnogo Kaspiya" (Dynamics of the Quantity of Exploitable Shoals of Roach, Bream, and Pike-Perch), by V. N. Lukashov, article, Trudy Soveshchani. Iktiolog. Komissiya Akad. Nauk SSSR, vol. 13, 1961, pp. 445-453, printed. Four Continent Book Corp., 156 5th Ave., New York 10. N.Y.

CHAR:

The Food of Different Biological Forms of the Dolly Varden Char, *SALVELINUS MALMA* (Walb.) in Certain Kamchatka Waters, by K. A. Savvaitova and

Ia. S. Reshetnikov, Translation Series No. 373, 12 pp., processed, 1962. (Translated from the Russian, Voprosy Ikhtiologii, vol 1, no. 1, 1961, pp. 127-135.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

COD:

"Here's How They Take Black Cod Off The Coast of California," article, Fish Boat, vol. 8, May 1963, pp. 12-13, 15, printed. H. L. Peace Publications, 624 Gravier St., New Orleans 9, La.

The Possible Influence of the Nutrition of Young Cod on its Abundance, by I. Ya. Ponomarenko, 8 pp., processed, 1963. (Translated from the Russian, Trudy Soveshchani, no. 13, 1961, pp. 301-306.) Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Lowestoft, Suffolk, England.

"Quality Changes in Stored Refrozen Cod Fillets," by W. J. Dyer, article, Supplement to Bulletin de l'Institut International du Froid, 1962, pp. 1-10, printed. International Institute of Refrigeration, 177 Blvd. Malesherbes, Paris 17, France.

"Respiration of the Atlantic Cod," by Richard L. Saunders, article, Journal of Fisheries Research Board of Canada, vol. 20, no. 2, 1963, pp. 373-386, printed. Queen's Printer & Controller of Stationery, Ottawa, Canada.

COLD CHAIN:

The Freezer Chain--Problems and Possibilities, by G. F. Lorentzen, 39 pp., illus., printed, March 1963. Institute of Refrigeration, New Bridge Street House, New Bridge St., London EC4, England

COMMISSIONS:

Fifteenth Annual Report of the Pacific Marine Fisheries Commission for the Year 1962, 38 pp., illus., printed, June 1963. Pacific Marine Fisheries Commission, 741 State Office Bldg., 1400 SW. Fifth Ave., Portland 1, Oreg. Reports briefly on the specific activities of the Pacific Marine Fisheries Commission during 1962 and presents a review of developments in the fields of research, regulation, and coordination in the States of Washington, Oregon, and California. Reviews activities during the first 15 years of the Commission's existence; legislation enabling entrance of Alaska and other states into the Compact; and Commission actions on Federal legislation, seismic exploration, pollution problems, salmon fishery, tuna fishery, groundfish and shellfish fisheries, and other topics. Presents sections on the status of albacore, crab, pink shrimp, troll salmon, and trawl fisheries of the Pacific Coast. Also includes results of investigations of Oregon-Washington chinook salmon on tagging; salmon hooked mortality, treble and single hooks; ocean sport fisheries, groundfish tagging, and crab condition.

Gulf States Marine Fisheries Commission Fourteenth Annual Report 1962-1963 (to the Congress of the United States and to the Governor and Legislators of Alabama, Florida, Louisiana, Mississippi, and Texas), 45 pp., illus., printed. Gulf States Marine Fisheries Commission, 312 Audubon Bldg., New Orleans, La., 70112. Outlines the Commission's activities for the period October 1962-October 1963, with a summary

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of recommendations and actions. Describes briefly the activities of each of the member States during that period. Includes short discussions of U. S. Fish and Wildlife Service activities in shellfish, bottomfish, and pelagic fish exploration; offshore shrimp gear research; faunal assessment; shrimp burrowing behavior studies; experiments in electrical stimulation of pink shrimp; and a physiology and behavior of young shrimp program. Also discusses the estuarine ecology program, industrial fishery program, a fishery-oceanographic research vessel under construction, pesticides program, oyster program, clam studies, red tide program, voluntary standards of grade for fishery products, the Inspection Service, market development programs, and investigation of navigation projects. Also contains the financial report of the Commission for the year ended June 30, 1963.

CONTAINERS:

Gyorsfagyasztott Elelmiszerek Szallitasara Szant Szigetelt Tartalyok Vizsgalata" (Insulated Transport Containers for Quick Frozen Foods), by E. Almasi, P. Perjes, and D. Molnar, article, Kozlemenyei Kosponti Elelmiszertipari Kutato Intezet, no. 1, 1962, pp. 11-18, illus., printed in Hungarian. Kozponti Elelmiszertipari Kutato Intezet Kozlemenyei, Kozponti Elelmiszertipari Kutato Intezet, Budapest, Hungary.

DECAPODS:

The Larval Development of PALAEONETES PALUDOSUS (Gibbes, 1950) (Decapoda, Palaemonidae), Reared in the Laboratory, by Sheldon Dobkin, Contribution No. 441, 21 pp., illus., printed. (Reprinted from Crustaceana, vol. 6, part 1, 1963, pp. 41-61.) The Marine Laboratory, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

DENMARK:

Kobenhavns Universitets Ferskvandsbiologiske Laboratorium (Freshwater Biological Laboratory, University of Copenhagen), by Kaj Berg, 5 pp., illus., printed in Danish and in English, 1962. N. T. Kroyers Bogtrykkeri, Kgs., Lyngby, Denmark.

DIRECTORIES:

Fishing News Directory and Equipment Guide, 1964, by Arthur J. Heighway and Lloyd G. B. Butcher, 170 pp., illus., printed, £1 2s. 3d. (about US\$3.10), December 1963. Arthur J. Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England. Contains lists of fishing vessels, owners and managers, individual fleets in main ports and their owners, and builders of fishing vessels; propulsion, transmission and steering equipment suppliers and manufacturers; electronics and radio equipment suppliers and manufacturers; chandlery and life-saving equipment suppliers and manufacturers; catching and hauling equipment suppliers and manufacturers; and marketing and processing equipment suppliers and manufacturers. It also includes lists of official authorities and organizations, and associations in the fishing industry; and an alphabetical index of all suppliers and manufacturers. A most comprehensive work of reference to the British fishing industry.

DOLPHIN:

The Dolphin in History, by Ashley Montagu and John C. Lilly, 55 pp., illus., printed, \$2, 1963. William

Andrews Clark Memorial Library, University of California at Los Angeles, Los Angeles, Calif. Two papers delivered at 1962 symposium, discussing the history and distribution of dolphins, and the intelligence of whales, dolphins, and porpoises.

ELECTRICAL FISHING:

"Neurophysiology of Electric Fishing," by Richard Vibert, article, Transactions of the American Fisheries Society, vol. 92, no. 3, 1963, pp. 265-275, printed. Secretary, American Fisheries Society, P.O. Box 483, McLean, Va.

FATTY ACIDS:

"The Component Acids of the Fats of Some Indian Fresh Water Fishers," by S.P. Pathak and B.R. Reddy, article Biochemical Journal, vol. 85, December 1962, pp. 618-620, printed. Cambridge University Press, Bentley House, 200 Euston Rd., London NW1, England.

"The Determination of Glyceride Structure," by R.J. VanderWal, article, Journal of the American Oil Chemists' Society, vol. 40, June 1963, pp. 242-247, printed. American Oil Chemists' Society, 35 E. Wacker Dr., Chicago 1, Ill.

"The Determination of Polymers in Fats and Oils," by David Firestone, article, Journal of the American Oil Chemists' Society, vol. 40, June 1963, pp. 247-255, printed. American Oil Chemists' Society, 35 E. Wacker Dr., Chicago 1, Ill.

"Effect of a Fat-Free Diet and of Different Dietary Fatty Acids (Palmitate, Oleate, and Linoleate) on the Fatty Acid Composition of Fresh-Water Fish Lipids," by R. R. Brenner, D. V. Vazza, and M. E. DeTomas, article, Journal of Lipid Research, vol. 4, July 1963, pp. 341-345, printed. University Publishers, Inc., 59 E. 54th St., New York 22, N. Y.

"Molecular Dynamics and Glyceride Structure," by R. J. VanderWal, article, Journal of the American Oil Chemists' Society, vol. 40, June 1963, p. 256, printed. American Oil Chemists' Society, 35 E. Wacker Dr., Chicago 1, Ill.

FINLAND:

"Zur Systematik und Okologie Des Lachses und der Forellen in den Binnengewassern Finnlands" (On the Systematics and Ecology of the Salmon and Trout in the Inland Waters of Finland), by Ossi Seppovaara, article, Vum Societatis Zoological Botanical, Fennicae "Vanamo", vol. 24, no.1, pp. 1-86, printed. Vum Societatis Zoological Botanical, Fennicae "Vanamo", Snellnaninkatii 9-11 Helsinki, Finland.

FISH BEHAVIOR:

Statistical Analysis of Differentiating Ability of Some Black Sea Fish, U.S.S.R., by M.P. Aronov, OTS 63-31613, 3 pp., printed, 50 cents, August 26, 1963. Office of Technical Services, U.S. Department of Commerce, Washington, D. C. 20235.

FISH CULTURE:

"Aerobnyi Sposob Udobreniya Prudov" (Aerobic Method of Fertilizing Ponds for Fish Breeding), by K.V. Gorbunov, article, Rybnoe Khoziaistvo, 1960 pp. 200-201, printed in Russian. V. Krasnosel'skaia 17 B-140, Moscow, U.S.S.R.

FISHERIES MANAGEMENT:

The Biological Principles Underlying the Rational Conduct of Fisheries, by L. S. Berdichevskii, 37 pp.,

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

processed. (Translated from the Russian Trudy Soveshchaniy, no. 13, 1961, 44 pp.) Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Lowestoft, Suffolk, England.

"Ob Unifikatsii Rybokhozyaistvennykh Issledovaniy Vodokhranilishch" (Unification of Fish Management Studies of Reservoirs), by V. N. Greze, Referat. Zhur. Biol., 1962, no. 17194, printed in Russian. Akademiya Nauk, Moscow, U.S.S.R.

FISHERY STOCKS:

"Opređenje Usiliya Na Edinitsu Lova Dlya Otsenki Izmeneniya Plotnosti Stada" (The Determination of Catch per Unit of Fishing Effort for the Evaluation of Changes in Stock Density), by T. F. Dement'eva, article, Trudy Soveshchaniy. Ikhtiol. Komissiya Akad. Nauk SSSR, vol. 13, 1961, pp. 466-470, printed in Russian. Four Continent Book Corp., 156 5th Ave., New York 10, N. Y.

FISHING WITH LIGHTS:

"La Peche a la Lumiere en Atlantique" (Fishing with Lights in the Atlantic), by G. Kurc, article, France Peche, no. 76, September 1963, pp. 25-31, 33, illus., printed in French, single copy 2.50 F (about 50 U. S. cents). France Peche, Boite Postale 179, Lorient, France.

FISH LIVER OIL:

"Effects of Vitamin E and Cod-Liver Oil in Magnesium-Deficient Calves," article, Nutrition Reviews, vol. 19, no. 7, 1961, pp. 212-213, printed. The Nutrition Foundation Inc., 99 Park Ave., New York 16, N. Y.

FISH MEAL:

Aprovechamiento de la Materia Prima en la Elaboración de Harina de Pescado Tipo Integral. Estudio Técnico-Económico de Dos Metodos (Processing of the Raw Material in the Manufacture of Whole Fish Meal, Technical Study--Economics of Two Methods), by T. Sparre and E. Arnesen, Report No. 17, 22 pp., illus., processed in Spanish, 1963. Library, Instituto de Investigacion de los Recursos Marinos, P. O. Box 3734, Lima, Peru.

