



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. 20402. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS:

- 1 - CURRENT FISHERY STATISTICS OF THE UNITED STATES.
- 2 - FISHERY LEAFLETS.
- 3 - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.
- 4 - FISH - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).

- | Index | Title |
|--------|--|
| 000040 | - Fish Meal and Oil, 1965 Annual Summary, 4 pp. |
| 000048 | - Michigan, Ohio & Wisconsin Landings, February 1966, 3 pp. |
| 000054 | - Virginia Landings, 1965 Annual Summary, 13 pp. |
| 000055 | - Virginia Landings, March 1966, 4 pp. |
| 000058 | - South Carolina Landings, 1965 Annual Summary, 6 pp. |
| 000061 | - Virginia Landings, April 1966, 4 pp. |
| 000064 | - Frozen Fishery Products, May 1966, 8 pp. |
| 000065 | - Louisiana Landings, April 1966, 3 pp. |
| 000069 | - Maryland Landings, 1965 Annual Summary, 12 pp. |
| 000070 | - Alabama Landings, 1965 Annual Summary, 6 pp. |
| 000071 | - Mississippi Landings, March 1966, 2 pp. |
| 000073 | - Rhode Island Landings, February 1966, 3 pp. |
| 000074 | - Alabama Landings, April 1966, 3 pp. |
| 000078 | - Texas Landings, March 1966, 2 pp. |
| 000079 | - Texas Landings, April 1966, 2 pp. |
| 000081 | - Maine Landings, April 1966, 4 pp. |
| 000082 | - North Carolina Landings, May 1966, 4 pp. |
| 000085 | - Gulf Coast Shrimp Data, January 1966, 13 pp. |
| 88 | No. 767 - The Industrial Fisheries of Tomorrow--Charting the Course. |
| 88 | No. 768 - Third Technical Meeting on Fishing Vessels. |
| 88 | No. 769 - Heat Inactivation of Thiaminase in Whole Fish. |
| 88 | No. 770 - Argentina--Tuna Fisheries, 1960-1964. |
| 88 | 81 - <u>List of Fishermen's and Fish Shore Workers' Organizations in the United States</u> , 4 pp., June 1966. The |

list was originally compiled in February 1948, with the latest revision made in December 1965. It may not be complete because of changes taking place among fishery unions, new unions or branches being formed, or changes in affiliations.

FL-589 - The Shrimp and the Shrimp Fishery of the Southern United States, by William W. Anderson, 8 pp., revised 1966.

SSR-Fish. No. 529 - The Bureau of Commercial Fisheries Type IV Electrofishing Shocker--Its Characteristics and Operation, by Benjamin G. Patten and Charles C. Gillaspie, 18 pp., illus., April 1966.

Annual Report of the Bureau of Commercial Fisheries Biological Laboratory, Beaufort, N.C., for the Fiscal Year Ending June 30, 1965, Circular 240, 43 pp., illus., March 1966. Contains accounts of the work accomplished during FY 1965, including the Laboratory Director's report covering research highlights, and participation in the Atlantic States Marine Fisheries Commission, training programs, and work conferences. Presents information on research programs conducted by the laboratory including blue crab and menhaden; and studies on shad and striped bass under the laboratory's Anadromous Fisheries Program. Also includes summaries of library activities, seminars presented, meetings attended, and publications by staff members.

Commercial Clams of the North American Pacific Coast, by Murray H. Amos, Circular 237, 21 pp., illus., April 1966. Discusses the habitat, anatomic features, reproduction, propagation, harvesting, and the principal species of commercial clams of the Pacific Coast. Also discusses sanitary control and clam fishery regulations.

Report of the Bureau of Commercial Fisheries Biological Station, St. Petersburg Beach, Florida--Fiscal Years 1962-1964, by James E. Sykes, Circular 239, 26 pp., illus., April 1966. Discusses the estuarine research program--the biological, chemical, and physical environment of the estuary, and the conditions that promote the production of commercially valuable organisms. Also discusses the work accomplished by the laboratory on the red tide program. The principal aims of this program are to conduct research leading to an understanding of the combination of hydrological factors that are responsible for the blooms of *G. breve* and to propose and test methods which promise to reduce the lethal effect on marine animals.

THIS ENGLISH TRANSLATION OF A FOREIGN LANGUAGE ARTICLE IS AVAILABLE FROM THE U. S. BUREAU OF COMMERCIAL FISHERIES, P. O. BOX 3830, HONOLULU, HAWAII 96812.

A Study of the Sounds Produced by Sardines and Tuna, by G. F. Timofeev, AtlantNIRO. (Translated by Alberta Freidus from Russian, *Rybnoe Khoziaistvo*, vol. 41, July 25-27, 1965, pp. 1-5, illus.)

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

California Fishery Market News Monthly Summary, Part I - Fishery Products Production and Market Data, June 1966, 15 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif. 90731.) California cannery receipts of tuna and tunalike fish and other species used for canning; pack of canned tuna, tunalike fish, mackerel, and anchovies; market fish receipts at San Pedro, Santa Monica, and Eureka areas; California and Arizona imports; imported frozen fish and shellfish prices; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; prices for fish meal, oil, and solubles; for the month indicated.

California Fishery Market News Monthly Summary, Part II - Fishing Information, June 1966, 14 pp., illus. (U. S. Bureau of Commercial Fisheries, Tuna Resources Laboratory, P. O. Box 271, La Jolla, Calif. 92038.) Contains sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists; for the month indicated.

Gulf Fisheries (Selected Areas) - 1965, by E. J. Barry, 39 pp., illus., July 1966. (Market News Service, U. S. Fish and Wildlife Service, 600 South St., New Orleans, La. 70130.) Summarizes the commercial landings of fish and shellfish for selected areas of the Gulf States of Florida (West Coast), Alabama, Mississippi, Louisiana, and Texas. The tables show landings for only the specific areas designated and cannot be interpreted as representing the total landings for a given State. However, the data do give an indication of general trends. Part I reports on developments and conditions in Gulf Coast fisheries during 1965 and gives a resumé of the individual fisheries. Discusses the shrimp fishery in detail; production and market conditions for the oyster, blue crab, and finfish fisheries; as well as imports of fresh and frozen fish and shellfish. Part II includes statistical tables showing total fishery landings by area; crab-meat production by areas and months; and menhaden landings, and production of fish meal, oil, and solubles. It also gives data on fishery imports through Miami, Fla.; Mobile, Ala.; Port Isabel and Brownsville, Tex.; Morgan City, La.; New Orleans, La. Customs District; and Houston, Tex.; and LCL express shipments from New Orleans for 1965 by months and destination. Also included are tables showing monthly range of wholesale prices of fishery products on the New Orleans French Market; Gulf States oyster and shrimp packs, and fishery products market classification in the Gulf Area.

(Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, June 1966, 9 pp. (Market News Service, U. S. Fish and Wildlife Service, 706 Federal Office Bldg., 909 First Ave., Seattle, Wash. 98104.) Includes landings by the halibut fleet reported by the Seattle Halibut Exchange; salmon

landings reported by primary receivers; landings of halibut reported by the International Pacific Halibut Commission; landings of otter-trawl receipts reported by the Fishermen's Marketing Association of Washington; local landings by independent vessel coastwise shipments from Alaska by scheduled and nonscheduled shipping lines and airways; imports from British Columbia via rail, motor truck, shipping lines, and ex-vessel landings; and imports from other countries through Washington customs districts for the month indicated.

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

The Progressive Fish Culturist, vol. 28, no. 3, July 1966, pp. 123-184, illus., processed, single copy 25 cents. Some of the articles are: "Effect of type of supplemental dietary fat on chinook salmon fingerlings," by Laurie G. Fowler and Edward M. Wood; "Growth of a blue X channel catfish hybrid as compared to its parent species," by John J. Giudice; "Effects of apholate, an insect sterilant, on an estuarine fish, shrimp, and gastropod," by Ronald Eisler; "Production of striped bass fingerlings," by James C. Anderson; "A water recirculation unit for use in fish laboratories," by Hugh R. McCrimmon and Alfred Berst; "A simple apparatus for the incubation of salmonid embryos at controlled levels of temperature, water flow, and dissolved oxygen," by John C. Mason and James L. Fessler; "Design and use of a miniature purse seine," by John R. Hunter, Donald Aasted, and Charles T. Mitchell; and "A floating fish laboratory for estuarine fish toxicity studies," by Charles D. Ziebell.

