



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.
 FL - FISHERY LEAFLETS.
 MNL - REPRINTS OF REPORTS ON FOREIGN FISHERIES.
 SEP. - SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.
 SL - STATISTICAL LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.
 SSR. - FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).
 WL - WILDLIFE LEAFLETS

- | Number | Title |
|----------|--|
| CFS-3279 | - Mississippi Landings, 1962 Annual Summary, 5 pp. |
| CFS-3283 | - Washington Landings, 1962 Annual Summary, 2 pp. |
| CFS-3288 | - New Jersey Landings, July 1963, 4 pp. |
| CFS-3297 | - Maine Landings, July 1963, 4 pp. |
| CFS-3298 | - Ohio Landings, June 1963, 3 pp. |
| CFS-3303 | - Virginia Landings, June 1963, 4 pp. |
| CFS-3304 | - Louisiana Landings, 1962 Annual Summary, 8 pp. |
| CFS-3305 | - Fish Meal and Oil, July 1963, 2 pp. |
| CFS-3307 | - Gulf Coast Shrimp Data, May 1963, 24 pp. |
| CFS-3308 | - Texas Landings, March 1963, 3 pp. |
| CFS-3310 | - Georgia Landings, August 1963, 3 pp. |
| CFS-3311 | - Ohio Landings, July 1963, 3 pp. |
| CFS-3312 | - Wisconsin Landings, July 1963, 2 pp. |
| CFS-3314 | - North Carolina Landings, August 1963, 4 pp. |
| CFS-3315 | - Virginia Landings, July 1963, 4 pp. |
| CFS-3317 | - South Carolina Landings, August 1963, 3 pp. |
| CFS-3319 | - Shrimp Landings, June 1963, 7 pp. |
| CFS-3321 | - Michigan Landings, June 1963, 3 pp. |
| CFS-3322 | - Rhode Island Landings, July 1963, 3 pp. |
| CFS-3323 | - Mississippi Landings, July 1963, 3 pp. |
| CFS-3324 | - New Jersey Landings, August 1963, 3 pp. |
| CFS-3326 | - Fish Meal and Oil, August 1963, 2 pp. |
| CFS-3327 | - New York Landings, August 1963, 4 pp. |
| CFS-3328 | - California Landings, July 1963, 4 pp. |
| CFS-3329 | - Gulf Coast Shrimp Data, June 1963, 24 pp. |
| CFS-3330 | - Wisconsin Landings, August 1963, 2 pp. |
| CFS-3331 | - New England Fisheries, 1962 Annual Summary, 7 pp. |
| SL-40 | - Wholesale Dealers in Fishery Products, Oklahoma, 1962, 1 p. (Revised). |

Sep. No. 695 - An Electromechanical Fishing and Counting Fence Used in Ireland.

Sep. No. 696 - Scope Ratio-Depth Relationships for Beam Trawl, Shrimp Trawl and Otter Trawl.

Sep. No. 697 - Foreign Fisheries Briefs.

FL-457 - Soft-Egg Disease of Fishes, by Ken Wolf, 2 pp., September 1962.

SSR-Fish. No. 453 - Stream Catalog of Southeastern Alaska Regulatory District No. 2, edited by Russell F. Orrell and Edward Klinkhart, 317 pp., illus., April 1963.

WL-452 - Fur Catch in the United States, 1962, 4 pp., July 1963.

Farm Reservoir Fishes, Circular No. 131, 13 pp., printed.

Trident--A Long Range Report of the Bureau of Commercial Fisheries, Circular 149, 121 pp., illus., processed, September 1963. This report has two broad objectives: (1) to strengthen the industry and (2) to conserve the resource. These objectives will be attained through a vigorous application of the detailed 3-pronged plan of research, development, and services outlined in the body of this report. The first section of this report is "Action Now," a 13-point plan to deal immediately with the urgent problems of the industry. It is in this section that solutions, strongly stressing the development and services aspect of Trident, are proposed for problems which demand attention now and which will require continuing attention as the long range plan is fully implemented. The 13-point plan proposes that: (1) the fishing industry be provided with assistance comparable to that provided by the Government generally; (2) the tariff structure for fishery products be thoroughly reexamined and that modifications be proposed for any disparities that may be found in the classification of duties; (3) methods be developed to offset subsidies paid by foreign countries to producers who export fishery products to the United States; (4) a broader and more realistic fishing vessel construction subsidy law be enacted; (5) more emphasis be placed on the development of bilateral and multilateral international agreements in the management of high seas fishery resources; (6) more meetings be held and more information exchanged