Información Estadística sobre Embarcaciones Utilizadas en la Pesca Industrial en el Perú 1953-1962 (Statistical Information on the Landings Utilized in the Industrial Fishery in Peru 1953-1962), by I. Tilic, Report No. 8, 40 pp., illus., processed in Spanish, 1963. Library, Instituto de Investigacion de los Recursos Marinos, P. O. Box 3734, Lima, Peru.

Material Estadístico sobre la Industria Peruana de Harina de Pescado (Statistical Data on the Peruvian Fish Meal Industry), by I. Tilic, Report No. 14, 53 pp., processed in Spanish, 1963. Library, Instituto de Investigacion de los Recursos Marinos, P. O. Box 3734, Lima, Peru.

FISH NUTRITION:

"O Kormovoi Baze i Obespechennosti Ryb Pishchei" (The Food Supply and Provision of Fish With Food), by E. V. Borutskii, article, Trudy Soveshchaniy Ikhtiol. Komissiya Akad. Nauk SSSR, vol. 13, 1961, pp. 67-77, printed in Russian. Four Continent Book Corp., 156 5th Ave., New York 10, N. Y.

FISH OILS:

"Menhaden Oil Has a Bright Future in the Protective Coatings Industries," by John S. Dempster, Jr., article, Fish Boat, vol. 8, June 1963, pp. 32-33, 84, printed. H. L. Peace Publications, 624 Gravier St., New Orleans 9, La.

"Studies on the Phospholipids of Aquatic Animals," by Koichi Zama, article, Memoirs of the Faculty of Fisheries, Hokkaido University, vol. 11, no. 1, 1963, pp. 1-73, printed. The Faculty of Fisheries, Hokkaido University, Hakodate, Hokkaido, Japan.

"Studies on Utilization of Oils and Fats Obtainable from Viscera of Aquatic Animals. III--Investigations in Industrial Aspect of Concentration by Molecular Distillation of Vitamin Oil (Part 1)," by Hiroshi Sone, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, February 1962, pp. 235-243, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.

"The 2-Thiobarbituric Acid Reagent for Determination of Oxidative Rancidity in Fish Oils," by A. J. De Koning and M. H. Silk, article, Journal of the American Oil Chemists' Society, vol. 40, May 1963, pp. 165-169, printed. American Oil Chemists' Society, 35 E. Wacker Dr., Chicago 1, Ill.

FISH PONDS:

"Development of Resistance to Lindane in Argulus Populations of Fish Ponds," by M. Lahav and M. Shilo, article, Bamidgeh, vol. 14, no. 4, 1962, pp. 67-76, printed. Department of Fisheries and Fish Breeders' Association, Nir-David, D. N., Israel.

FISH POPULATIONS:

"Big Effects from Small Causes: Two Examples from Fish Population Dynamics," by W. E. Ricker, article, Journal of the Fisheries Research Board of Canada, vol. 20, no. 2, 1963, pp. 257-264, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

"O Nekotorykh Zakonomernostyakh Vozdeistviya Rybolovstva na Strukturu Populyatsii i Svoistva Osobei Oblavlivvaemogo Stada Promyslovoi Ryby" (Some Aspects of the Effect of Fishing on the Structure of a Population of Commercial Fish and the Characteristics of the Individual Fish), by G. V. Nikol'skii, article, Trudy Soveshchaniy. Ikhtiol. Komissiya Akad. Nauk SSSR, vol. 13, 1961, pp. 21-33, printed in Russian. Four Continent Book Corp., 156 5th Ave., New York 10, N. Y.

Soviet Research on Increasing and Utilizing Fish Populations, 110 pp., illus., printed, \$2.50, September 9, 1963. Office of Technical Services, U. S. Department of Commerce, Washington, D. C., 20235.

"Underwater Census of Stream Fish Populations," by T. G. Northcote and D. W. Wilkie, article, Transactions of the American Fisheries Society, vol. 92, no. 2, 1963, pp. 146-151, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

"Vliyanie Otbirayushchego Deistviya Ob'yacheivayushchikh Orudiy Lova na Kachestbennyi Sostav Oblavlivvaemoy Populyatsii Ryby" (Effect of the Selective Action of Gill Nets on the Qualitative Composition of

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

the Fish Population Attacked), by T. N. Belyanina, article, Trudy Soveshchaniy Ikhtiol. Komissiya Akad. Nauk SSSR, vol. 13, 1961, pp. 254-259, printed in Russian. Four Continent Book Corp., 156 5th Ave., New York 10, N. Y.

Vliyaniye Shchuki na Zapasy Sazana v Kremenchugskom Vodokhranilshche (The Effect of Pike on the Carp Stock of the Kremenchug Reservoir), by D. M. Washchenko, article, Zoologicheski Zhurnal, vol. 41, no. 11, 1962, pp. 1749-1751, printed in Russian. Four Continent Book Corp., 156 5th Ave., New York 10, N. Y.

O Zavisimosti Tempa Rosta Ryb ot Chisla Osobei v Pokolennyakh (Relation of Fish Growth Rates to the Number of Individuals in Each Year-Class), by V. V. Barsukov, article. Byul. Inst. Biol. Vodokhranilshch Akademiia Nauk SSSR, vol. II, 1961, pp. 37-41, printed in Russian. Akademiia Nauk, Moscow, U.S.S.R.

FOUNDERS:

Seasonal Movements of the Winter Flounder, Pseudopleuronectes americanus (Walbaum), by F. D. McCracken, article, Journal of the Fisheries Research Board of Canada, vol. 20, no. 2, 1963, pp. 551-586, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

FOOD AND AGRICULTURE ORGANIZATION:

Formation Bulletin, General Fisheries Council for the Mediterranean, no. 24, June 1963, 42 pp., illus., processed. General Fisheries Council for the Mediterranean, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy. Discusses the Seventh Session of the GFCM, Meetings of the Executive Committee, Extraordinary Session of the GFCM, activities of the FAO, and information of member countries. Also covers international organizations and meetings, schedule of international meetings of interest for fisheries workers, and lists of technical papers and working papers presented at the Seventh Session of the GFCM.

International Tape-Writer Bibliographic Reference Exchange, by Joel S. O'Connor, Fisheries Circular No. 6, 2 pp., printed, 1963. Fisheries Division, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy.

The Food and Agriculture Organization has published a report describing that Agency's activities under the Expanded Program for Technical Assistance for developing the fisheries of many countries. These reports have been processed only for limited distribution to governments, libraries, and universities. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy.

Report to the Government of Tanganyika on Canning Daga from Lake Tanganyika, by Bencjon Kagan, EPTA Report No. 1708, 37 pp., 1963.

FOOD CONSUMPTION:

Foods of the Future. Introduction, by Loren B. Sjostrom; "Basic Research Foreshadows Future

Food Trends," by George W. Irving, Jr. and Sam R. Hoover; "Future Developments in Nutrition and Their Impact," by Alfred E. Harper, articles, Food Technology, pp. 30, 32, 33-39, 40-43, printed. The Garrard Press, 510 N. Hickory, Champaign, Ill.

FRANCE:

Le Poisson dans le Cuisine Francaise (Fish in French Cookery), by H. P. Pellaprat, 229 pp., illus., printed in French, 1954. Librairie Ernest Flammarion, 26 Rue Racine, Paris 6, France.

"Poisson Frais et Poisson Surgele ne Doivent pas Etre Concurrents mais Complementaires" (Fresh Fish and Frozen Fish Do Not Have to be Competitors but Complementary), article, La Peche Maritime, vol. 42, no. 1026, September 1963, pp. 569-570, printed in French, single copy 12 F (about US\$2.45). Les Editions Maritimes, 190, Boulevard Haussmann, Paris, France.

FREEZE-DRYING:

"Answers to Freeze-Dry Questions," by A. N. Lederman, F. H. Lindstrom, and J. P. O'Meara, article, Food Engineering, April 1963, pp. 50-53, illus., printed. Chilton Co., Chestnut and 56th St., Philadelphia 36, Pa.

"Freeze-Dried Assets," article, The Farm Index, vol. II, no. 12, December 1963, pp. 9-10, printed, single copy 20 cents. Economic Research Service, U.S. Department of Agriculture, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402.) The freeze-dry industry, which now packs annually only \$2 to \$5 million worth of food, will be packing almost a quarter of a billion dollars worth by 1970. A recent study showed that the added cost of freeze-drying over freezing makes these foods now unable to compete with frozen foods. Many freeze-dried products don't compare favorably with frozen or canned foods. Some foods cannot be successfully freeze-dried either because the cost is too high for the low quality of the fresh product or because of the loss in flavor and appearance. Good prospects for freeze-drying include shrimp and other shellfish. Freeze-drying equipment is expensive, costing a minimum of \$300,000 for a full-size commercial plant. By 1967 processing costs should level off at about 4-5 cents per pound of water removed and the drying cycle should decrease to 6-8 hours.

Freeze-Dried Foods: Palatability Tests, by Kermit Bird, Marketing Research Report No. 617, 38 pp., illus., processed, July 1963. Marketing Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington, D. C., 20250. Most freeze-dried foods on the market are "acceptable" from a palatability standpoint as judged by a taste panel in the U.S. Department of Agriculture during the course of this study. None of the 28 freeze-dried foods evaluated received an "unacceptable" score as to palatability, and two-thirds of them were as good as the processed foods with which they were compared. Palatability is rated in terms of general acceptance and the 5 quality characteristics are appearance, flavor, juiciness, texture, and tenderness. The freeze-dried items taste-tested included beef, pork, chicken, fishery products, soups, and several mix-

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tures of foods. When compared with their frozen or canned counterparts, 3 of them, including shrimp creole, were considered superior; 15, including shellfish, were about the same; and 10 were rated poorer. Freeze-dried foods used in prepared mixtures received higher scores, on the average, than the same foods served plain. On the basis of these ratings, freeze-dried foods appear to have some prospects for volume production. Their chief market, however, may be in competition with conventionally-dried foods. Similar to these, freeze-dried products are lightweight, have long shelf life, and can be stored without refrigeration. In addition, they are said to retain more of their original physical structure, flavor, and nutritive value than air- or heat-dried products. There are some processed foods for which freeze-drying will replace the present processing method, according to the author.

Freeze-Drying of Foodstuffs, edited by S. Cotson and D. B. Smith, 295 pp., illus., printed, 50s. (about US\$7), 1963. Columbine Press, Old Colony House, South King St., Manchester 2, England. Based on a Symposium at the Borough Polytechnic, London, October 1961. Presents information on the freeze-drying process, products of the process, commercial plants and equipment, packaging and packaging machinery, and marketing and future prospects of the industry.

"Principios Generales de la Liofilizacion Alimentaria" (General Principles of Freeze-Drying of Foods), by Louis Rey, article, Revista del Frio, vol. VIII, no. 1, January-March 1963, pp. 11-26, illus., printed in Spanish with English abstract. Centro Experimental del Frio, Serrano, 150, Madrid, Spain.

"The Role of Food Science and Technology in the Freeze Dehydration of Foods," by S. A. Goldblith, M. Karel, and G. Lusk, articles, Food Technology, vol. 17, no. 2, February 1963, pp. 21-26; vol. 17, no. 3, March 1963, pp. 22-28, illus., printed. The Garrard Press, 510 No. Hickory, Champaign, Ill.

FREEZING:

"Effect of Packaging on the Freezing Rate of Fish," by J. R. Crepey and J. Mailliard, article, La Revue de la Conserve, vol. 18, no. 9, December 1962, pp. 249-255, printed in French. Societe d'Edition pour l'Alimentation, 1 Rue de la Reale, Paris I, France.