MISCELLANEOUS PUBLICATIONS

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

ALGAE:

"Gas exchange of algae," by Elizabeth C. B. Ammann and Victoria H. Lynch, article, Applied Microbiology, vol. 13, July 1965, pp. 546-551, printed. Applied Microbiology, Williams & Wilkins Co., 428 E. Preston St., Baltimore, Md. 21202.

AMINO ACIDS:

"Free Amino Acids in the Blood of Common Carp (*Cyprinus carpio*)," by Y. Creach and A. Serfaty, article, Chemical Abstracts, vol. 62, Feb. 1, 1965, Abstract No. 3123f, printed. American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.

ANCHOVY:

Synopsis of Biological Data on Anchovy, ENGRAULIS ENCRASICOLUS (Linnaeus) 1758 (Mediterranean and adjacent seas), by N. Demir, FAO Fisheries Synopsis No. 26 Revision 1, 47 pp., illus., processed, Nov. 1965, distribution restricted. Food and Agriculture Organization, Via delle Terme di Caracalla Rome, Italy.

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

AUSTRALIA:

Fisheries, Australia, Statistical Bulletin: No. 11-1964-
1965, 62 pp., illus., processed, July 1966. Common-
wealth Bureau of Census and Statistics, Canberra,
Australia. Reports 1964/65 fiscal year statistics
of Australia's marine and fresh-water fisheries.
Includes all commercial production of both marine
and fresh-water fishery products. Included are data
on vessels and equipment, persons engaged, produc-
tion and gross value, consumption, and foreign trade.

BAA:

"Key for the marine fisherman--from clams to
cod, what the fisherman can put on the hook to get
results," by Irwin M. Alperin, article, The Conserva-
tionist, vol. 20, no. 5, April-May 1966, pp. 21-29,
illus., printed, 50 cents a copy. The Conserva-
tionist, New York State Conservation Department,
Room 324, State Office Campus, Albany, N. Y. 12226.

BIOCHEMISTRY:

Available from American Chemical Society, 1155 16th
N.W., Washington, D. C. 20006:

"Deoxyribonucleases in tissues of marine origin,"
by John G. Georgatos and O. Antonoglou, article,
Chemical Abstracts, vol. 62, Jan. 4, 1965, Abstract
No. 7765a, printed.

"Deoxyribonucleic acids of crustacea," by Michael
L. Smith, article, Chemical Abstracts, vol. 61, Oct. 26,
1965, Abstract No. 11067d, printed.

"Radiochemical characterization of cells rich in sialic
acid found in the pars distalis of the hypophysis of
the carp, Cyprinus carpio," by Claude Leray, article
Chemical Abstracts, vol. 62, May 24, 1965, Abstract
No. 13553d, printed.

"Trypsin aminopeptidase activity in mesenteric mast
cells of the carp," by A. Stolk, article, Chemical
Abstracts, vol. 61, Nov. 9, 1964, Abstract No. 12375b,
printed.

"Rapid measurement of inosine monophosphate and
total adenosine nucleotides in fish tissue," by John
C. Minelli and Barbara Kemp, article, Journal of Ag-
cultural and Food Chemistry, vol. 14, Mar.-Apr.
1966, pp. 176-181, printed.

"The structure of the emulsifiers in gastric juice
from the crab, Cancer pagurus L.," by André Van
der Oord, Henry Danielsson, and R. Ryhage, article,
Journal of Biological Chemistry, vol. 240, May 1965,
pp. 2242-2247, printed. American Society of Biolog-
ical Chemists, Inc., 428 E. Preston St., Baltimore,
Md. 21202.

BZIL:

"Alguns aspectos sobre a biologia e a pesca do
amarrão "rosa" da Região Centro-Sul do Brasil"
Some observations on the biology and fishery for
"red" shrimp of the South-Central Region of Brazil),
by G. De S. Neiva, article, Revista Nacional da
Pesca, vol. VII, no. 52, June 1966, pp. 9-12, illus.,
printed in Portuguese. Revista Nacional da Pesca,
Rua Xavier de Toledo 210, São Paulo, Brasil.

BRITISH GUIANA:

"The Sciaenid fishes of British Guiana," by Rosemary
H. Lowe (McConnell), article, Bulletin of Marine
Science, vol. 16, no. 1, March 1966, pp. 20-57,
illus., printed, single issue \$3.50. Institute of
Marine Science, University of Miami, Virginia Key,
Miami, Fla. 33149. (Sold by University of Miami
Press, Coral Gables, Florida.) Twenty-five species
of croaker were collected in British Guiana, with
many commercially very important as food. This
paper gives a field key for their identification, as
well as records what is known about their natural
history.

CANADA:

"The Atlantic salmon in Greenland waters," by Dr. Paul
M. Hansen, article, The Atlantic Salmon Journal,
Spring 1966, pp. 3, 4, 5, 6, 35, 36, illus., printed. The
Atlantic Salmon Association, Inc. 1559 McGregor
St., Montreal 25, Canada.

Printed in French and English. Industry Division,
Dominion Bureau of Statistics, Ottawa, Canada.
(Sold by Queen's Printer and Controller of Station-
ery, Ottawa, Canada.)

Fisheries Statistics, Alberta and Northwest Terri-
teries, 1964 (La Statistique des Pêches, Alberta et
Territoires du Nord-Ouest), Catalogue No. 24-212,
13 pp., 1966, C\$0.50.

Fisheries Statistics, Quebec, 1964 (La Statistique des
Pêches, Québec, 1964), Catalogue No. 24-206, 32
pp., May 1966, C\$0.50.

Fisheries Statistics, Prince Edward Island, 1964,
Catalogue No. 24-203, 23 pp., April 1966, C\$0.50.

Population Dynamics of the Petrale Sole (EOPSETTA/
JORDANI) in Waters of Western Canada, by K. S.
Ketchen and C. R. Forrester, Bulletin no. 153, 195
pp., illus., printed, C\$3.75. Fisheries Research
Board of Canada, Ottawa. (Sold by Queen's Printer,
Ottawa, Canada.)

Quelques Données sur la Biologie de L'éperlan,
OSMERUS EPELANUS MORDAX (Mitchill) du
Saint-Laurent, (Some Data on the Biology of the
Smelt of the St. Lawrence), by Etienne Magnin and
Gérard Beaulieu, Travaux sur les Pêcheries du
Québec, no. 9, pp. 81-105, illus., printed in French,
1965. Direction des Pêcheries, Ministère de l'In-
dustrie et du Commerce, Québec, Canada.

Journal of the Fisheries Research Board of Canada,
printed, single issue Canada, Mexico, and U. S.
C\$1, other countries C\$1.25. Fisheries Research
Board of Canada, Sir Charles Tupper Bldg., Ottawa
8, Canada. (Sold by Queen's Printer, Ottawa, Can-
ada.) Selected articles.

Vol. 22 (1965), no. 4 (April): "Time-Lapse Photog-
raphy of an ASDIC Echo-Sounder PPI-Scope as a
Technique for Recording Fish Movements During
Migration," by C. Groot and W. L. Wiley, pp. 1025-
1034, illus.