between the U. S. industry and foreign fisheries having common problems; (7) the Government increase its efforts to develop and expand foreign markets for exportable fishery products; (8) provision be made to obtain more adequate information on fishery developments and markets in key foreign areas; (9) technical findings be more quickly disseminated and that the industry be more aggressive in the adoption of new developments and findings; (10) industry-Government efforts to develop quality standards for fishery products be accelerated; (11) joint market promotional and advertising campaigns by U. S. and foreign producers be encouraged to stimulate the consumption of fishery products throughout the world; (12) concerted action be taken to stimulate the development of research scientists to meet rapidly expanding research needs; (13) aggressive safety programs be expanded to decrease alarmingly high fishing vessel hull and protection and indemnity insurance, and thus reduce operating costs. The second section of Trident, "The Long Haul," attacks, primarily through research, the basic, deep-rooted problems of the industry and of the resources. The impact of "The Long Haul" will be felt more gradually than that of the "Action Now" program, but both approaches, necessary immediate action and long-term research, are essential to achieve the Bureau's long range objectives. In the second section plans are outlined that detail the searching, time consuming efforts that eventually will fill the many gaps in knowledge of living resources of the sea and their environment. Insufficient knowledge hampers our conservation of these resources and handicaps their full utilization. New methods of finding and catching fish, as well as handling, preserving, and transporting the catch, are needed. Impairment of natural habitat by man's activities has severely injured important inshore fisheries and needs more intensive study.

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

Number	Title
MNL-63	Annual Report on Egyptian Fisheries, 1962, 32 pp.

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

Annual Report for the Fiscal Year Ending June 30, 1963, 50 pp., illus. (U. S. Bureau of Commercial Fisheries, Biological Laboratory, La Jolla, Calif.) Discusses laboratory activities; programs and projects; vessel operations; and the sardine fishery--population dynamics, length studies, spawning 1962, competition between sardine and anchovies; quantitative sampling; plankton volumes; plankton constituents; and plankton behavior studies. Also covers hake fecundity--material and methods, length-fecundity, weight-fecundity, and number of spawnings; sardine subpopulations; availability of food for sardine; sardine and anchovy behavior in laboratory; general physiology--time temperature study, herring study, starfish behavior substance, and adult sardine; nutrition--protein conversion, sea urchin, filter-feeding crustaceans, and uptake of soluble organic nutrients; rearing of pelagic fish; pelagic survey for resource evaluation; construction of new laboratory; and contract for construction of new research vessel.

(Baltimore) Monthly Summary--Fishery Products, July and August 1963, 8 pp. each. (Market News Service,

U. S. Fish and Wildlife Service, 103 S. Gay St., Baltimore, Md. 21202.) Receipts of fresh- and salt-water fish and shellfish at Baltimore by species and by states and provinces; total receipts by species and comparisons with previous periods; and wholesale prices for fresh fishery products on the Baltimore market; for the months indicated.

California Fishery Market News Monthly Summary, Part I - Fishery Products Production and Market Data, September 1963, 18 pp. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif.) California cannery receipts of tuna and tunalike fish and other species used for canning; pack of canned tuna, tunalike fish, mackerel, and anchovies; market fish receipts at San Pedro, Santa Monica, and Eureka areas; California and Arizona imports; canned fish and frozen shrimp prices; ex-vessel prices for cannery fish; for the month indicated.

California Fishery Market News Monthly Summary, Part II - Fishing Information, October 1963, 9 pp., illus. (U. S. Bureau of Commercial Fisheries, Biological Laboratory, P. O. Box 6317, Pt. Loma Station, San Diego 6, Calif.) Contains sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists; for the month indicated.

Fishery Industrial Research, vol. 1, no. 1, April 1962, 177 pp., illus., printed. (Branch of Reports, Bureau of Commercial Fisheries, U. S. Fish and Wildlife Service, 800 E St. NW., 2nd Floor, Washington, D. C. 20240.) This is the first issue of a new periodical which will be published irregularly and will present papers devoted to research in problems of the fishery industry. This issue contains "Economic Aspects of the Pacific Halibut Fishery," by James Crutchfield and Arnold Zellner. Under international regulation by the Canadian and United States Governments, the Pacific halibut fishery, which once faced depletion, has been restored to a high level of productivity. Although the stocks of halibut now are adequately protected, economic weaknesses in the fishery prompted this study. The report discusses the basic theory of the regulation, analyzes its economic effects, and presents the conclusions drawn from the analysis and their implications for public policy.