"Osnovnye Voprosy Tehnologii Zamorazivaniya Ryby" (Basic Problems of Fish Freezing), by A.I. Piskarev, article, Rybnoe Khozaiastvo, no. 4, 1962, pp. 64-71, illus., printed in Russian. VNIRO Glavniproekta, pri Gosplanie, Moscow, U.S.S.R.

Rapid-Freezing Methods in Soviet Fishing Industry, OTS 63-31627, 9 pp., printed, 50 cents, August 26, 1963. Office of Technical Service, U.S. Department of Commerce, Washington, D. C. 20235.

FRESH-WATER FISH:

The Freshwater Fishes of Canada, by E.P. Slastenenko, 388 pp., illus., printed, 1958. Kiev Printers, 686 Richmond St. W., Toronto, Ont., Canada.

"Interaction Between Trout and Char in Scandinavia," by Nils-Arvid Nilsson, article, Transactions of the

American Fisheries Society, vol. 92, no. 3, 1963, pp. 276-285, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

Prospects for Acclimatization of Fresh-Water Fish in U. S. S. R., by Ye. V. Burmakin, OTS 63-31649, 13 pp., printed, 50 cents, August 30, 1963. Office of Technical Services, U. S. Department of Commerce, Washington, D. C., 20235.

FROZEN FISH:

Problems in the Production of Frozen Fish, by G.H.O. Burgess, Misc. Paper No. 20, 2 pp., printed. (Reprinted from Fishmerchant and Processor, May/June 1963.) Torry Research Station, Aberdeen, Scotland.

"Thawing Large Blocks of Frozen Whole Fish," by J.J. Waterman, article, Fishing News International, vol. 2, no. 1, January-March 1963, pp. 113-114, printed. A.J. Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England.

GAG:

A Study of the Age and Growth of the Gag, MYCTEROPERCA MICROLEPIS Goode and Bean (Pisces: Serranidae) on the West Coast of Florida, by Andrew J. McErlean, Technical Series No. 41, 35 pp., illus., printed, September 1963. Marine Laboratory, Florida State Board of Conservation, St. Petersburg, Fla.

GASTROPODS:

Ecological Diversification in Sympatric Gastropods of the Genus BUSYCON, by Robert T. Paine, Contribution No. 191, 9 pp., illus., printed. (Reprinted from Evolution, vol. XVI, no. 4, December 1962, pp. 515-523.) Oceanographic Institute, Florida State University, Tallahassee, Fla.

"Gastropod Defensive Responses and Their Effectiveness in Reducing Predation by Starfishes," by Howard M. Feder, article, Ecology, vol. 44, no. 3, Summer 1963, pp. 305-312, illus., printed, single copy \$2.50. Duke University Press, Box 6697, College Station, Durham, N. C.

GEAR:

"Economical Distillation of Fresh Water on Board Fishing Vessels," article, Norwegian Fishing and Maritime News, vol. 9, no. 1, 1962, pp. 35, 37, printed. Torolf Holme, P. O. Box 740, Slottsgt. 3, Bergen, Norway.

"High Speed Diesel Engines for Small Ships and as Auxiliaries in Ocean-Going Vessels," by E. Tyrrell, article, Svensk Sjöfarts Tidning, vol. 57, no. 20, 1962, pp. 1064-1065, 1068, illus., printed in Swedish. Sveriges Redareforening, 1 Avenyen, Goteborg, Sweden.

"Operational Experience with High-Speed Engines in Fishing Vessels," by E.J. Cove, article, Canadian Fisherman, vol. 49, no. 9, 1962, pp. 26-29, illus., printed. National Business Publications Ltd., Gardenvale, Que., Canada.

Stabilocontroller--Brief Description of an Instrument for the Operational Control of Ships Stability, by Olgierd Jabionski, Materials of the Maritime Institute in Gdansk No. TF-86, 8 pp., illus., printed, 1963. Instytut Morski, Gdansk, Poland.

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

"The Variation in the Catch of Plankton Nets in a System of Estuaries," by Thomas L. Hopkins, Contribution No. 192, 9 pp., illus., printed. (Reprinted from *Journal of Marine Research*, vol. 21, no. 1, 1963, pp. 39-47.) Oceanographic Institute, Florida State University, Tallahassee, Fla.

GENERAL:

"Advances in Fishery Operations," article, *Food Engineering*, vol. 35, August 1963, pp. 69-70, printed. Chilton Co., Chestnut and 56th Sts., Philadelphia 39, Pa.

"Fisheries of the Future," by Dayton L. Alverson and Norman J. Wilimovsky, article, *New Scientist*, vol. 18, June 6, 1963, pp. 536-538, printed. Cromwell House, Fulwood Pl., High Holborn, London WC 1, England.

The Fishes, by F. D. Ommanney, 192 pp., illus., printed, \$3.95, 1963. Time, Inc., 540 N. Michigan Ave., Chicago 11, Ill.

GERMANY:

Bremen-Bremerhaven; Hafen und Strom (Bremen-Bremerhaven; Harbor and Stream), 326 pp., illus., printed in German, 1962. Robert Bargmann, Bremen, German Federal Republic.

HANA:

Foreign Trade Regulations of Ghana, OBR 63-135, 8 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402.) Discusses Ghana's trade policy, which aims at conserving foreign exchange and protecting domestic industries; import tariff system; sales and other internal taxes; documentation and fees; and labeling and marking requirements. Also covers special customs provisions, nontariff import trade controls, Ghana's export controls, United States controls on exports and imports; and diplomatic representation between the two countries.

Outboard Motor Increases Fishing Time, Helps Fishermen to Land More and Fresher Fish, by D.A. Hammond, Bulletin F-1, 6 pp., illus., processed. Publications and Information Branch, Ministry of Agriculture, Accra, Ghana, May 1962.

ILL NETS:

"The Spatial Distribution of Fish in Gill Nets," by A. H. Berst, article, *Journal of the Fisheries Research Board of Canada*, vol. 20, no. 3, 1963, pp. 735-742, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

JANO:

Resultados de los Censos Graficos de Aves Guaneras Efectuados en Noviembre 1960 and January 1962 (Results of the Graphic Censuses of the Guano Birds Carried Out in November 1960 and January 1962), by R. Jordan, Report No. 12, 23 pp., illus., processed in Spanish, 1963. Library, Instituto de Investigacion de los Recursos Marinos, P.O. Box 3734, Lima, Peru.

HALIBUT:

Regulation and Investigation of the Pacific Halibut Fishery in 1962, Report of the International Pacific Halibut Commission No. 33, 26 pp., illus., printed, 1963. International Pacific Halibut Commission, Fisheries Hall No. 2, University of Maryland, Seattle 5, Wash. A brief report of the accomplishments of the Commission during 1962 covering its historical background, activities during the year, 1962 regulations, statistics of the fishery, and length of fishing seasons. Also covers incidental capture of halibut, composition of the catches, tagging experiments, studies of halibut below commercial size, and trawl survey of demersal species off the southern coast of central and western Alaska. Noteworthy was attainment of a total catch that was close to the maximum sustainable yield.

HEMOGLOBIN:

"Hemoglobin Content of the Blood of Six Species of Scombroid Fishes," by Witold L. Klawe, Izadore Barrett, and Barbara M. Hillsdon Klawe, article, *Nature*, vol. 198, no. 4875, 1963, pp. 96-97, printed. St. Martin's Press, Inc., 175 Fifth Ave., New York 10, N.Y.

HERRING:

"Chemical Studies on the Herring (*Clupea harengus*). VII--Collagen and Cohesiveness in Heat-Processed Herring, and Observations on a Seasonal Variation in Collagen Content," by R. B. Hughes, article, *Journal of the Science of Food and Agriculture*, vol. 14, June 1963, pp. 432-441, printed. Society of Chemical Industry, 14 Belgrave Sq., London SW1, England.

"L'Extraordinaire Evolution de la Campagne Harenguiere Deconcerte les Milieux Professionnels" (The Extraordinary Success of the Herring Season Baffles the Professional Groups), article, *La Pêche Maritime*, vol. 42, no. 1027, October 1963, pp. 651-653, illus., printed, single copy 11F (about US\$2.45). Les Editions Maritimes, 190, Boulevard Haussmann, Paris, France.

"Phosphatides of Aquatic Animals. XIX--Lipids of the Body Tissues of Herring, *Clupea pallasii*," by Muneo Katada, Koichi Zama, and Hisanao Igarashi, article, *Chemical Abstracts*, vol. 57, December 10, 1962, 15623h, printed. American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

Review of Literature on Herring in the Canadian Atlantic, by S. N. Tibbo, Manuscript Report Series (Biological) No. 755, 51 pp., printed, 1963. Fisheries Research Board of Canada, Biological Station, St. Andrews, N.B., Canada.

"Scuba Divers Study Herring Spawning," article, *Canadian Fisherman*, vol. 50, no. 11, November 1963, pp. 14-16, 30, illus., printed, single copy \$2. National Business Publications Ltd., Gardenvale, Que., Canada.

Vintersild Soga (Winter Sild Story), by Kare Fating, 449 pp., illus., printed in Norwegian, 1960. A. Gar-naes Boktrykkeri, Bergen, Norway.

INDIA:

Fish and Fisheries, The Wealth of India. Raw Materials, vol. IV Supplement, 147 pp., illus., printed, 1962.

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

Council of Scientific and Industrial Research, New Delhi, India.

Fish for Food, 15 pp., illus., printed. Ministry of Food and Agriculture, New Delhi, India.

New India Fisheries Limited Report and Accounts for the Year Ended March 31st '63, 34 pp., printed, 1963. New India Fisheries Limited, Taiyo House, Sassoon Dock, Colaba, Bombay 5, India. Discusses the Company's operations and costs of repairs to vessels, functions of the refrigeration section, replacement of Japanese crews with Indians, the Cochin shrimp operation, building alterations, foreign exchange earnings, and tax assessments. Also includes balance sheet and profit and loss account for the Company.

JAPAN:

Bulletin of the Faculty of Fisheries, Hokkaido University, vol. 14, no. 1, May 1963, 58 pp., illus., printed in Japanese and English. Faculty of Fisheries, Hokkaido University, Hakodate, Japan. Includes articles on: "Studies on the Melobesioideae of Japan. VI," by Tomitaro Masaki and Jun Tokida; "On the Measurement of Ocean Waves. I," by Rihei Kawahima; "Studies on Air Screen in Water. I--(2)," by Shuzo Igarashi; and "Gas Chromatographic Analysis of Fatty Acid Composition of Marine Animal Oils," by Kozo Takama and others.

Bulletin of the Japanese Society of Scientific Fisheries, vol. 29, no. 6, June 1963, 167 pp., illus., printed in Japanese with English abstracts. Bureau of the Society, c/o Tokyo University of Fisheries, Shiba Kaigandori 6, Minato-ku, Tokyo, Japan. Includes, among others, the following articles: "Studies on Fishing Conditions of the Dolphin, *Coryphæna hippurus* L., in the Western Region of the Japan Sea. VIII--Comparison of Juvenile Fish Fauna in the Sea and in the Stomachs of Dolphin," by Shunpei Kojima; "Notes on the Laboratory Culture of the Octopus," by Kouza Itami and others; "Relationship between Relative Humidity and Moisture Absorbed in Dried Fish Products," by Makoto Takei; "Studies on Muscle of Aquatic Animals. XXXVII--Separation and Determination of Creatine and Creatinine," by Morihiko Sakaguchi, Masao Hujita, and Wataru Simidu; "Studies on Muscle of Aquatic Animals. XXXVIII--Change in Viscosity of Heat Denatured Fish Actomyosin," by Tadao Ueda, Wataru Simidu, and Yutaka Shimizu; and "Symposium on the Bottom Trawl Fisheries in the East China and Yellow Seas."