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

- Vol. 22 (1965), no. 6 (June): "Supplementary Checks on the Scales of Pink Salmon (*Oncorhynchus gorbuscha*) and Chum Salmon (*O. Keta*)," by H. T. Bilton and W. E. Ricker, pp. 1477-1489, illus.
- Vol. 21 (1964), no. 5 (May): "A Key to Five Species of Pacific Salmon (Genus *Oncorhynchus*) Based on Scale Characters," by H. T. Bilton, D. W. Jenkinson and M. P. Shepard, pp. 1267-1288, illus. "Preliminary Results of Studies on Growth and Mortality of Pacific Cod (*Gadus macrocephalus*) in Hecate Strait, British Columbia," by K. S. Ketchen, pp. 1051-1067, illus. "Growth Rate of Central British Columbia Pink Salmon (*Oncorhynchus gorbuscha*)," by R. J. LeBrasseur and R. R. Parker, pp. 1101-1128, illus. "A Model for Simulation of the Population Biology of Pacific Salmon," by P. A. Larkin and A. S. Hours-ton, pp. 1245-1265, illus. "Preliminary Observations on the Vertical Distribution of Pacific Salmon (Genus *Oncorhynchus*) in the Gulf of Alaska," by J. I. Manzer, pp. 891-903, illus.
- Vol. 21 (1964), no. 6 (June): "Growth, Reproduction, and Distribution of Pandalid Shrimps in British Columbia," by T. H. Butler, pp. 1403-1452, illus.
- Vol. 23 (1966), no. 5 (May): "Sexual maturity and spawning of the American plaice, *Hippoglossoides platessoides* (Fabricius) from Newfoundland and Grand Banks areas," by T. K. Pitt, pp. 651-672; "Free drip, flesh pH, and chalkiness in halibut," by N. Tomlinson, S. E. Geiger, and E. Dollinger, pp. 673-680; "Pilot plant fractionation of marine oils methyl esters," by Peter M. Jangaard, pp. 681-687; "Partial freezing as a means of preserving various species of groundfish," by S. W. Roach, N. Tomlinson, S. E. Geiger, and E. Dollinger, pp. 701-713; "Change in size-class structure of populations of Kodiak Island commercial male king crabs due to fishing," by Richard B. Nickerson, Frank J. Ossiander, and Guy C. Powell, pp. 729-736; "Number of circuli and time annulus formation on scales of pink salmon (*Oncorhynchus gorbuscha*)," by Roger E. Pearson, pp. 747-756; "Analysis of an aerial census of ringed seals," by I. A. McLaren, pp. 769-773; "Some equilibrium moisture values of fresh and salt cod," by D. L. Cooper and T. C. Noel, pp. 775-778.
- Vol. 23 (1966), no. 6 (June): "Biological characteristics of a herring population on the south coast of Newfoundland," by R. D. Humphreys, pp. 797-804; "Food and growth of fishes. II. Effects of food and temperature on the relation between metabolism and body weight," by J. E. Paloheimo and L. M. Dickie, pp. 869-908; "Vitamins B in dulse (*Rhododymenia palmata*)," by Akio Kanazawa, Akira Saito, and D. R. Idler, pp. 915-916; "Evidence for the binding of oil in salmon canned after storage in ice or in a partially frozen condition," by E. Bilinski, G. Lang, and N. Tomlinson, pp. 917-919; "Nucleotide interference with glycogen estimation in white and red muscle of cod," by Doris I. Frazer, E. Lo, and W. J. Dyer, pp. 921-924; "Influence of fishing methods on the incidence of chalkiness in halibut," by N. Tomlinson, S. E. Geiger, and E. Dollinger, pp. 925-928; "Characteristics of scales from pink salmon (*Oncorhynchus gorbuscha*) transplanted from the Glendale River in central British Columbia to the North Harbour River in Newfoundland," by H. T. Bilton, pp. 939-940.
- Vol. 23 (1966), no. 7 (July): "Some commercial Atlantic herring oils; fatty acid composition," by R. Ackman and C. A. Eaton, pp. 991-1006; "Lipids of cod muscle and the effect of frozen storage," by E. G. Blich and Margaret A. Scott, pp. 1025-1036; "Ocean migration and distribution of fin-marked coho salmon," by George H. Allen, pp. 1043-1061; "Taste panel assessment of cod fillets after single and double freezing," by W. A. MacCallum, E. J. Laishley, W. J. Dyer, and D. R. Idler, pp. 1063-1081; "Deck sampling of research vessel catches," by A. W. May and V. M. Hodder, pp. 1083-1088; "A portable press for making impressions of salmon scales," by D. W. Jenkinson and K. Sutherland, pp. 1089-1093.
- Vol. 23 (1966), no. 1 (January): "Underwater observations on fish in an off-bottom trawl," by William L. High and Larry D. Lusz, pp. 153-154.
- CATFISH:**
"Missouri river channel cats," by Thomas R. Russell, article, *The Conservationist*, vol. 27, no. 7, July 1966, pp. 4-5, illus. printed. Missouri Department of Conservation, North 10-Mile Drive, Jefferson City, Mo. 65102.
- CHESAPEAKE BAY:**
Chesapeake Science, vol. 7, no. 2, June 1966, pp. 59-115, illus., printed, single copy 75 cents. Natural Resources Institute, University of Maryland, Chesapeake Biological Laboratory, Solomons, Md. 20688. Includes, among others, these articles: "Food habit and distribution of the fishes of Tuckahoe Creek, Virginia, with special emphasis on the bluegill, *Lepomis M. macrochirus Rafinesque*," by David A. Flemer and William S. Woolcott; "Effects of acute gamma irradiation on the blood constituents of pinfish, *Lagodon rhomboides*," by David W. Engel, Joseph W. Angelovic, and Edna M. Davis; "Notes on the biology of the sea nettle, *Chrysaora quinquecirrha* in Chesapeake Bay," by David G. Cargo and Leonard P. Schultz; "The mountain stripback darter, *Percina notogramma montuosa*, n. ssp. from upper James River, Virginia," by William T. Hogarth and William S. Woolcott; "Feeding of naturally occurring toxic oysters, *Crassostrea virginica*, to chicks"; "A comment on the origin of the fourth fold in the mantle of the quahog, *Mercenaria mercenaria*."
- CLAMS AND CUTTLEFISH:**
"Composition and flavor of clams and cuttlefish," by Shigezo Udo and Tadashi Sato, article, *Chemical Abstracts*, vol. 62, Mar. 15, 1966, Abstract No. 7035E, printed. American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.
- CRABS:**
"Partitioning of the estuarine environment by two species of *Cancer*," by H. Perry Jeffries, article, *Ecology*, vol. 27, no. 3, Late Spring 1966, pp. 477-481, illus., printed. Ecological Society of America, 6697 College Station, Durham, N. C. 27708.
- DENMARK:**
Bulletin Statistique des Pêches Maritimes (Marine Fisheries Statistical Bulletin), vol. XLVIII, 1963, 67

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

Printed in English. January 1966, Kr. 25.00 (about US\$3.61). Conseil Permanent International pour l'Exploration de la Mer, Charlottenlund Slot, Denmark. This publication provides these general statistical tables: total value and quantity of the sea fisheries in the different countries; quantity and value of fish landed by all countries 1963; special tables: quantity of fish landed by some countries in 1963 for which data concerning the fishing activity (effort) in 1963 are available; percentages of the quantity of the different species caught in the North Sea by trawl, Danish seine, line and other gears respectively 1963; monthly tables: monthly quantities landed from the North Sea 1963; monthly catch on the herring fisheries 1963.

ECUADOR:

Aspecto e Informaciones Sobre la Situacion de la Produccion Pesquera Ecuatoriana y Sus Mercados (Information on the Situation of Ecuadorean Fishery Production and Its Markets), by Domingo Quiroga and Arnibal Orbes Armas, Boletin Informativo, vol. 1, no. 3, 1964, 31 pp., printed in Spanish. Instituto Nacional de Pesca del Ecuador, Guayaquil, Ecuador.

FLORIDA:

Nearly development of the spotted worm eel *Urophis punctatus* Lütken (Ophichthidae), by Bonny M. Childred, Immature Vertebrates Leaflet Series, no. 4, part 1 (Pisces), no. 1, May 1, 1966, 13 pp., illus., processed. Florida Board of Conservation, Marine Laboratory, Bayboro Harbor, St. Petersburg, Fla.

EL SALVADOR:

Foreign Trade Regulations of El Salvador, Overseas Business Reports, OBR 66-17, 8 pp., printed, Apr. 1966, 15 cents. Bureau of International Commerce, Department of Commerce, Washington, D. C. (For sale by Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, and by Department of Commerce offices in principal cities in the United States.)

FLORIDA:

Final section of *Panulirus argus*, by Jean M. Hamms, Invertebrate Fauna Leaflet Series, vol. 3, no. 1, Sept. 1, 1966, 4 pp., illus., processed. Florida Board of Conservation, Marine Laboratory, Bayboro Harbor, St. Petersburg, Fla.

FINLAND:

Ändringar hos Fiskmuskelproteiner vid Nedfrysning och deras Inhibering med Hjälp av Fosfater (Research on the reaction mechanism with tracer technique) -- Changes in Fish Proteins in Freezing and Their Inhibition with Phosphates (Research on the reaction mechanism with tracer technique), by P. P. P. Kuusi, Olavi E. Nikkilä, and Riitta Kytökanen, Sarja IV -- Kemia 78, 1965, 11 pp., illus., printed in Finnish with English summary. Valtion Teknillinen Tutkimuslaitos, The State Institute for Technical Research, Helsinki, Finland.