Gulf of Mexico Monthly Landings, Production and Shipments of Fishery Products, September 1963, 12 pp. (Market News Service, U. S. Fish and Wildlife Service, Rm. 609, 600 South St., New Orleans, La. 70130.) Gulf States shrimp, oyster, finfish, and blue crab landings; crab meat production; LCL express shipments from New Orleans; wholesale prices of fish and shellfish on the New Orleans French Market; fishery imports at Port Isabel and Brownsville, Texas, from Mexico; Gulf menhaden landings and production of meal, solubles, and oil; and sponge sales; for the month indicated.

Monthly Summary of Fishery Products Production in Selected Areas of Virginia, North Carolina, and Maryland, October 1963, 4 pp. (Market News Service, U. S. Fish and Wildlife Service, 18 S. King St., Hampton, Va. 23369.) Landings of food fish and shellfish and production of crab meat and shucked oysters for the Virginia areas of Hampton Roads, Chincoteague, Lower Northern Neck, and Lower Eastern Shore; the Maryland areas of Crisfield, Cambridge, and

Ocean City; and the North Carolina areas of Atlantic, Beaufort, and Morehead City; together with cumulative and comparative data on fishery products and shrimp production for the month indicated.

New England Fisheries--Monthly Summary, October 1963, 23 pp. (Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston, Mass. 02210.) Review of the principal New England fishery ports. Presents data on fishery landings by ports and species; industrial-fish landings and ex-vessel prices; imports; cold-storage stocks of fishery products in New England warehouses; fishery landings and ex-vessel prices for ports in Massachusetts (Boston, Gloucester, New Bedford, Provincetown, and Woods Hole), Maine (Portland and Rockland), Rhode Island (Point Judith), and Connecticut (Stonington); frozen fishery products prices to primary wholesalers at Boston, Gloucester, and New Bedford; and Boston Fish Pier and Atlantic Avenue fishery landings and ex-vessel prices by species; for the month indicated.

New York City's Wholesale Fishery Trade--Monthly Summary--September 1963, 19 pp. (Market News Service, U. S. Fish and Wildlife Service, 155 John St., New York, N. Y. 10038.) Includes summaries and analyses of receipts and prices on wholesale Fulton Fish Market, including both the salt- and fresh-water sections; imports entered at New York customs district; primary wholesalers' selling prices for fresh, frozen, and selected canned fishery products; marketing trends; and landings at Fulton Fish Market docks; for the month indicated.

New York City's Wholesale Fishery Trade, 1962 (Including Statistics and Marketing Trends), by T. J. Risoli, 44 pp., illus. (Fishery Market News Service, U. S. Bureau of Commercial Fisheries, 155 John St., New York, N. Y. 10038.) The first part of this annual summary discusses fishery products receipts and marketing trends in the salt-water section of New York's wholesale Fulton Fish Market during 1962. The second part covers marketing trends and receipts in the fresh-water fish market (Peck Slip Area) for 1962. The third section contains miscellaneous trends and developments: growth of a long-line fishery for swordfish; the planned production of specialty products from fresh-water fish; and estimated per capita consumption of fishery products in the New York City area. The fourth part presents a series of statistical tables giving receipts by species, states, or provinces, and methods of transportation, 1962, with comparisons; monthly summary of prices of selected frozen fishery products; and imports of fishery products entered at New York, 1962 and 1961.