Data Record of Oceanographic Observations and Exploratory Fishing, No. 7, 269 pp., illus., printed in Japanese and English, March 1963. The Faculty of Fisheries, Hokkaido University, Hakodate, Hokkaido, Japan. Consists of data collected on cruises to the Bering Sea and northwestern North Pacific Ocean, eastern Indian Ocean, southern Kurile waters, Okhotsk Sea, and Coral Sea during 1962. Data includes information on tuna long-lining, hydrographic observations, plankton sampling, salmon gill-net set, and measurement of biological characteristics of salmon.

"Japanese Fishermen Deploy Armadas of Catchers," article, New Scientist, vol. 18, June 6, 1963, pp. 533-

534, printed. Cromwell House, Fulwood Pl., High Holborn, London, WC1, England.

Statistic Tables of Fishing Vessels (as of the end of 1962), General Report No. 15, 308 pp., illus., printed in Japanese and English. Japanese Fisheries Agency, Tokyo, Japan. An annual report containing statistical data in detail on the various types of Japanese fishing craft, both powered and nonpowered, as obtained by a fishery registration system.

KILKA:

Catching Kilka with a Fish Pump Using Underwater Illumination and a Pulsing Electric Current, by I. V. Nikonov and A. Kh. Pateev, Translation Series No. 445, 8 pp., illus., processed, 1963. (Translated from the Russian, Rybnoe Khoziaistvo, vol. 35, July 1959, pp. 53-58.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

LAKE TROUT:

"Intraseasonal Growth in Lake Superior Lake Trout," by A. H. Lawrie, article, Journal of the Fisheries Research Board of Canada, vol. 20, no. 2, 1963, pp. 491-496, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

LAMPREY:

"Voprosy Promysla i Iskusstvennogo Razvedeniya Minog v Svyazi s Ikh Parazitarnym Obrazom Zhizni" (Problems of the Fishery and Artificial Rearing of Lampreys in Connection with Their Parasitic Mode of Life), by V. A. Abakumov, article, Okhrana Prirody i Ozelenenie, vol. 6, 1960, pp. 21-23, printed in Russian. Akademiia Nauk, Moscow, U.S.S.R.

LIMNOLOGY:

The Formation of the Thermocline in Lakes, by E. M. Krokhin, Translation Series No. 365, 8 pp., illus., processed, 1962, November 1962. Translated from the Russian, Izvestiia Akademii Nauk SSSR, Seriiia Geograficheskaia, no. 6, 1960, pp. 90-97.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B.C., Canada.

MARINE OILS:

"Systematic Identification of Fatty Acids in the Gas-Liquid Chromatography of Fatty Acid Methyl Esters: A Preliminary Survey of Seal Oil," by R.G. Ackman, R.D. Burgher, and P.M. Jangaard, article, Canadian Journal of Biochemistry and Physiology, vol. 41, July 1963, pp. 1627-1641, printed. Division of Administration and Awards, The National Research Council, Sussex St., Ottawa 2, Canada.

MEETINGS AND PROCEEDINGS:

Report of Second Governors' Conference on Pacific Salmon, Hyatt House, Seattle, January 7-10, 1963, 164 pp., illus., printed, October 1963. State Printing Plant, Olympia, Wash. Covers proceedings and accomplishments of the second conference on salmon sponsored by the Governors of the States of Alaska, Washington, Oregon, California, and Idaho. Goal of the conference was to arrive at a recommendation that would result in an effective organization for planning long-range salmon research; statements of the objectives and requirements for planning salmon research; and specific operations for implementing the long-range planning. Includes organization of the

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Conference, welcoming address, review of First Governors' Salmon Conference, and objectives of Second Conference. It also covers committee reports and recommendations, Conference recommendations, closing remarks and summary, and actions taken pursuant to Conference recommendations. Appendices include reports made to committees on research on regulations to provide maximum sustained yield, research on maintenance and improvement of natural production, research on supplements and substitutes for natural reproduction, economic utilization, and coordination of research.

MOLLUSKS:

Deep-Sea Mollusca from the Region South of Madagascar, by K. H. Barnard, Investigational Report No. 44, 19 pp., printed, 1963. Division of Sea Fisheries, Department of Commerce and Industries, Pretoria, South Africa Republic.

MUSSELS:

Onderzoeksresultaten van in Zeeland Gevestigde Mosselkweekerijen, Aanvoerseizoenen 1960/61 en 1961/62 (Economic Results of the Musselculture in the Netherlands, 1960/61 and 1961/62 Seasons), Verlagen No. 29, 78 pp., illus., processed in Dutch with English summary and table of contents, July 1963. Landbouw-Economisch Instituut, Conradskade 175, 's-Gravenhage, Netherlands.

FISH:

Amortizator Stoianochnoho Vozhaka" (Shock-Absorber for Driftnet Warp), by V. B. Fershtman, article, Rybnoe Khoziaistvo, vol. 38, no. 2, 1962, pp. 36-42, illus., printed in Russian. VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

Ensaio de Alagem Mecanica de Redes de Cerco em Angola (Experiment on Mechanical Operation of Encircling Nets in Angola), by D. Graganca Gil and P. da Franca, Notas Mimeografadas do Centro de Biologia Piscatoria No. 34, 37 pp., illus., printed in Portuguese with French abstract, February 1963. Centro de Biologia Piscatoria, Junta de Investigações do Ultramar, Lisbon, Portugal. Describes the installation of a power-block in a Portuguese purse seiner ("traineira") in Angola, its effect on fishing, as well as the training of fishermen in its use.

Die Reissfestigkeit der Netzgarne" (On the Breaking Strength of Net Twines), by H. Reichel, article, Fischereiforschung, vol. 5, no. 2, 1962, pp. 12-15, printed in German, Institut fur Hochseefischerei und Fischverarbeitung, Rostock-Marienehe, Germany.

Selectivity of Four Trawl Cod Ends Toward Smelt," by Robert G. Ferguson and Henry A. Regier, article, Transactions of the American Fisheries Society vol. 92, no. 2, 1963, pp. 125-131, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

NEW ZEALAND:

We Need a Completely New Approach to Fish Exports," by W. B. Sutch, article, Commercial Fishing, vol. 2, no. 1, September 1963, pp. 38-39, illus., printed. Trade Publications Ltd., 47 Lewis Eady Bldg., 192 Queen St., Auckland, New Zealand.

NORTH PACIFIC:

High Seas Fisheries of North Pacific Ocean, Amendments to Annex to Convention of May 9, 1952 between United States, Canada, and Japan, Recommendations Relating to Halibut and to Herring Adopted at 9th Annual Meeting of International North Pacific Fisheries Commission, at Seattle, November 17, 1962, and Amended, with Respect to Herring, Jan. 25, 1963, 6 pp., printed in Japanese and English, 5 cents, 1963. U.S. Department of State, Washington, D.C. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C., 20402.)

NORWAY:

Contributions Given in Honour of Einar Koefoed's 60 Years Service in Norwegian Fisheries Research, 1902-1962, Serie Havundersokelser, vol. 13, no. 6, 132 pp., printed, 1963. Norwegian Fishery and Marine Investigations, Bergen, Norway. Contains some technological aspects of the Norwegian tuna purse-seining fishery and artificial propagation of cod.

NUTRITION:

"The Case for Fish and Seafood," article, Canadian Fisherman, vol. 50, no. 11, November 1963, pp. 21, 23, printed, single copy C\$2. National Business Publications Ltd., Gardenvale, Que., Canada. Discusses the use of fish in preventing obesity and treating hypercholestermia, the high content of essential amino acids in fishery products, and the value and use of fish protein concentrate.

"Interesse Nutrologico do Pescado" (Nutritional Benefits of Fish), by Fernando da C. Rocha Faria, article, Boletim da Pesca, vol. XV, no. 80, September 1963, pp. 41-50, printed in Portuguese. R.S. Bento, 644, 4^o Esq., Lisbon, Portugal.

OCEANOGRAPHY:

Atlantic Submarine Valleys of the United States and the Congo Submarine Valley, by A.C. Veatch and P. A. Smith, Special Paper No. 7, 117 pp., illus., printed, 1939. Secretary of the Society, Geological Society of America, 419 W. 117th St., New York, N.Y.

"Benthic Marine Exploration of Bahia de San Quintin, Baja California, 1960-61 Marine and Quarternary Geology," by Donn S. Gorsline and Richard A. Stewart, article, Pacific Naturalist, vol. 3, no. 8, October 16, 1962, pp. 282-319, illus., printed. Beaudette Foundation for Biological Research, 1597 Calzada Rd., Santa Ynez, Calif.

Bottom Relief and Sediments of the Southern Part of the Indian Ocean, Communication No. 1, by A. P. Lisitsyn and A.V. Zhivago, OTS 60-21103, 20 pp., illus., processed, 50 cents. (Translated from the Russian, Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya, no. 2, 1958, pp. 9-21.) Office of Technical Services, U. S. Department of Commerce, Washington, D. C., 20235.

Bottom Relief and Sediments of the Southern Part of the Indian Ocean, Communication No. 2, by A. P. Lisitsyn and A. V. Zhivago, OTS 60-21104, 22 pp., illus., processed, 50 cents. (Translated from the

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

Russian, *Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya*, no. 3, 1958, pp. 22-36.) Office of Technical Services, U.S. Department of Commerce, Washington, D. C., 20235.

"A Bottom Sampler for Soft Mud," by K. Elgmork, article, *Hydrobiologia*, vol. 20, no. 2, 1962, pp. 167-172, illus., printed. *Hydrobiologia*, Uitgeverij Dr. W. Junk, The Hague, Netherlands.

The Causes and Predictions of Surface Currents in Sea and Lake, by T. Laevastu, 55 pp., illus., processed, July 1962. Department of Meteorology and Oceanography, University of Hawaii, Honolulu, Hawaii.

General Oceanography, by Gunter Dietrich and Kurt Kalle, 588 pp., illus., printed, \$20, 1963. John Wiley and Sons, Inc., 440 Fourth Ave., New York 16, N. Y. Concise presentation of extensive material providing insight into all branches of oceanography with emphasis on recently developed quantitative solutions to oceanographic problems.

Hydrological Observations in the South West Indian Ocean, by M. J. Orren, Investigational Report No. 45, 61 pp., printed, 1963. Division of Sea Fisheries, Department of Commerce and Industries, Pretoria, South Africa Republic.

Mean Monthly Temperature and Salinity of the Surface Layer of the North Sea and Adjacent Waters from 1905 to 1954, 293 pp., illus., printed, 45 Kr. (about US\$6.50), 1962. Service Hydrographique, International Council for the Exploration of the Sea, Charlottenlund Slot, Denmark. Consists of 24 charts of mean surface layer temperature and salinity of the area 47 $\frac{1}{2}$ $^{\circ}$ N. to 63 $^{\circ}$ N. and 11 $^{\circ}$ E. to 21 $^{\circ}$ W., for each month of the year, based on 1905-1954 data. Also contains tables of mean values of the surface temperature and salinity for each month of the year from 1905-1954 inclusive, and grand monthly means for 293 regions or stations.

Oceanographic Survey in Central and South American Waters, by A. W. Anderson, 83 pp., illus., processed, May 1963, limited distribution. Marine Sciences Department, U. S. Naval Oceanographic Office, Washington 25, D. C.