FISHERY BIOLOGY:

The Dynamics of Exploited Fish Populations, by R. H. Beverton and S. J. Holt, Fishery Investigations Series II, vol. XIX, 533 pp., illus., printed, 1957, US\$25.00. Sales Section, British Information Council, 845 Third Avenue, New York, N. Y. 10022.

More and more nations are turning to the sea for food and industrial products. As a result, harvesting of the sea's resources has been intensified. This means that in order to conserve those resources for maximum sustainable yield for this generation and those that are to follow, it will be necessary to solve the many problems of regulation. The authors of this book point out that there are solutions to problems of fishery regulation provided the right data are available. If the data are not available, this book shows what data are needed. Mathematics is, of course, the basis for many of the methods advocated by the authors, but they have written for non-mathematicians by explaining fully and illustrating generously. Although directly relevant to the better use of the stocks of fish in the North Sea, the book is not written on so narrow a basis, but as a guide in conservation problems over a larger field. Part I deals with fundamentals of the theory of fishing, illustrated by analysis of a trawl fishery. Some extensions of the simple theory of fishing are covered in Part II. Explained in this part are recruitment and egg-production; natural mortality; fishing mortality and effort; growth and feeding; spatial variation in the values of parameters; and mixed populations. Part III explains estimation of parameters. Part IV discusses the use of theoretical models in a study of the dynamics and reaction to exploitation of fish populations. Included in Part IV are: principles and methods of fishery regulation; attainment of the objectives of optimum fishing; and the regulation of an international fishery. The appendices contain tables; list of symbols and their definitions; and derivations of indices of total European fishing effort on North Sea plaice and haddock during the prewar period. The book concludes with a bibliography and author index, and a good subject index. Although published in 1957, it is still available and should be a basic reference for biologists, scientists, and fishery administrators dealing with prediction of fishery resources in the high-seas and the regulation of fisheries exploited by several nations.

--J. Pileggi

FISHERY RESEARCH:

An Annotated Listing of the Fish Reference Collection at the Florida Board of Conservation Marine Laboratory, by Martin A. Moe, Jr., and others, Special Scientific Report No. 10 (Contribution No. 99), 121 pp., processed, May 1966. Florida Board of Conservation, Marine Laboratory, Maritime Base, Bayboro Harbor, St. Petersburg, Fla.

FISH FARMING:

Warm-Water Ponds for Fishing, by W. W. Neely, Verne E. Davison, and Lawrence V. Compton, Farmers' Bulletin 2210, 16 pp., illus., printed, May 1965, 10 cents. U. S. Department of Agriculture, Washington, D. C. (For sale by Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) A pond that provides good fishing is a profitable and pleasant feature of a farm or ranch. This bulletin is specific only for "warm-water" ponds--not for "cool-water" or "cold-water" ponds. It points out the importance of site, erosion control, proper stocking, adequate fertility, and weed control. It explains how to manage a warm-water pond for profitable fishing.

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

FISH MEAL:

"Analysis of lipids in fish meal," by Paul F. Parks and Mildred Hummel, article, Journal of the Association of Official Agricultural Chemists, vol. 48, Aug. 1965, pp. 781-785, printed. Association of Official Agricultural Chemists, Inc., Box 540, Benjamin Franklin Station, Washington, D. C. 20004.

FISH PROTEIN CONCENTRATE:

"Fish: new frontier for chemicals?" article, Chemical Week, vol. 99, no. 1, July 2, 1966, pp. 19-20, illus., printed, single copy \$0.50. McGraw-Hill, Inc., 330 W. 42nd St., New York, N. Y. 10036. Chemical Week, P. O. Box 430, Hightstown, New Jersey 08520.

FOOD AND AGRICULTURE ORGANIZATION:

Available from Food and Agriculture Organization, Via delle Terme di Caracalla, Rome, Italy:

Report of the FAO Symposium on the Significance of Fundamental Research in the Utilization of Fish (Husum, Federal Republic of Germany, 26-30 May 1964), FAO Fisheries Reports, No. 19, 55 pp., processed, 1965. This is a report of the symposium hosted by the Federal Republic of Germany and held from May 26-30, 1964, in Husum. This meeting was held to assist industries concerned with fish distribution and processing. Session reports cover: Rigor mortis; problems related to the preservation of fresh fish; production and storage of fish protein concentrate; and others. Summaries include: From the viewpoint of fundamental research, applied research, and the fishing industry.

Report on the Effects of Fishing on the Peruvian Stock of Anchovy, by L. K. Boerema, G. Saetersdal, I. Tsukayama, J. E. Valdivia, and B. Alegre, FAO Fisheries Technical Paper No. 55, 47 pp., illus., processed, Dec. 1965, distribution restricted. Presents a summary of biological information available; analyses of length, catch, effort, and catch per unit of effort; estimates of mortality. Discusses conclusions and gives recommendations.

FRANCE:

"La pêche Française en 1965 - L'an dernier, les apports de poisson frais ont atteint le chiffre de 401,000 t" (French fisheries in 1965--last year the landings of fresh fish totaled 401,000 tons), La Pêche Maritime, vol. 45, no. 1059, June 1966, pp. 455-464, illus., printed in French. La Pêche Maritime, 190 Boulevard Haussmann, Paris 8e, France.

GEAR:

"For precision fishing: depth telemetry," article, Fishing Gazette, vol. 82, Nov. 19, 1965, pp. 19, 29, printed. Fishing Gazette Publishing Corp; 462 Eighth Ave., New York, N. Y. 10001.

GERMANY, EAST:

"Über die artselektivität beim elektrischen fischfang" (Species selection in electric fishing), by J. Libosvářský and A. Lelek, article, Zeitschrift für Fischerei und deren Hilfswissenschaften, vol. 13, no. 3-4, November 1965, pp. 291-301, printed in German with English and Russian summaries. Neumann Verlag, Dr.-Schmincke-Allee 19, Radebeul 1, East Germany.

HONG KONG:

Annual Departmental Reports, 1964-65, 121 pp., printed. Director of Agriculture and Fisheries, Hong Kong. (S. Young, Government Printer at the Government Press, Java Road, Hong Kong.) There is a section on the fisheries service which discusses the fishing fleet, fish marketing organization, credit facilities for fishermen, co-operative societies, the fisheries division, and the fisheries research station.

ILLINOIS:

Man's Effect on the Fish and Wildlife of the Illinois River, by Harlow B. Mills, William C. Starrett, and Frank C. Bellrose, Biological Notes No. 57, 24 pp., illus., printed, June 1966. Illinois Department of Registration and Education, Natural History Survey Division, Natural Resources Bldg., Urbana, Ill. 618

INDIA:

Annual Report of the Department of Fisheries, 1963-64, 64 pp., illus., printed, November 1964. Director of Fisheries, Maharashtra State, Bombay, India. The report presents the progress of the fishing industry in the State of Maharashtra during 1963-64. Along with the incentives and facilities provided in the field of production, it also describes the measures adopted by the Government in financing the industry, improving the preservation, transport, and marketing facilities; training of "fisher-youths" and for the amelioration of the socio-economic condition of the fishing community.

Indian Journal of Fisheries, vol. IX, section A, no. 1, October 1962, pp. 434-869, illus., printed, single copy 8 rupees net (US\$1.70). Ministry of Food and Agriculture of Government of India, New Delhi, India. Includes articles on: "Observations on the fishery and biology of the fresh-water prawn Macrobrachium malcolmsonii, Milne Edwards of River Godavari," by K. H. Ibrahim, pp. 433-467; "Observations on the size groups of Penaeus indicus (Milne Edwards) in the commercial catches of different nets from the backwaters of Cochin," by M. J. George, pp. 468-475; "Examination of the efficiency of mackerel fishing," by S. K. Banerji and D. Chakraborty, pp. 499-505; "A method for estimating trawler catches," by M. D. K. Kuthalingam, pp. 506-511; "On the mackerel fishery of the Mangalore area during the period 1957-61," by V. Ramamohana Rao, K. V. Sekharan and M. J. Pradhan, pp. 653-678; "On the oil sardine fishery of the Calicut area during the years 1955-56 to 1958-59," by K. V. Sekharan, pp. 679-707; "Physico-chemical and biological conditions in selected paddy fields in Orissa with special reference to fish culture," by G. N. Saha and K. V. Ramakrishna, pp. 728-737; "Government of India Central Marine Fisheries Research Institute, Marine Fisheries, P. O., Mandapam Camp, South India (Annual Report of the Director for the year ending 31st March 1962), pp. 746-822; "Government of India Annual report of the Central Inland Fisheries Research Institute, Bangalore, for the year ending 31st March 1962," pp. 823-869.

Seafood Trade Journal, vol. 1, no. 5, May 1966, 46 pp., illus., printed in English. The Seafood Canners' and Freezers' Association of India, Cochin, India. Includes articles on: "Fishing industry and the plan," pp. 5-8; "The Indian shrimp industry (an apprecia-

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

its progress)" pp. 9-10; "India's fourth five year plan" (Provision for development of fisheries - Annual plan for 1966-67 envisages outlay of Rs. 11,00,000 - Kerala to spend the highest) pp. 13, 14, 17, 19, 21.

INTERNATIONAL COMMISSION FOR THE NORTH-ATLANTIC FISHERIES:

Environmental Symposium (Held in the Headquarters of FAO, Rome, 1964), Special Publication No. 20, 92 pp., illus., with Corrigenda (pp. 611-623), printed, 1965. International Commission for the Northwest Atlantic Fisheries, Dartmouth, Nova Scotia, Canada.

INTERNATIONAL NORTH PACIFIC FISHERIES COMMISSION:

Annual Report from International North Pacific Fisheries Commission, 6640 Northwest Marine Dr., Vancouver 8, B.C., Canada.

Annual Report 1964, 130 pp., illus., printed, 1966.

Salmon of the North Pacific Ocean, Part V, Offshore

Distribution of Salmon, by J. I. Manzer, T. Ishida, A. Peterson, and M. G. Hanava, Bulletin No. 15, 44 pp., illus., printed 1965. Describes the offshore distribution of salmon as determined from information obtained from research vessel operations and records of commercial fishing vessels.

INTERNATIONAL PACIFIC HALIBUT COMMISSION:

Pacific Halibut Fishery Regulations (Effective March 22, 1966), 11 pp., illus., printed 1966. International Pacific Halibut Commission, Fisheries Hall No. 2, University of Washington, Seattle, Wash. 98105.

IRRADIATION PRESERVATION:

"Being irradiation aboard vessels nearing reality," by Edward B. Harrison, article, National Maine Coast Fisherman, vol. 46, Sept. 1965, pp. 4, 16, printed. National Maine Coast Fisherman, 22 Main St., Cambridge, Me. 04843.

"Using ionizing radiation for preserving fish products," by M. S. Bidenko, article, Chemical Abstracts, vol. 60, 1965, Abstract No. 6239g, printed. American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.

"Development of the frozen food industry in Italy," by Walter Pichel, article, ASHRAE Journal, vol. 8, 1966, pp. 80-81, printed. American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 345 East 47th St., New York, N. Y.

Fisheries and Agriculture Production Statistics for Japan, 311 pp., illus., printed in Japanese, February 1966, 1,500 yen (US\$4.20), postage extra. Statistical Research Division, Agriculture-Forestry Economics Bureau, Ministry of Agriculture and Forestry, 1-1, Kasumigasaki, Chiyoda-ku, Tokyo. (Sold by Agriculture-Forestry Statistical Association (Norin Kyokai), Otori Building, 460-banchi, 2-chome, Meguro-ku, Tokyo, Japan. Annual statistical bulletin on fisheries published by Japan-

ese Government, showing production trends by fisheries, species, prefectures, and value; numbers of fisheries management units, fishermen and fishing craft, etc.

Fisheries Statistics of Japan 1964, 55 pp., illus., printed in English, March 1966, Statistics and Survey Division, Ministry of Agriculture and Forestry, 1, 2 Cho-Me, Kasumigaseki, Chiyoda-Ward, Tokyo, Japan. This is the second in the series of new publications issued especially for foreigners. It gives detailed data on Japan's 1964 fish catch; production of products, imports and exports, costs and earnings, and other economic data of the fishing industry. Some tables give comparative data for 1963, the first year for which this series of publications was issued. Included also are appendices giving the classifications of types of fisheries and groups of fishes, and illustrations of the species of fish, shellfish, marine mammals, and other aquatic plants and animals taken by Japanese fishermen. Species illustrations show the English, Japanese, and scientific names.

The Salmon Resources and Salmon Fisheries Around the Pacific Ocean, by Kisaburo Taguchi, 390 pp., illus., printed in Japanese, January 1966; 2,800 yen (US\$7.80), postage extra. Koseisha Koseikaku, 8-banchi, Sanei-cho, Shinjuku, Tokyo, Japan.

The Tohoku Journal of Agricultural Research, vol. 16, no. 2, September 1965, pp. 93-157, illus., printed. Library, Faculty of Agriculture, Tohoku University, Sendai, Japan. Contains, among others, articles on: "Agarose and agaropeptin in Gelidium- and Gracilaria-agar," by Yasuhiko Tsuchiya and Kap Chun Hong; and "Presence of 17 β -hydroxysteroid dehydrogenase activity in the tissues of maturing oysters," by Katsuyoshi Mori, Hideo Tamate, and Takeo Imai.

KUWAIT:

"Kuwait - One year after," article, World Fishing, vol. 15, no. 5, May 1966, pp. 50-51, illus., printed, single issue 3s. 6d. (US\$0.50). Grampian Press Ltd., The Tower, 229-243 Shepherds Bush Road, Hammersmith, London W.6, England. Over the past year or so, considerable attention has been given to the fisheries of the Middle East by European operators: one venture which immediately springs to mind is that being undertaken by Britain's Ross Group in the Persian Gulf. This is a progress report on the shrimp fleet built in Norway in 1965 for Kuwait.

LAKE ERIE:

"The dying lake," by Barbara Tufty, article, Science News, vol. 90, no. 1, July 2, 1966, pp. 10-11, printed, single copy 15 cents. Science Service, Inc., 1719 N St. NW., Washington, D. C. 20036. The reference is to Lake Erie and describes the plight of that lake because of the industrial pollution flowing into it.

MARINE BIOLOGY:

"The temperature tolerances of three species of marine fishes," by James G. Hoff and James R. Westman, article, Journal of Marine Research, vol. 24, no. 2, May 15, 1966, pp. 131-140, illus., printed. Sears Foundation for Marine Research, Bingham Oceanographic Laboratory, Yale University, New Haven, Conn. 06520.

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

"Unit responses from commissural fibers of optic lobes of fish," by John M. Dietschy and Norman W. Carter, article, Science, vol. 152, no. 3723, May 6, 1966, pp. 797-799, illus., printed. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington, D. C. 20005.

MUSSELS:

"Mussels' swift yield, large supply offer great potential for freezing," by Cyrus Adler, article, Quick Frozen Foods, vol. XXVIII, no. 11, June 1966, pp. 123-124, 126-127, illus., printed. E. W. Williams Publications, Inc., Division of Cannery Publishing Co., 1776 Broadway, New York, N. Y. 10019.

NEW ZEALAND:

"Experiments with escape gaps in crayfish pots," by R. J. Street, pp. 10-11; "Smoked fish sausage," p. 27, articles, Commercial Fishing, vol. 4, no. 9, May 1966, illus., printed. Trade Publications Ltd., 26 Albert Street, Auckland, New Zealand.

NORWAY:

Articles from Fiskets Gang, illus., printed in Norwegian. Fiskeridirektoratet, Radstuplass 10, Bergen, Norway.

"Forekomst av egg og yngel av fisk i vest- og nordnorske kyst- og bankfarvann varen 1965" (Occurrence of eggs and young of fish in the western and northern coasts and banks during spring 1965), by Olav Dragesund and Per T. Hogenstad, vol. 52, no. 24, June 16, 1966, pp. 467-472.

"Rapport om tokt med G. O. Sars til Lofoten og Barentshavet fra 17. Februar til 1. April 1966" (Report on G. O. Sars cruise to Lofoten and Barents Sea, February 17 to April 1, 1966), by John Lahn-Johannessen, Dag Moller, and Steinar Olsen, vol. 52, no. 23, June 9, 1966, pp. 446-451.