Oceanology, 1962, Vol. 2, no. 2: Selected Translations, OTS 63-21438, 36 pp., printed, March 28, 1963, \$1. (Translated from the Russian, *Okeanologiya*, vol. 2, no. 2, 1962, pp. 293-304, 368-371.) Office of Technical Services, U.S. Department of Commerce, Washington, D. C., 20235.

Physical Aspects of Light in the Sea--A Symposium, Tenth Pacific Science Congress, edited by John E. Tyler, 150 pp., illus., printed, \$2.50, 1963. University of Hawaii Press, Honolulu 14, Hawaii.

Progress Report No. 6, January 1, 1962-December 31, 1962, Oceanographic Research, 20 pp., illus., processed. Lamont Geological Observatory, Columbia University in the City of New York, Palisades, N.Y.

"La Recherche Oceanographique et la Peche" (Oceanographic Research and Fishing), by M. le Taconnoux,

article, *France Peche*, no. 78, November 1963, pp. 22-25, illus., printed in French, single copy 2.50 F (about 50 U.S. cents). *France Peche*, Boite Postale 179, Lorient, France.

Seasonal Temperature Structure in the Eastern Subarctic Pacific Ocean, by J. P. Tully. Special Publication No. 5, 27 pp., printed, 1963. Royal Society of Canada, Toronto, Canada.

Submarine Topography Off the California Coast: Canyons and Tectonic Interpretation, by Francis P. Shepard and K. O. Emery, Special Paper No. 31, 188 pp., illus., printed, 1941. Secretary of the Society, Geological Society of America, 419 W. 117th St., New York, N. Y.

OKLAHOMA:

A Study of Fishes of the Arkansas and Cimarron Rivers in the Area of the Proposed Keystone Reservoir, by Thomas L. Linton, Report No. 81, 33 pp., processed, July 1961. Oklahoma Fishery Research Laboratory, Norman, Okla.

OYSTERS:

"Aragonite and Calcite as Constitutents of Adult Oyster Shells," by H. B. Stenzel, article, *Science*, vol. 142, no. 3589, October 11, 1963, pp. 232-233, illus., printed, single copy 35 cents. American Association for the Advancement of Science, 1515 Massachusetts Ave., NW., Washington 5, D. C.

Datos Biologicos para el Cultivo del Ostion de Guaymas, Sonora (Biological Data on Oyster Culture at Guaymas, Sonora), by Maria Luisa Sevilla Hernandez, 84 pp., illus., printed in Spanish, 1959. Direccion General de Pesca e Industrias Conexas, Secretaria de Industria y Comercio, Mexico, D.F.

"Studies on Muscle of Aquatic Animals. Change in Chemical Components in Oyster during Storage in Relation to the Taste," by I. Takagi and W. Simidu, article, *Bulletin of the Japanese Society of Scientific Fisheries*, vol. 29, no. 1, January 1963, pp. 71-74, illus., printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minatoku, Tokyo, Japan.

PACKAGING:

"Carton Packaging of Frozen Foods," by B. S. Pettit, article, *Food Trade Review*, vol. 33, no. 1, January 1963, pp. 33-34, printed. Food Trade Review Ltd., 7 Garrick St., London WC2, England.

"Packaging Freeze-Dried Foods," by J.K. Cage, article, *Modern Packaging*, vol. 36, no. 4, December 1962, pp. 153-154, 210-211, printed. Diesel Publications Inc., 192 Lexington Ave., New York 16, N.Y.

"Packaging Problems with Fresh Fish," article, *New Scientist*, vol. 19, July 4, 1963, p. 11, printed. Cromwell House, Fulwood Pl., High Holborn, London WC1, England.

PAKISTAN:

The Report on Surveying of Trawling Grounds Offshore of East Pakistan, 21 pp., processed, September 1960. International Fisheries Co-Operative Organization, Tokyo, Japan.

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

- Russian, Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya, no. 3, 1958, pp. 22-36.) Office of Technical Services, U.S. Department of Commerce, Washington, D. C., 20235.
- "Bottom Sampler for Soft Mud," by K. Elgmork, article, Hydrobiologia, vol. 20, no. 2, 1962, pp. 167-172, illus., printed. Hydrobiologia, Uitgeverij Dr. W. Junk, The Hague, Netherlands.
- "Causes and Predictions of Surface Currents in Sea and Lake," by T. Laevastu, 55 pp., illus., processed, July 1962. Department of Meteorology and Oceanography, University of Hawaii, Honolulu, Hawaii.
- "General Oceanography," by Gunter Dietrich and Kurt Gulle, 588 pp., illus., printed, \$20, 1963. John Wiley and Sons, Inc., 440 Fourth Ave., New York 6, N. Y. Concise presentation of extensive material providing insight into all branches of oceanography with emphasis on recently developed quantitative solutions to oceanographic problems.
- "Hydrological Observations in the South West Indian Ocean," by M.J. Orrén, Investigational Report No. 5, 61 pp., printed, 1963. Division of Sea Fisheries, Department of Commerce and Industries, Pretoria, South Africa Republic.
- "Mean Monthly Temperature and Salinity of the Surface Layer of the North Sea and Adjacent Waters from 1905 to 1954," 293 pp., illus., printed, 45 Kr. (about US\$6.50), 1962. Service Hydrographique, International Council for the Exploration of the Sea, Charlottenlund Slot, Denmark. Consists of 14 charts of mean surface layer temperature and salinity of the area 47½° N. to 63° N. and 11° E. to 21° W., for each month of the year, based on 1905-1954 data. Also contains tables of mean values of the surface temperature and salinity for each month of the year from 1905-1954 inclusive, and grand monthly means for 293 regions or stations.
- "Oceanographic Survey in Central and South American Waters," by A.W. Anderson, 83 pp., illus., processed, May 1963, limited distribution. Marine Sciences Department, U. S. Naval Oceanographic Office, Washington 25, D.C.
- "Oceanology, 1962, Vol. 2, no. 2: Selected Translations," OTS 63-21438, 36 pp., printed, March 28, 1963, \$1. (Translated from the Russian, Okeanografiya, vol. 2, no. 2, 1962, pp. 293-304, 368-371.) Office of Technical Services, U.S. Department of Commerce, Washington, D.C., 20235.
- "Physical Aspects of Light in the Sea--A Symposium, Tenth Pacific Science Congress," edited by John E. Tyler, 150 pp., illus., printed, \$2.50, 1963. University of Hawaii Press, Honolulu 14, Hawaii.
- "Progress Report No. 6, January 1, 1962-December 31, 1962," Oceanographic Research, 20 pp., illus., processed. Lamont Geological Observatory, Columbia University in the City of New York, Palisades, N.Y.
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- "Seasonal Temperature Structure in the Eastern Subarctic Pacific Ocean," by J.P. Tully, Special Publication No. 5, 27 pp., printed, 1963. Royal Society of Canada, Toronto, Canada.
- "Submarine Topography Off the California Coast: Canyons and Tectonic Interpretation," by Francis P. Shepard and K. O. Emery, Special Paper No. 31, 188 pp., illus., printed, 1941. Secretary of the Society, Geological Society of America, 419 W. 117th St., New York, N. Y.
- OKLAHOMA:
A Study of Fishes of the Arkansas and Cimarron Rivers in the Area of the Proposed Keystone Reservoir, by Thomas L. Linton, Report No. 81, 33 pp., processed, July 1961. Oklahoma Fishery Research Laboratory, Norman, Okla.
- OYSTERS:
 "Aragonite and Calcite as Constituents of Adult Oyster Shells," by H. B. Stenzel, article, Science, vol. 142, no. 3589, October 11, 1963, pp. 232-233, illus., printed, single copy 35 cents. American Association for the Advancement of Science, 1515 Massachusetts Ave., NW., Washington 5, D. C.
- Datos Biologicos para el Cultivo del Ostion de Guaymas, Sonora (Biological Data on Oyster Culture at Guaymas, Sonora), by Maria Luisa Sevilla Hernandez, 84 pp., illus., printed in Spanish, 1959. Direccion General de Pesca e Industrias Conexas, Secretaria de Industria y Comercio, Mexico, D. F.
- "Studies on Muscle of Aquatic Animals. Change in Chemical Components in Oyster during Storage in Relation to the Taste," by I. Takagi and W. Simidu, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 29, no. 1, January 1963, pp. 71-74, illus., printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.
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 "Carton Packaging of Frozen Foods," by B. S. Pettit, article, Food Trade Review, vol. 33, no. 1, January 1963, pp. 33-34, printed. Food Trade Review Ltd., 7 Garrick St., London WC2, England.
- "Packaging Freeze-Dried Foods," by J. K. Cage, article, Modern Packaging, vol. 36, no. 4, December 1962, pp. 153-154, 210-211, printed. Diesel Publications Inc., 192 Lexington Ave., New York 16, N.Y.
- "Packaging Problems with Fresh Fish," article, New Scientist, vol. 19, July 4, 1963, p. 11, printed. Cromwell House, Fulwood Pl., High Holborn, London WC1, England.
- PAKISTAN:
The Report on Surveying of Trawling Grounds Offshore Of East Pakistan, 21 pp., processed, September 1960. International Fisheries Co-Operative Organization, Tokyo, Japan.

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

PARROTFISH:

The Spawning and Early Development of the Atlantic Parrot Fish, SPARISOMA RUBRIPINNE, with Notes on Other Scarid and Labrid Fishes, by John E. Randall and Helen A. Randall, Contribution No. 458, 14 pp., illus., printed. (Reprinted from *Zoologica*, vol. 48, issue 2, Summer 1963, pp. 49-60.) Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

PEARLS:

"Man-Made Pearls," by William M. Stephens, article, *Sea Frontiers*, vol. 9, no. 5, Christmas 1963, pp. 299-308, illus., printed. International Oceanographic Foundation, 1 Rickenbacker Causeway, Virginia Key, Miami, Fla., 33149. Discusses the history of the search for a method of culturing pearls, appearance and composition of natural and cultured pearls, artificial pearls, collection and rearing of oysters for pearl culture, and implantation of nuclei and care of oysters during pearl formation.

PERU:

Estudio de Reconocimiento en el Norte del Peru, Salaverry-Puerto Pizarro (Report on the Survey of the North of Peru, Salaverry-Puerto Pizarro), by W. F. Doucet, I. Tilic, and J. E. Garcia C., Report No. 7, 46 pp., illus., processed in Spanish, 1963. Library, Instituto de Investigacion de los Recursos Marinos, P. O. Box 3734, Lima, Peru.

Estudio de Reconocimiento en el Sur del Peru, Callao-Ilo (Report on the Survey in the South of Peru, Callao-Ilo), by W. F. Doucet and I. Tilic, Report No. 9, 28 pp., illus., processed in Spanish, 1963. Library, Instituto de Investigacion de los Recursos Marinos, P. O. Box 3734, Lima, Peru.

PESTICIDES:

"Aquatic Life Jeopardized by Chemical Sprays," by Vincent A. Wager, article, *African Wild Life*, vol. 16, no. 2, 1962, pp. 155-158, printed. African Wildlife Protection Society, 315 Africa House, Rissick St., Johannesburg, Republic of South Africa.

"Toxicity of Certain Organophosphorus and Carbamate Insecticides to Rainbow Trout," by Lawrence L. Lewallen and William H. Wilder, article, *Mosquito News*, vol. 22, no. 4, 1962, pp. 369-372, printed. American Control Association, Box 278, Selma, Calif.

PHYSIOLOGY:

"Caudal Fin and Body Movement in the Propulsion of Some Fish," by Richard Bainbridge, article, *The Journal of Experimental Biology*, vol. 40, no. 1, 1962, pp. 23-56, printed. Cambridge University Press, 200 Euston Rd., London NW1, England.