OCEANOGRAPHY:

Journal of Marine Research, vol. 24, no. 2, May 15, 1966, pp. 105-268, printed, \$5.00. Journal of Marine Research, Sears Foundation for Marine Research, Bingham Oceanographic Laboratory, Yale University, New Haven, Conn. 06520. Contains these articles, among others: "The temperature tolerances of three species of marine fishes," by James G. Hoff and James R. Westman; and "Further measurements and observations on the Cromwell Current," by J. A. Knauss.

"Ocean engineering takes the plunge," by Tom Alexander, article, Fortune, vol. LXXIII, no. 6, June 1966, pp. 145-147, 210, 214, 216, illus., printed, single copy \$1.50. Fortune, 540 N. Michigan Ave., Chicago, Ill. 60611.

Oceanographical Observations in the Indian Ocean in 1963, H.M.A.S. Diamantina, Cruise Dm3/63, (Seasonal Biological Cruise No. 6), Oceanographical Cruise Report No. 25, 149 pp., illus., processed, 1965. Division of Fisheries and Oceanography, Commonwealth Scientific and Industrial Research Organization, Melbourne, Australia.

The Ocean World, by Vladimir and Nada Kovalik, 191 pp., illus., printed, 1966, \$4.50. Holiday House, Inc., 8 West 13th Street, New York, N. Y. 10011. This

book may be slanted to the young reader or the budding oceanographer but will be stimulating to both young and adult interested in marine science. The old notion of the "seven seas" must be tossed out according to the authors of this book, in the realization that there is but one ocean, a global sea in all waters eventually meet. Putting together the various facts and ingenious theories concerning the world ocean--a gigantic sheet of water--is the oceanography. This book takes the reader beneath the sea to introduce its fascinating animals and plants, the wide-ranging mountains that stand on the ocean's bed was once thought to be flat, the experimental undersea capsules in which man is learning to live and work, the mining of metals and oil from the bottom. The authors describe underwater photography, "cores" of sediment that reveal the earth's ancient history, submarine "farming," surprising new ways of detecting and catching fish for the world's exploding food needs, the ingenious instruments that marine scientists use today, and much more. The authors write simply and without affectation in explaining the teeming life in the sea including plankton, the various forms of ocean plants and animals, the bony fish, mammals, and even "sea serpents," notably the Loch Ness monster which a South African scientist says unquestionably exists. In addition to presenting the panorama of an exciting new world beneath the waves and exploring it scientifically, this book offers practical helps to young people interested in the many careers open in oceanography. Included is a list of colleges and universities offering degrees in marine science, names of oceanographic institutions, and names of private firms engaged in oceanographic research.

-- G. A. Albano

OYSTERS:

"Homes for oysters," by W. J. Demoran, article, Mississippi Game & Fish, vol. 26, no. 3, May-June 1966, pp. 12-13, illus., printed. Mississippi Game and Fish Commission, Jackson, Miss.

PERCH:

"Hemoglobins of the saw perch. II," by Anastasio Christomanos, article, Chemical Abstracts, Feb. 1965, Abstract No. 2939g, printed. American Chemical Society, 1155 16th St. NW., Washington, D. C. 20006.

PHYTOPLANKTON:

Phytoplankton Leaflet series, vol. 1, parts 1-3, illustrated, processed. Available from Florida Board of Conservation, Marine Laboratory, Bayboro Harbor, Petersburg, Fla.:

Part 1 (Dinoflagellates), No. 1--"Ceratum trichoceros (Ehrenberg) Kofoid," by Joanne T. Davis and Karen A. Steidinger, May 1966, 3 pp.

Part 2 (Diatoms) No. 1--"Rhizosolenia setigera Brightwell," by Carol L. Wahlquist, April 1966, 4 pp.

Part 3 (Artificial Culture) No. 1--"Rhodomonas baltica Karsten," by Frank Detweiler, W. Farrow and Stanton J. Erickson, September 1965, 4 pp.

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

Part (Artificial Culture) No. 2 -- "Synechococcus elthecus (Naegeli)," by Stanton J. Erickson and W. Brown, September 1965, 4 pp.

SALMON:

Leaflet Series, vol. 1, nos. 1-11, illus., processed. Available from Florida Board of Conservation, Marine Laboratory, Bayboro Harbor, St. Petersburg, Fla.

No. 1. "Gymnodinium breve Davis," by Karen A. Steidinger, March 1, 1964, 2 pp.

No. 2. "Gymnodinium breve Davis," by Karen A. Steidinger and Jean Williams, October 1, 1964, 2 pp.

No. 3. "Skeletonema costatum (Greville) Cleve," by Karen A. Steidinger, April 1, 1964, 2 pp.

No. 4. "Gymnodinium splendens Lebour," by Karen A. Steidinger, May 1, 1964, 2 pp.

No. 5. "Asterionella japonica Cleve et Moller ex Grunow," by Richard P. Saunders, September 1, 1964, 2 pp.

No. 6. "The isolation and characteristics of a chlorophyll-like green alga from the west coast of Florida," by Stanton J. Erickson, November 1, 1964, 2 pp.

No. 7. "Ceratium fusus (Ehrenberg)," by Joanne T. Doolittle, December 1, 1964, 3 pp.

No. 8. "Rhizosolenia stolterfothii Peragallo," by Charles L. Sherer, January 1, 1965, 3 pp.

No. 9. "Melosira sulcata (Ehrenberg) Kutzing," by Richard P. Saunders, March 1, 1965, 4 pp.

No. 10. "Ceratium hexacanthum Gouret 1883," by Joanne T. Davis, April 1, 1965, 3 pp.

No. 11. "Exuviaella mariae - lebouriae, Park and Grunow," by Bruce Birnhak and W. Farrow, July 1, 1965, 4 pp.

No. 12. "Chaetoceros galvestonensis (Collier and Grunow, 1962)," by M. Lee Britton and W. Farrow, July 1, 1965, 4 pp.

POULTRY: "Fisheries in 1961-70," article, Polish Maritime News, vol. IX, no. 94, June 1966, pp. 18-19, edited. Polish Chamber of Foreign Trade, Maritime Branch, ul. Pulaskiego 6, Gdynia, Poland.

ANGOLA:

Available from Instituto das Industrias de Pesca de Angola, Cx. Postal 83, Luanda, Angola.

"Agora uma pesca a expandir" (Yellowfin tuna--expanding fishery), by A. Saraiva da Costa, article, Revista de Pesca e Navegação de Angola, no. 2, April 1966, pp. 29-35, illus., printed in Portuguese.

Revista de Pesca e Navegação de Angola, vol. 1, no. 1, December 1965, 64 pp., illus., printed in Portuguese. The first issue of a new periodical. Includes articles on: "Lançamento ao mar do Goa" (Launching of new fishery research vessel Goa), pp. 7-13; "Investigação e Pesca" (Research and fisheries), by A. Saraiva da Costa, pp. 15-18; "Fundo de apoio à indústria de Pesca" (Aid fund for fishing industry), by Manuel Abranches Pinto, p. 27; "Conservas de peixe" (Canned Fish), by A. Saraiva da Costa, pp. 51-54; "Legislação--regulamento do fundo de apoio às Industrias de pesca" (Legislation--regulation for the aid fund for the fishery industries), pp. 55, 56, 58, 60.

POULTRY RATIONS:

"Fish meal, amino acid and antibiotic fermentation residue supplementation of laying diets," by Syed M. Bul Bul, John W. Bradley, and J. H. Quisenberry, article, Poultry Science, vol. 44, Sept. 1965, p. 1357, printed. Poultry Science, Texas A & M College System, College Station, Tex. 77843.

"Unidentified factor sources for broiler rations," by Elbert J. Day and Ben C. Dilworth, article, Feedstuffs, vol. 37, July 31, 1965, pp. 74-76, printed. Feedstuffs, P. O. Box 67, Minneapolis, Minn. 55440.

SALMON:

Available from International Pacific Salmon Fisheries Commission, New Westminster, B. C., Canada.

The Effect of Transported Stream Sediments on the Survival of Sockeye and Pink Salmon Eggs and Alevin, by A. C. Cooper, Bulletin XVIII, 74 pp., illus., printed, 1965.

Histological and Hematological Changes Accompanying Sexual Maturation of Sockeye Salmon in the Fraser River System, by G. S. Colgrove, Bulletin XX, 32 pp., illus., printed, 1966.

Salmon Sport Fishing in the Tidal Waters of British Columbia, 1965, 36 pp., illus., processed. Department of Fisheries of Canada, Pacific Area, 1155 Robson St., Vancouver 5, B. C., Canada.

SEAWEED:

Annual Report for 1965, 17 pp., printed. Institute of Seaweed Research, Inveresk, Midlothian, Scotland. This report tells of the success of the British seaweed industry. Over the past 10 years the output of the alginate industry has increased fivefold. In the same period the manufacture of liquid seaweed fertilizer has increased 12-fold. Both products have worldwide distribution. The main functions of the Institute are to assist industry and foster interest in seaweed utilization. Information is furnished on: alginates from seaweed; seaweed meal in animal feedingstuffs; and seaweed as a manure.

"The effect of selected anions of potassium salts on the gel strength of carrageenan high in the kappa fraction," by Mary E. Zabik and Pearl J. Aldrich, article Journal of Food Science, vol. 30, Sept.-Oct. 1965, pp. 795-800, printed. Journal of Food Science, 510-524 North Hickory St., Champaign, Ill. 61820.

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

SHRIMP:

"Brown shrimp outlook for 1966," article, Louisiana Conservationist, vol. 18, nos. 7 & 8, July-August, 1966, p. 5, illus., printed. Louisiana Wild Life & Fisheries Commission, 400 Royal Street, New Orleans, La. 70130.

SPAIN:

"Productividad en la Industria Conservera de Sardinia en Ayamonte" (Productivity in the sardine canning industry of Ayamonte), article, Informacion Conservera, vol. XIV, no. 148, April 1966, pp. 123-128, printed in Spanish. Informacion Conservera, Garrigues, 21, Valencia 1, Spain.

STURGEON:

Order Acipenseroides, by Vadim D. Vladykov and John R. Greeley, pp. 24-60, illus., printed, 1963. Ministère de la Chasse et des Pêcheries, Québec, Canada. (Reprinted from Memoir Sears Foundation for Marine Research, Yale University, New Haven, Connecticut 06520.)

TARIFF:

Tariff Schedules of the United States, Annotated, 1965, Supplement 4, TC Publication 163, pp. 97-98, 135-138, 283-284, 331-332, 337-338, 397-400, 507-509, 525-530, 597-598, 603-604, 633-634, 637-640, 643-644, 649-650, 653-657, processed, July 1, 1966. United States Tariff Commission, Washington, D. C. 20436. The pages in this supplement are to be substituted for the corresponding pages in the Tariff Schedules of the United States Annotated (1965).

TRADE LISTS:

Copies may be purchased by firms in the United States from the Commercial Intelligence Division, Office of International Trade Promotion, Bureau of International Commerce, Washington, D. C. 20230, or from Department of Commerce field offices.

Canneries and Frozen Foods--Producers and Exporters--Bolivia, 3 pp., processed, May 1966, \$1.00. Lists the names and addresses, size of firms, and types of products (including fishery products) handled by each firm. Also contains basic trade and industry data.

Canneries and Frozen Foods--Producers and Exporters--Iran, 5 pp., processed, May 1966, \$1.00. Lists the names and addresses, size of firms, and types of products (including fishery products) handled by each firm. Also contains basic trade and industry data.

Canneries and Frozen Foods--Producers and Exporters--Italy, 23 pp., processed, May 1966, \$1.00. Lists the names and addresses, size of firms, and types of products (including canned and frozen fish) handled by each firm. Also contains trade and industry data (including fishery products).

TRANSPORTATION:

"Seafood air transport wisely used offers sales advantage, savings," article, Quick Frozen Foods, vol. XXVIII, no. 12, July 1966, pp. 105-106, 108, illus., printed. E. W. Williams Publications, Inc., Division of Cannery Publishing Co., 1776 Broadway, New York, N. Y. 10019. The growing value of many

seafoods has made it practical to fly quantities in from great distances and still sell them profitably. A report on this growing trend.

TUNA:

Statistics of Japanese Tuna Fishery, 1965 (as of end of 1963), 34 pp., illus., printed in English, 1965. Federation of Japan Tuna Fishermen's Cooperative Associations and Japan Tuna Fisheries Promotion, Tokyo. This publication gives detailed data on the Japanese skipjack and other tuna fisheries over the world. Included are sections on number of fishing vessels, catch, unit of effort, landings at foreign ports, mothership type fishery, world statistics, exports, processed products, and prices.

U.S.S.R.:

Kholodilnaia Tekhnika, vol. 2, 1966, 64 pp., illus., printed in Russian. (Soviet) All-Union Scientific Research Institute of the Refrigeration Industry, Moscow, U.S.S.R. (Editor's address: Ulitsa KostiaKOva 12, Moskva, U.S.S.R.) Includes articles on: "Investigations on storage of North Sea herring in chilled sea water. I. Technological investigations," by I. I. Piskarev, L. G. Lukyanitsa, L. V. Ushkalova, N. Ogurechnikova, G. V. Dudarev, V. P. Fominova, and M. U. Sangailene, pp. 32-36; "Investigations on storage of North Sea herring in chilled sea water. II. Biochemical investigations," by S. I. Konopkaite, I. A. Dachyulite, and K. U. Pakarskite, pp. 36-40; "Investigations on storage of North Sea herring in chilled sea water. III. Microbiological investigations" by E. L. Moiseyeva, pp. 41-42.

Articles from Rybnoe Khoziaistvo, printed in Russian. Single copy 50 kopecks (about 56 U.S. cents). Rybnoe Khoziaistvo, V. Krasnosélskaia 17, Moscow B-140 U.S.S.R. Selected articles.

No. 2, February 1966: "Conservation of immature Black Sea mullet (Mugil ramada)," by M. Ya Savet, pp. 10-12; "Potential development of acclimatization studies in the Soviet Union," by V. S. Maliutin, pp. 12-14; "The results of tagging pink salmon (Oncorhynchus gorbuscha) off the western shores of the Uturup Island," by V. N. Ivanov, pp. 15-18; "Floating device for gathering and transporting fish," by S. Malevanchik, pp. 23-26; "Diseases of carp (Cyprinus carpio) air bladder," by I. I. Gevkan, V. M. Ivasik and I. M. Karpenko, pp. 27-28; "SMG-1 hydraulic net-shaking machine," by M. B. Tsybushin and O. P. Shakhov, pp. 31-35; "Our proposals for improving the BMRT-type vessels," by V. E. Kovylin, pp. 36-39; "The use of color twine in trawl construction," by A. Griadunov, pp. 39-40; "Flashing signal lights for different types of fishing," by Iu. Vykhovskii, pp. 40-43; "Soviet scientists are founders of the theory of electric light fishing," by A. N. Shabanov, pp. 43-45; "Application of dimension analysis for determining absolute trawl efficiency," by V. A. Ionas, pp. 46-48; "Activity of SRTR-9069 in the North Sea whiting (Gadus merlangus) and shared fishery," by V. Tepliakov and N. Ivanov, pp. 49-51; "Heat-insulating containers for fish storage on fishing vessels," by N. I. Sukrutov and P. P. Iaskevich, pp. 59-62; "Revision of the technical plan of combined fish smoking," by V. P. Skachkov, pp. 67-69; "Cost accounting and net cost on vessels of the fishing industry," by Iu. L. Korotkov, pp. 78-80; "Orga-

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

ization of cost accounting in fishery enterprises," by V. Teplitskii, pp. 80-83; "Bases for increased yields of fishery kolkhozes in the Azov and Black Sea areas," by G. Cherniavskii, pp. 83-87.