"Funksional'nye Osnovy Adaptatsii Anadromnykh Ryb Pri Smene Sredy Obitaniya" (Functional Bases of Adaptation in Anadromous Fish in a Change in Environment), by I. A. Barannikova, article, *Vysshaya Shkola*, vol. 5, 1962, p. 10, printed in Russian. Akademiia Nauk, Moscow, U.S.S.R.

PIKE:

"Early Life History of the Northern Pike, *Esox lucius* L., with Special Reference to the Factors Influencing the Numerical Strength of Year Classes," by Donald

R. Franklin and Lloyd L. Smith, article, *Transactions of the American Fisheries Society*, vol. 92, no. 2, 1963, pp. 91-110, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

PIRANHA:

"Black Piranhas Spawmed at Shedd Aquarium," by William P. Braker, article, *The Aquarium*, vol. 32, no. 10, October 1963, pp. 12-14, illus., printed, single copy 40 cents. The Aquarium Publishing Co., Box 832, Norristown, Pa., 19404.

PLAICE:

"The Fecundity of Plaice From the Bay of Biscay," by T. B. Bagenal, article, *Journal of the Marine Biological Association of the United Kingdom*, vol. 43, no. 1, 1963, pp. 177-179, printed. Cambridge University Press, 200 Euston Road, London NW1, England.

PLANKTON:

Checklist of Diatoms Recorded from the Indian Ocean, by E. J. F. Wood, Report 36, 316 pp., processed, 1963. Marine Laboratory, Division of Fisheries and Oceanography, Commonwealth Scientific and Industrial Research Organization, Cronulla, Sydney, Australia.

Phytoplankton Diversity in the Lower York River, Virginia, June 1960-June 1961, 14 pp., processed, 1962. Virginia Institute of Marine Science, Gloucester Point, Va.

POLAND:

The Maritime Institute at Gdansk, 3 pp., printed, October 1963. Instytut Morski, Gdansk, Dlugi Targ, Poland.

Shipbuilding Industry in Poland, 1963, 49 pp., illus., printed in Polish and English. Centrala Morska Importowo-Eksportowa, Warsaw, Poland. Includes information on cargo ships and fishing vessels, inland waterways floating craft, yachts and boats, ship repairs, marine Diesel engines, ships' equipment, and general trade information.

POLLUTION:

"A Review of the Literature of 1961 on Wastewater and Water Pollution Control," by P. A. Okun and others, article, *Journal of Water Pollution Control Federation*, vol. 34, no. 7, 1963, pp. 629-703, Water Pollution Control Federation, 4435 Wisconsin Ave., NW., Washington 16, D. C.

"La Toxicidad para los Peces de un Efluente de Alcantarilla" (Toxicity of Sewage for Fish), by D.W.M. Herbert, article, *Montes*, vol. 18, no. 106, 1962, pp. 287-292, printed in Spanish. Jose R. Figueras, Luchana 17, Madrid, Spain.

POND FISHERIES:

"Increasing Fish Production in Ponds," by A. Yashouv, article, *Transactions of the American Fisheries Society*, vol. 92, no. 3, 1963, pp. 292-297, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

PRESERVATION:

"Ammonia: Possible Use for Preserving Fish," by V. Subrahmanyam and others, article, *Science*, vol. 142, no. 3589, October 11, 1963, pp. 233-234, printed, single

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Copy 35 cents. American Association for the Advancement of Science, 1515 Massachusetts Ave., N.W., Washington 5, D. C.

"Approvisionnement des Bateaux de Peche en Glace Industrielle et la Conservation du Poisson a Bord" (The Supplying of Fishing Vessels with Ice and the Preservation of Fish on Board), by M. D'Oiron, article, France Peche, no. 78, November 1963, pp. 27-28, illus., printed in French, single copy 2.50 F (about 50 U.S. cents). France Peche, Boite Postale 79, Lorient, France.

"La Conservation du Poisson par le Froid a Bord des Chalutiers" (The Preservation of Fish by Chilling or Freezing on Board Trawlers), by Robert Menant, article, La Peche Maritime, vol. 42, no. 1027, October 1963, pp. 683-687, printed in French, single copy 12F (about US\$2.45). Les Editions Maritimes, 90, Boulevard Haussmann, Paris, France.

"Preservation of Fresh Fish by Means of Cold and Aureomycin," by E. Tropea, J.C. Encarnacao, and M. C. Sergio, article, Revista Ciencia Veterinaria, vol. 55, no. 374, 1960, pp. 224-235, printed in Portuguese. Sociedad Portuguesa de Medicina, Rua de Beniz, 2, Lisbon, Portugal.

PROCESSING:

"Fish Processing Plant Water Supplies," by H. V. Dempsey, article, Canadian Fisherman, vol. 49, no. 1, 1962, pp. 66-67, printed. National Business Publications Ltd., Gardenvale, Que., Canada.

PROTEIN:

"Evaluation of Proteins by in Vitro Pancreatin Digestion," by A. Amwar, article, Poultry Science, vol. 41, no. 4, 1962, pp. 1120-1123, printed. Poultry Science Association, Ohio State University, Columbus, Ohio.

"Microbiological Method for Assessing the Nutritional Value of Proteins. II--The Measurement of Available Methionine, Leucine, Isoleucine, Arginine, Histidine, Tryptophan, and Valine," by J.E. Ford, article, British Journal of Nutrition, vol. 16, 1962, pp. 409-425, printed. Cambridge University Press, 32, Euston Rd., London NW1, England.

QUALITY:

"Fluorometric Method for Determining the Freshness of Fish. I," by Toyoki Ono, Fumio Nagayama, and Takuichiro Yoshikane, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, September 1962, pp. 936-940, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.

"Post-Mortem Changes in Chilled and Frozen Muscle," by W. Partmann, article, Journal of Food Science, vol. 28, no. 1, January-February 1963, pp. 15-27, illus., printed. Institute of Food Technologists, 510/22 S. Hickory St., Champaign, Ill.

RADIATION PRESERVATION:

"Application of Radiation-Pasteurization Processes to Pacific Crab and Flounder," by D. Miyauchi and others, Report No. 18,036, TID 4500, printed, April 1963. Office of Technical Services, U.S. Department of Commerce, Washington, D. C., 20235.

"Effects of Ionizing Radiation on Lipids of Fish," by Virginia F. Stout, Report No. 18,657, TID 4500, 21 pp., illus., printed; 50 cents. Office of Technical Services, U. S. Department of Commerce, Washington, D. C., 20235.

RADIOACTIVITY:

"Studies of Radioactive Isotopes (P^{32} , S^{35} , Sr^{90} , Y^{91} , and Ce^{144}) in Marine Biology, U.S.S.R.," OTS 63-31614, 16 pp., illus., printed, 50 cents, August 26, 1963. Office of Technical Services, U. S. Department of Commerce, Washington, D. C., 20235.

REFRIGERATION:

"Kaltetechnische Einrichtung von Fischfang und Fabrikschiffen" (Refrigerating Plants on Board Fishing-Boats and Factoryships), by W. Flechtenmacher, article, Kalte, vol. 15, no. 12, December 1962, pp. 692-693, illus., printed in German. Hans A. Keune Verlag, Pressehaus, 1 Speersort, Hamburg 1, Germany.

"Nuevas Soluciones Aprotadas a los Problemas del Transporte y del Almacenamiento de Articulos Alimenticios, en Regimen de Frio, y, de una Manera General, a los Recintos Isotermos" (New Solutions Contributed to the Problems of Transporting and Storing Foodstuffs, under Refrigeration, and, in a General Way, under Cold Storage), by Pierre Bordenave, article, Revisto del Frio, vol. VIII, no.1, January-March 1963, pp. 5-10, illus., printed in Spanish with English abstract. Centro Experimental del Frio, Serrano, 150, Madrid, Spain.

"Primenenie Holoda v Rybnoj Promyslennosti" (Use of Refrigeration in the Fishing Industry), by A. V. Kan, article, Rybnoe Khoziaistvo, no. 1, 1962, pp. 47-65, illus., printed in Russian. VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

"Sudovaja Laboratorija Refrizeratornogo Mehanika" (A Laboratory on Board a Trawler Equipped with a Refrigeration Plant), by B. V. Golubev, article, Rybnoe Khoziaistvo, no. 7, 1962, pp. 50-52, illus., printed in Russian. VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U.S.S.R.

ROCKFISH:

"Rockfish in the Gulf of Alaska," by T. G. Liubimova, Translation Series No. 441, 4 pp., illus., processed, 1963. (Translated from the Russian, Rybnoe Khoziaistvo, vol. 37, no. 9, 1961, pp. 27-30.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

"The Trawl Fishery for Rockfish in the Bering Sea," by A. V. Lestev, Translation Series No. 439, 15 pp., illus., processed, 1963. (Translated from the Russian, Sakhalinskoe Otdelenie Tikhookeanskogo N. I. Instituta Morskogo Rybnogo Khoziaistva i Okeanografii (TINRO), "Tekhnika Rybolovstva," Series, 1961, 26 pp.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

RUMANIA:

"Activities of Institute for Piscicultural Research and Planning, Rumania," by Aurelia Nicolau and G. Rosca, OTS 63-31699, 12 pp., printed, 50 cents, September 6, 1963. Office of Technical Services, U.S. Department of Commerce, Washington, D. C., 20235.

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

RYUKYU ISLANDS:

Basic Data on the Economy of the Ryukyu Islands, by Ryotei Onaga and Susan M. Phillips, OBR 63-124, 16 pp., illus., printed, 15 cents, October 1963. Bureau of International Commerce, U.S. Department of Commerce, Washington, D.C. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.) Discusses general information on geography and climate, form of government, population, and education; structure of the economy; agriculture, forestry, and fisheries; mining, industry; electric power; and water supply. Also covers transportation and communications, insurance companies, finance, foreign trade, weights and measures, and the economic development program. The Ryukyuan fisheries and whaling industry have expanded in recent years. Between 1951-1961, fisheries landings increased from 8,300 metric tons to 18,052 tons. Marine products, notably sea shells, coral, and seaweed, have been an important source of earnings since 1950.

SAILFISH:

A Morphometric Study of Seasonal Concentrations of the Sailfish, ISTIOPHORUS ALBICANS, in the Northern Gulf of Mexico, with Notes on Other Gulf Istiophorids, by Norman G. Vick, 46 pp., printed, 1963. Texas Agricultural and Mechanical College, College Station, Texas.

SALMON:

The Coho Salmon (ONCORHYNCHUS KISUTCH Walbaum)--A Biological Sketch, by V.I. Gribov, Translation Series No. 370, 83 pp., processed, 1962. (Translated from the Russian, *Izvestiia Tikhookeanskogo N. I. Instituta Rybnogo Khoziaistva i Okeanografii (TINRO)*, vol. 28, 1948, pp. 43-101.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B.C., Canada.

Correlation between the Processes of Early Gonad Ripening, and Transformation to the Seaward-Migrating Stage, Among Male Baltic Salmon (SALMO SALAR L.) Held in Ponds, by N. V. Evropeytseva, 5 pp., processed, 1963. Translated from the Russian, *Zoologicheskii Zhurnal*, vol. 39, no. 5, 1960, pp. 777-779. Fisheries Research Board of Canada, Biological Station, St. Andrews, N. B., Canada.

"Differential Scale Characters Among Species of Pacific Salmon," by Ted S. Y. Koo, article, *University of Washington Publ. Fish.*, vol. 1, 1962, pp. 123-135, printed. University of Washington, Seattle, Wash.