No. 3 March 1966: "Flounder resources off western Kamchatka must be preserved," by V. I. Tikhonov, pp. 1-4; "Causes for decrease of chum salmon resources," by V. Kostarev, pp. 9-10; "Cultivation of herring in rice fields," by I. N. Biziaev and V. Chesnokova, pp. 19-20; "Herring purse fishing in the Norwegian Sea," by A. A. Degtiaev, pp. 29; "Net-hauling machines," by V. N. Churumov, pp. 35-36; "Flashing signal lights for different types of fishing," by Iu. I. Bykhovskii, pp. 39-41; "Method for increasing vertical opening of the trawl," by V. Savost'ianov, p. 41; "Intensive fishing of Arctic salmon in the River Volonga," by L. A. Dast'ko, pp. 50-51; "Automated mussel-catching and cleaning lines," by A. I. Ivanov, pp. 52-53; "Production and use of ice aboard a tuna factory-ship," by A. G. Ionov, pp. 54-57; "Automated herring processing line," by V. S. Kuleshov and P. A. Bessonov, pp. 63-64; "Automated production of cured fish," by E. Studentsova, pp. 64-67; "The use of frozen squids," by L. L. Lagunov and N. E. Nikolaev, pp. 71-73; "New method of preparing meal from fish waste," by P. I. Andrusenko, p. 73; "New principles of planning and prices for fishery production," by P. Nesmashnyi, pp. 77-78; "Certain methods of economic efficiency of BMRT trawlers in the northern basin," by B. N. Akimov, pp. 82-83.

No. 10 October 1965: "Commercial fisheries potential in the Atlantic," by A. N. Probatov and B. I. Mikhaylov, pp. 5-8; "Arctic Cod (*Boreogadus saida*) concentrations in the Arctic Ocean," by D. A. Butenko, pp. 8-9; "Increasing the efficiency of Sakhalin hatcheries," by A. E. Landishevskaya, pp. 9-11; "The effect of ultra sound on the growth of immature sturgeon," by V. V. Mil'shtein, A. Kh. Pospelov and V. V. Rozhkov, pp. 11-13; "Mussel resources in the northwestern Black Sea," by A. I. Ilyashov, pp. 15-19; "Problems of continued development of fisheries on the high-seas and oceans," by N. M. Saburenkov, pp. 26-29; "A new type of vessel designed for purse-seine fishing," pp. 29-30; "Instrument to determine the movement angle of the conical beam of trawl otter-board," by V. F. Mitsul and I. Shevchenko, pp. 42-44; "Fur seal catching methods," by V. A. Arsen'ev, pp. 50-53; "Mechanization of hauling of drift nets in the Far East," by S. N. Ilyashov, pp. 53-57; "New commercial fishes of the Atlantic," by V. N. Podesevalov, Zh. and L. Filipova, pp. 57-62; "Pump for pumping fish offal," by I. I. Nazarov, pp. 69-71; "Resources of our commercial fishery fleet," by S. A. Maiorova and A. A. Vagner, pp. 78-80; "Experiments to prolong storage time of fish meal," by T. Dombrovskii, and T. V. Vukobratov, pp. 85-87; "World production of fish meal," by B. Kuz'michev, pp. 87-91; "Communication with the U.S.S.R. Federal committee on fishery production," pp. 92-93.

UNITED KINGDOM:

Annual Report and Accounts for the Year Ended 31st March 1966, 60 pp., printed, 5s. (70 U.S. cents).

White Fish Authority, Lincoln's Inn Chambers, 2-3, Cursitor Street, London, E.C.4, England. (Sold by Her Majesty's Stationery Office, 49 High Holborn, London W.C.1, England.) Summarizes information on fresh and frozen white fish production, distribution and marketing, research and development, economic research and planning, and administration. The report also includes tables on supplies, fishing fleet, White Fish subsidy, conservation, etc.

The Cornish Pilchard and its Fishery, by John Bridger, Laboratory Leaflet (New Series) no. 9, 17 pp., illus., processed, November 1965. Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Lowestoft, Suffolk, England.

"The handling and care of fish at sea," by J. J. Waterman, article, Supplement to Fishing News and Fishing News International, July-September 1965, 88 pp., printed, Arthur J. Heighway Publications, Ltd., Ludgate House, 110 Fleet St., London EC4, England.

"Storage of frozen fish," by I. Robertson and R. M. Love, article, Food Manufacture, vol. 40, December 1965, pp. 43-45, printed, Grampian Press, Ltd., The Tower, Shepherds Bush Road, Hammersmith, London W6, England.

VESSELS:

Utilization of U. S. Otter-Trawl Shrimp Vessels in the Gulf Area, 1959-1961, by Roy L. Lassiter, Jr., 63 pp., illus., printed, \$4.00. Bureau of Economic and Business Research, College of Business Administration, University of Florida, Gainesville, Fla. 32603. The purpose of this study is to determine: (1) the extent of shrimp vessel utilization in the Gulf area in 1959, 1960, and 1961 in terms of fishing effort as measured by days fished and the number of trips, and in terms of success as measured by the pounds of shrimp landed; and (2) the relationship between vessel size, the state from which the vessel operates (state location of controlling port), and vessel utilization. The data are analyzed on both an annual and seasonal basis. The seasonal pattern of shrimp operations was thought to be a possible indication of the extent to which shrimp vessels could be employed in alternative uses. To ascertain possible factors influencing vessel utilization, effort, and production, this study provides a statistical analysis of the relationships between types of vessels, landings, days fished, trips, and areas fished.

WHALING:

"Sailing north for whalebone," by Ralph T. Adams, article, Alaska Sportsman, vol. XXXII, no. 7, July 1966, pp. 10-13, illus., printed, single copy 50 cents. Alaska Northwest Publishing Co., Juneau, Alaska 99801.



TWO "FLAVOR-RIGHTS" FROM THE SEA FOR SPRING

The Captain of a mythical ship from New England in early spring of 1867 gave his mythical crew permission to go ashore in San Francisco. He took his wife Lucy, an avid recipe collector, to the finest restaurant in the city. During this voyage, Lucy wrote a series of letters to her cousin Sarah, who remained in New Bedford. From these letters, the United States Department of the Interior's Bureau of Commercial Fisheries announces a new collection of kitchen-tested recipes for today's busy homemaker.

Looking for adventure in your menu planning? Now that spring is in the air, you'll want to perk up your menus with something new and different.

Elegant is the word for San Francisco Sole Superb, a deep sea treat from the land of the Golden Gate. Delicate sole fillets are simmered in a butter sauce made exciting with onion and white wine. Then, for that special touch, the sole is broiled with the thickened sauce to which cream and seedless California green grapes have been added.



Flavor, convenience, and economy describe Smoky Tuna Potage, another specialty from the West Coast. Try this nourishing soup anytime for quick vitality and that well-fed feeling.



San Francisco--1868.

SAN FRANCISCO SOLE SUPERB

2 lbs. sole fillets or other thin fish fillets, fresh or frozen	$\frac{1}{4}$ cup dry white wine
1 teaspoon salt	$\frac{3}{4}$ cup half and half cream
Dash white pepper	1 egg yolk, beaten
1 can (8 $\frac{1}{2}$ ozs.) seedless green grapes	1 tablespoon flour
2 $\frac{1}{2}$ tablespoons butter or margarine	$\frac{1}{4}$ teaspoon salt
$\frac{1}{2}$ cup chopped onion	Dash nutmeg
$\frac{1}{4}$ cup grape liquid	Paprika

Thaw frozen fillets. Skin fillets. Sprinkle both sides with salt and pepper. Roll fillets and secure with toothpicks. Drain grapes, reserving liquid. Melt butter in a 10-inch fry pan. Add onion and cook until tender. Place fish rolls in pan. Add grape liquid and wine. Cover and simmer for 8 to 10 minutes or until fish flakes easily when tested with a fork. Place fish on an oven glass or metal serving platter; remove toothpicks. Keep fish warm. Combine cream, egg yolk, flour, salt, and nutmeg. Add gradually to hot liquid and cook until thickened, stirring constantly. Add grapes. Pour sauce over fish and sprinkle with paprika. Broil about 5 inches from source of heat for 4 to 5 minutes or until lightly browned. Serves 6.

SMOKY TUNA POTAGE

2 cans (6 $\frac{1}{2}$ or 7 ozs. each) tuna	1 teaspoon liquid smoke
2 cans (10 $\frac{1}{2}$ or 11 $\frac{1}{2}$ ozs. each) condensed green pea soup	$\frac{1}{2}$ teaspoon marjoram
2 cups water	$\frac{1}{4}$ teaspoon salt
1 can (8 ozs.) sliced carrots	Paprika

Blend soup and water in a 2-quart saucepan. Add remaining ingredients except paprika; mix thoroughly. Cover pan and simmer for 15 minutes. Sprinkle with paprika. Serves 6.