"Girth-Length Relationships in Sockeye and Chum Salmon," by Robert H. Lander, article, *Transactions of American Fisheries Society*, vol. 92, no. 3, 1963, pp. 305-307, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

The Hydrology of the Komandorsky--Kamchatka Region and the Salmon Migrations during the Spring and Summer, by V. A. Burkov, Translation Series No. 356, 9 pp., processed, December 1962. (Translated from the Russian, *Ikhtologicheskaja Komissiya Akademii Nauk SSSR, Trudy Soveshchaniia*, no. 10, 1960, pp. 165-172.) Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada.

"The Influence of Oxygen Concentration on the Swimming Performance of Juvenile Pacific Salmon at Various Temperatures," by Gerald E. Davis and others, article, *Transactions of the American Fisheries Society*, vol. 92, no. 2, 1963, pp. 111-124, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

"Natural Spawning Success of Landlocked Salmon, *Salmo salar*," by Kendall Warner, article, *Transactions of the American Fisheries Society*, vol. 92, no. 2, 1963, pp. 161-164, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

"The Relation between Oxygen Uptake and Swimming Speed in Young Sockeye Salmon," by J. R. Brett, article, *American Zoologist*, vol. 2, no. 3, 1962, p. 394, printed. The Society of American Zoologist, 104 Liberty St., Utica, N. Y.

"Some Aspects of Olfactory and Visual Responses in Pacific Salmon," by J.R. Brett and C. Groot, article, *Journal of the Fisheries Research Board of Canada*, vol. 20, no. 2, 1963, pp. 287-303, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

"Some Effects of Simultaneous Variation in Salinity, Temperature and Dissolved Oxygen on the Resistance of Young Coho Salmon to a Toxic Substance," by D.F. Alderdice, article, *Journal of the Fisheries Research Board of Canada*, vol. 20, no. 2, 1963, pp. 525-550, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

"O Svyazyakh Tempa Rosta i Chislennosti Krasnoi." (Relation between Growth Rate and Abundance of Sockeye Salmon), by F. V. Krogus, article, *Trudy Soveshchaniia Ikhtiol. Komissiya Akad. Nauk SSSR*, vol. 13, 1961, pp. 132-146, printed in Russian. Four Continent Book Corp., 156 5th Ave., New York 10, N.Y.

"The Uptake and Detoxification of C¹⁴ - Labelled DDT in Atlantic Salmon, *Salmo salar*," by F.H. Premdas and J. M. Anderson, article, *Journal of the Fisheries Research Board of Canada*, vol. 20, no. 3, 1963, pp. 827-837, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

SARDINES:

The Pilchard of South West Africa (SARDINOPS OCELLATA), Temperature: Its Annual Cycles and Relation to Wind and Spawning, by G. H. Stander, Investigational Report No. 9, 55 pp., illus., printed, 1963. Administration of South West Africa, Windhoek, South West Africa.

SCALLOPS:

"Condition of the Bay Scallop, *Aequipecten irradians*, in Relation to Age and the Environment," by Richard A. Cooper and Nelson Marshall, article, *Chesapeake Science*, vol. 4, no. 3, September 1963, pp. 126-134, illus., printed, single copy 75 cents. Chesapeake Biological Laboratory, Natural Resources Institute of the University of Maryland, Solomons, Md.

"Some Morphological and Ecological Differences in Two Closely Related Species of Scallops, *Aequipecten*

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

Irradians Lamarack and *Aequipecten gibbus* Dall, from the Gulf of Mexico, by A. N. Sastri, Contribution No. 189, 7 pp., illus., printed. (Reprinted from The Quarterly Journal of the Florida Academy of Sciences, vol. 25, no. 2, June 1962.) Oceanographic Institute, Florida State University, Tallahassee, Fla.

SCUBA DIVING:

La Embriaguez y la Enfermedad de los Escafandristas (The Dizziness and Illness of Divers), article, Iberica, vol. 41, no. 17, November 1963, pp. 438-440, illus., printed in Spanish, single copy 15 ptas. (about 15 U.S. cents). Iberica, Palau, 3, Apartado 759, Barcelona-2, Spain.

SEA LAMPREY:

Estimation of the Brook and Sea Lamprey *Ammocoete* Populations of Three Streams," by Bernard R. Smith and Alberton L. McLain, article, Great Lakes Fish Comm. Tech. Rept., no. 4, 1962, pp. 1-18, printed. University of Michigan, Ann Arbor, Mich.

Lethal Temperatures of the Developmental Stages of the Sea Lamprey, *Petromyzon marinus* L.," by R. W. McCauley, article, Journal of the Fisheries Research Board of Canada, vol. 20, no. 2, 1963, pp. 483-490, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

SEAWEED:

The Effect of Seaweed Carotenoids on Egg Yolk Coloration," by Arne Jensen, article, Poultry Science, vol. 42, July 1963, pp. 912-916, printed. Poultry Science Association, Kansas State College, Manhattan, Kans.

Polysaccharides of the Green Seaweed *Codium fragile*," by J. Love and Elizabeth Percival, article, Biochemical Journal, vol. 84, July 1962, p. 29P, printed. Cambridge University Press, Bentley House, 200 Euston Rd., London NW1, England.

Quality of Kombu, Edible Seaweeds Belonging to the Laminariaceae. V--Difference in the Thickness and the Content of Nitrogen in Kombu Blade (*Laminaria japonica*)," by Ayako Okumura and others, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, November 1962, pp. 1123-1127, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.

Recent Laver Cultivation in Japan," by M. Kurogi, article, Fishing News International, vol. 2, no. 3, July-September 1963, pp. 269, 273-274, illus., printed, single copy 6s. 6d. (about 95 U.S. cents). Arthur Heighway Publications Ltd., Ludgate House, 110 Fleet St., London EC4, England.

Viscosities of Funori Extractive in Aqueous Potassium Chloride," by Yuzo Enda and Akira Kishimoto, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, August 1962, pp. 799-802, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku, Tokyo, Japan.

SHARKS:

The Shark Problem," by D.H. Davies, article, South African Journal of Science, vol. 58, no. 9, 1962, pp. 253-258, printed. South African Association for the Advancement of Science, Johannesburg, South Africa public.

SHELLFISH:

"Purification and Sterilization of Shellfish," by Elliot B. Dewberry, article, Food Manufacture, vol. 38, July 1963, pp. 357-362, printed. Leonard Hill Ltd., Stratford House, 9 Eden Street, London NW1, England.

SHRIMP:

"Tariff Board Inquiry on Prawns," article, Fisheries Newsletter, vol. 22, no. 11, November 1963, pp. 17-18, 20, printed. Commonwealth Fisheries Office, Department of Primary Industry, Canberra, Australia. Tariff Board held a public hearing in Brisbane on September 13 and one in Canberra on October 3, 1963, in the course of its inquiry into whether assistance should be given to the production of "shrimps, prawns, shrimp meat and prawn meat, preserved by cold process;" if so, the nature and extent of such assistance; and, if the Board found for assistance by tariff, what rates of duty should be provided. Testimony was given by several witnesses. After the inquiry was closed, the Board reported its findings to the Minister for Trade.

SMALL BUSINESS MANAGEMENT:

Guide to Civil Defense Management in the Food Industry, Agricultural Handbook No. 254, 34 pp., illus., printed, November 1963. Agricultural Marketing Service, U. S. Department of Agriculture, Washington, D. C., 20250. The history of mankind and the records of wars clearly demonstrate that food is a prime weapon, target, and element of survival. It should be obvious, therefore, that there is a pressing need in the food industry for careful planning and continuing cooperation with local, State and Federal governments in preparing a national survival program. This handbook discusses in detail orientation to civil defense planning in the food industry, civil defense preparations, industry-Government cooperation for community survival, and operations during the survival period.

Travel, Entertainment, and Gift Expenses, Internal Revenue Service Publication No. 463, 18 pp., printed, 15 cents, 1963. Internal Revenue Service, U. S. Department of Treasury, Washington, D. C. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C., 20402.) A booklet containing detailed information on the new rules enacted by Congress for deducting business travel, entertainment, and gift expenses. The booklet also explains the recordkeeping substantiation requirements. Numerous examples are given to illustrate how the rules operate and the specific kinds of information which should be recorded and maintained in various circumstances. A chart which shows at a glance the factors to be proved in substantiating elements of an expenditure is of special interest.

SMELT:

"Taxonomic and Ecological Studies of the Genus *Hypomesus* of Japan," by Keikichi Hamada, article, Memoirs of the Faculty of Fisheries, vol. 9, no. 1, 1961, pp. 1-55, printed. The Faculty of Fisheries, Hokkaido University, Hakodate, Japan.

SMOKING:

Smokehouses and the Smoke Curing of Fish, compiled by Iola I. Berg, 47 pp., illus., processed. Washington

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

State Department of Fisheries, 115 General Administration Bldg., Olympia, Wash. Discusses in detail, with accompanying diagrams, smoke-curing principles, smokehouses, methods of hanging fish for smoking, hot smoking, and cold smoking. Also includes information on smoking method for sportsmen, construction of the controlled smokehouse, smoking processes, portable smoker and barbecue grill, and recipes for preparing smoked fish dishes.

SPOILAGE:

"Effects of Tylosin and Nisin on Canned Food Spoilage Bacteria," by C. B. Denny, L.E. Sharpe, and C. W. Bohler, article, Applied Microbiology, vol. 9, no. 2, 1961, pp. 108-110, printed. Williams and Wilkins Co., 428 E. Preston St., Baltimore 2, Md.

STATISTICS:

Statistical Services of the United States Government, 143 pp., printed, \$1, revised edition 1963. Office of Statistical Standards, Bureau of the Budget, Executive Office of the President, Washington, D. C. (For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C., 20402.) Part I describes the statistical system of the Federal Government. In a section on organization it describes the procedures followed to achieve coordination within a decentralized statistical system, and distinguishes between the various types of statistical agencies. Part II presents brief descriptions of the principal economic and social statistical series collected by Government agencies. For each of about 50 subjects it tells what agencies are concerned and what kinds of data are collected and made available. Part III contains a brief statement of the statistical responsibilities of each agency and a list of its principal statistical publications.

STERN TRAWLERS:

"Stern Trawlers," article, Canadian Fisherman, vol. 49, no. 5, 1962, pp. 19-34, illus., printed. National Business Publications Ltd., Gardenvale, Que., Canada.

STRIPED BASS:

"Effect of Ocean Temperature on the Seaward Movements of Striped Bass, Roccus saxatilis, on the Pacific Coast," by John Radovich, article, California Fish and Game, vol. 49, no. 3, 1963, pp. 191-206, printed. California Department of Fish and Game, 722 Capital Ave., Sacramento 14, Calif.

TAGGING:

"Estimates of Mortality Rates from Tag Recoveries," by G. J. Paulik, article, Biometrics, vol. 19, no. 1, 1963, pp. 28-57, printed. Department of Statistics, Virginia Polytechnic Institute, Blacksburg, Va.

"The Movement of Tagged Great Slave Lake Fish," by J.J. Keleher, article, Journal of the Fisheries Research Board of Canada, vol. 20, no. 2, 1963, pp. 319-326, printed. Queen's Printer & Controller of Stationery, Ottawa, Canada.

TAIWAN:

Taiwan Fisheries Yearbook, 1963 Edition, 212 pp., illus., printed in Chinese and English; August 1963. Taiwan Fisheries Bureau, Department of Agriculture and Forestry, Provincial Government of Taiwan,

Taipei, Taiwan. Contains statistical tables on fishermen's organizations and membership, number of fishing vessels, status of ice-making and cold-storage industries, fisheries production in quantity and value, and quantity of supply and sale of fishery products and their average value at principal fish markets. Also includes data on processed marine products, fish culture area, production of fish fries, number of casualties of fishermen, losses and damages to fishing craft, and marine products trade. Most data are for 1962.

TENNESSEE VALLEY AUTHORITY:

Tributary Area Development in the Tennessee Valley, 16 pp., illus., printed, 1963. Tennessee Valley Authority, Knoxville, Tenn.

TRADE LISTS:

The U. S. Department of Commerce has published the following trade list. Copies may be obtained by firms in the United States from the Commercial Intelligence Division, Office of Trade Promotion, Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., 20230, or from Department of Commerce field offices at \$1 each.

Canneries and Frozen Foods--Producers and Exporters--Thailand, 8 pp., August 1963. Lists the names and addresses, size of firms, and types of products (including fish and shrimp) handled by each firm.

TRAWLING:

"Les Engins de Peche--Le Chalutage, les Operations de Peche" (Fishing Gear--Trawling, Fishing Operations), by A. Percier, article, France Peche, no. 78, November 1963, pp. 55-56, 58, illus., printed in French single copy 2.5 F (about 50 U.S. cents). France Peche Boite Postale 179, Lorient, France.

"How Some Fish Escape the Trawl," article, New Scientist, vol. 18, May 1963, p. 361, printed. Cromwell House, Fulwood Pl., High Holborn, London WC1, England.

TRAWLS:

"Un Chalut Mediterranee Perfectionne" (An Improved Mediterranean Trawl), by L. Farina, article, France Peche, no. 78, November 1963, pp. 39-41, illus., printed in French, single copy 2.50 F (about 50 U.S. cents). France Peche, Boite Postale 179, Lorient, France.

TROUT:

"Effect of Hatchery Rearing Conditions on Stream Survival of Brown Trout," by Alfred W. Eipper, article, Transactions of the American Fisheries Society, vol. 92, no. 2, 1963, pp. 132-139, printed. Secretary, American Fisheries Society, P.O. Box 483, McLean, Va.

"The Effect of Neotetrazolium on the Newly Fertilized Eggs of the Brook Trout, Salvelinus fontinalis (Mitchell)," by Alfred Perlmutter and William Antopol, article, Copeia, no. 1, 1963, pp. 166-168, printed. Copeia, American Society of Ichthyologists and Herpetologists, 18111 Nordhoff St., Northridge, Calif.

"Influence of Pond Formation on Brook Trout Movements and Angling Success," by M. W. Smith, article, Journal of the Fisheries Research Board of Canada,

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

vol. 20, no. 2, 1963, pp. 327-345, printed. Queen's Printer & Controller of Stationery, Ottawa, Canada.

The Recovery of Tagged Lake Trout, *Salvelinus namaycush*, from Lake Simcoe, Ontario," by Hugh H. McCrimmon, article, Transactions of American Fisheries Society, vol. 92, no. 3, 1963, pp. 315-317, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

Resultats des Deversements de Truites d'Elevage Marquees Dans Quelques Rives du Puy-de-Dome, de 1958 a 1960 (Results of the Escapement of cultured Trout Tagged in Some Rivers of Puy-de-Dome from 1958 to 1960), by R. Cuiat. 13 pp., illus., printed in French. Station d'Hydrobiologie Appliquee de Biarritz, Biarritz, France.

The Seaward Migration and Return of Hatchery-Rear- ed Steelhead Trout, *Salmo gairdneri* Richardson, in the Alsea River, Oregon," by Harry H. Wagner, Richard L. Wallace, and Homer J. Campbell, article, Transactions of the American Fisheries Society, vol. 92, no. 3, 1963, pp. 202-210, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

NA: Studies on the Change of Frozen Skip-Jack Muscle during Storage," by J. I. Nishimoto, article, Refrigeration, vol. 38, no. 424, February 1963, pp. 1-15, illus., printed. Japanese Association of Refrigeration, Ken- chiku Kaikan Bldg., 3-1 Ginza Nishi, Chuo-ku, Tokyo, Japan.

Tuna Fatty Acids. I--Initial Studies on the Compo- sition of the Light and Dark Meats of Bluefin Tuna (*Thunnus thynnus*) Structural Isomers of the Mono- enoic Fatty Acids; II--Investigations of the Compo- sition of Raw and Processed Domestic Tuna," by W. T. Roubal; articles, Journal of the American Oil Chemists' Society, vol. 40, June 1963, pp. 213-218, printed. American Oil Chemists' Society, 35 E. Wacker Dr., Chicago 1, Ill.

U.S.R. Acclimatization of Fish and of Invertebrates, USSR, by A. F. Karpevich, OTS 63-31455, 28 pp., printed, 75 cents, August 6, 1963. Office of Technical Services, U.S. Department of Commerce, Washington, D.C., 20235.

Advancing International Relations in Fishing Industry, USSR, 8 pp., printed, 50 cents, June 18, 1963. Office of Technical Services, U. S. Department of Commerce, Washington, D. C. 20235.

Basic Factors in the Fluctuations of the Stocks of Stur- geons and Lesser Fishes in the Sea of Azov (Trans-

lated from the Russian, Trudy Soveshchanii Dkhtiol- ogicheskoi Komissii Akademii Nauk SSSR, No. 13, 1961, pp. 147-157). Translation Series No. 414, by E. G. Bolko, 13 pp., illus., processed 1963. Fisheries Re- search Board of Canada, Biological Station, Nanaimo, B. C., Canada.

Fishing Economy, 1960, Vol. 36, No. 7; Selected Trans- lations, OTS 63-21559, 28 pp., printed, 75 cents. (Translated from the Russian Rybnoe Khozyaistvo, vol. 36, no. 7, 1960, pp. 15-43.) Office of Technical Services, U.S. Department of Commerce, Washing- ton, D. C., 20235.

Scientific Research Institute of Mechanization of the Fishing Industry (NIMRP), by P.A. Kuraptsev, OTS- 63-21559, 25 pp., processed, 1963. (Translated from the Russian Rybnoe Khoziaistvo, No. 7, 1960, pp. 15- 18.) Office of Technical Services, U.S. Department of Commerce, Washington, D. C. 20235.

"Soviet Fishing in African Waters," article, Food Technology, vol. 17, p. 61, July 1963, printed. The Garrard Press, 510 N. Hickory, Champaign, Ill.

Translations on Soviet Fishery Research, OTS63-31318, 55 pp., illus., printed, \$1.50, July 8, 1963. Office of Technical Services, U.S. Department of Commerce, Washington, D. C., 20235.

WHALING:

"The Art and Science of Whaling," by Bruce Young, article, Western Fisheries, vol. 66, August 1963, pp. 14-15, 45-58, printed. Roy Wrigley Publications Ltd., 1104 Hornby St., Vancouver 1, B. C., Canada.

"Dynamical Relationships between Variations of the Antarctic Fin Whale Catch and Catcher's Day's Work," by Takeyuki Doi, article, Bulletin of the Japanese Society of Scientific Fisheries, vol. 28, December 1962, pp. 1168-1172, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-ku Tokyo, Japan.

YELLOW PIKE:

"Distribution and Movement of Marked Walleyes in Oneida Lake, New York," by John L. Forney, article, Transactions of the American Fisheries Society, vol. 92, no.1, 1963, pp. 47-52, printed. Secretary, Ameri- can Fisheries Society, P.O. Box 483, McLean, Va.

WHITEFISH:

"Effects of Artificial Propagation and the Weather on Recruitment in the Lake Ontario Whitefish Fishery, by W.J. Christie, article, Journal of the Fisheries Research Board of Canada, vol. 20, no. 3, 1963, pp. 597-646, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.



EMPLOYMENT OUTLOOK FOR OCEANOGRAPHERS

In recent years, the growing realization of the importance of the oceans to the Nation's welfare and security has heightened interest in oceanography and has opened new fields for specialists in the science.

The ocean, which covers more than two-thirds of the earth's surface, supplies food and minerals, influences the climate, provides a medium of transportation, and offers means of recreation. Oceanographers are the scientists who study the ocean in all its aspects--its characteristics, movements, and plants and animals. The results of their studies not only extend basic scientific knowledge, but also contribute to the development of practical methods for use in such operations as charting and forecasting currents, ice conditions, and ocean waves; improving fisheries; and providing defense against enemy attack.

Oceanographers are usually specialists in one of the four main branches of the profession. Biological oceanographers (marine biologists) study the ocean's plant and animal life, which ranges from microscopic plankton to giant squid and whales. Physical oceanographers study the physical aspects of the ocean, such as its density, temperature, and ability to transmit light and sound; and the movement of the sea, such as waves, tides, and currents; and the relationship between the sea and the atmosphere. Geological oceanographers (marine geologists) study the ocean bottom--its topographic features and the rocks and sediments found there. Chemical oceanographers investigate the chemical composition of the ocean waters and bottom, which include at least traces of more than half of the total number of known physical elements.

Employment opportunities for oceanographers are expected to be excellent throughout the 1960's, particularly for those with advanced degrees. Well-trained persons with bachelor's degrees in related sciences and with some formal training in oceanography should also have favorable opportunities, primarily as research assistants and in routine analytical positions.

The outlook is for rapid growth of the small profession, both during the 1960 decade and over the long run.



Oceanographer conducts sea water oxygen analysis aboard ship.

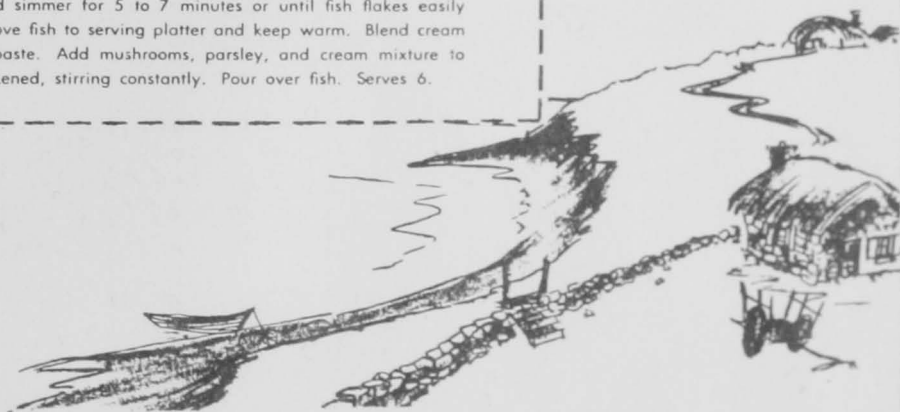
SHANNON SALMON STEAKS



Shannon Salmon Steaks simmered in cider until succulent and topped with a colorful mushroom sauce; here is real eating. Salmon steaks, fresh from cold North Pacific waters, have become a favorite throughout the country. This new recipe, delightful in its simplicity, yet outstanding in its appeal, will aptly awaken average appetites.

- | | |
|--|--|
| 2 pounds salmon steaks or other fish steaks, fresh or frozen | 1/2 cup coffee cream |
| 2 tablespoons butter or margarine | 1 tablespoon flour |
| 1/2 cup cider or apple juice | 1 can (4 ounces) sliced mushrooms, drained |
| 1 teaspoon salt | 2 tablespoons chopped parsley |

Thaw frozen steaks. Melt butter in a large frying pan. Place fish in pan; add cider and salt. Cover pan and simmer for 5 to 7 minutes or until fish flakes easily when tested with a fork. Remove fish to serving platter and keep warm. Blend cream and flour to make a smooth paste. Add mushrooms, parsley, and cream mixture to liquid in pan. Cook until thickened, stirring constantly. Pour over fish. Serves 6.



--From Fisheries Marketing Bulletin: "Protein Treasure from the Seven Seas." Issued by the National Marketing Services Office, U. S. Bureau of Commercial Fisheries, Chicago 5, Ill.