Receipts and Prices of Fresh and Frozen Fishery

Products at Chicago, 1962, by C. E. Cope, 57 pp., illus., processed, August 1963. (Market News Service, U. S. Fish and Wildlife Service, U. S. Customs House, 610 S. Canal St., Rm. 1014, Chicago, Ill. 60607.) In the analysis of receipts of fishery products receipts at Chicago, the author discusses the drop in 1962 fishery products receipts. He also discusses sources of receipts, progress in sea lamprey control, the marketing of breaded yellow perch, development of a new perch filleting machine, use of liquid nitrogen for quick-freezing fishery products, trawling in Lakes Erie and Michigan, Chicago imports of fishery products by St. Lawrence Seaway, and survey of canned tuna in brine by Japa-

nese. Also included is a table giving the names, classifications, and approximate weights of certain fishery products as used in the Chicago wholesale fresh-water fish market. The second section presents statistical data on fresh and frozen fishery products receipts at Chicago by species and by states and provinces of origin, states and provinces by species, species by months, states and provinces by months, totals by species, and totals by states and provinces. Receipts are tabulated by mode of transportation (truck, express, and freight). A table shows the monthly range of wholesale prices of some of the leading varieties of fresh-water fish species, frozen fillets, and other frozen fish and shellfish.

(Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, October 1963, 8 pp. (Market News Service, U. S. Fish and Wildlife Service, 706 Federal Office Bldg., 909 First Ave., Seattle, Wash. 98104.) Includes Seattle's landings by the halibut and salmon fleets reported through the exchanges; landings of halibut reported by the International Pacific Halibut Commission; landings of otter-trawl vessels as reported by the Fishermen's Marketing Association of Washington; local landings by independent vessels; coastwise shipments from Alaska by scheduled and non-scheduled shipping lines and airways; imports from British Columbia via rail, motor truck, shipping lines, and ex-vessel landings; and imports from other countries through Washington customs district; for the month indicated.

West Coast Mexican Shrimp Crossings, by Ports of Entry, 1951-1963, 7 pp., November 1963. (Market News Service, U. S. Fish and Wildlife Service, Post Office Bldg., San Pedro, Calif. 90731.) Presents statistical tables showing data on monthly imports of Mexican shrimp through ports of entry of San Luis, Lukeville, Nogales, Calexico, and San Ysidro, January 1958-October 1963; and annual imports, 1951-1963.

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.

Fish and Wildlife, Price List 21, 15 pp., printed, April 1963 (48th Edition). Contains a list of all fish and wildlife publications available from the Government Printing Office, together with order blanks for convenience in ordering publications.

MISCELLANEOUS PUBLICATIONS

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

ANCHOVY:

The Influence of Available Food Resources on the Survival Potential of the Azov Anchovy, by P. I. Grudin, 4 pp., processed. (Translated from the Russian, Trudy Soveshchaniy, no. 13, 1961, pp. 454-456.) Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Lowestoft, Suffolk, England, 1963.

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"Live-Box Experiments with Anchovetas, *Cetengraulis mysticus*, in the Gulf of Panama," by William H. Bayliff and Edward F. Klima, article, Inter-American Tropical Tuna Commission Bulletin, vol. VI, no. 8, 1962, pp. 335-446, illus., printed in Spanish and English. Inter-American Tropical Tuna Commission, La Jolla, Calif.

La Pesca de la Anchoveta--Estatistica de Pesca y Esfuerzo en Abril, Mayo y Junio de 1962 (The Anchovy Fishery--Statistics of Fishing Effort in April, May, and June 1962), Informe No. 5, printed in Spanish. Instituto de Investigaciones de los Recursos Marinos, Callao, Peru, 1962.

AQUATIC SCIENCE:

An International Service for Retrieving Aquatic Science Literature, by S. B. Saita, J. S. O'Connor, and R. A. Shappy, Fisheries Biology Technical Paper No. 28, printed. Biology Branch, Fisheries Division, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy, 1962.

ARGENTINA:

Produccion Pesquera de la Republica Argentina, 1962 (Fishery Production in the Republic of Argentina, 1962), 127 pp., illus., printed in Spanish. Departamento de Investigaciones Pesqueras, Direccion General de Pesca y Conservacion de la Fauna, Ministerio de Agricultura y Ganaderia, Brasil y Florencio Sanchez, Buenos Aires, Argentina.

AUSTRALIA:

Fishing Industry Act, 1956; Annual Report on the Operation of the Act, 1961/62, 8 pp., printed. Ministry for Primary Industry, Canberra, Australia, 1963.

BACTERIOLOGY:

A Preliminary Note on GAFFKAEMIA Investigations in England, by P. C. Wood, Special Meeting on Crustacea No. 31, 8 pp., illus., processed. International Council for the Exploration of the Sea, Charlottenlund Slot, Denmark, 1962.

BASS:

The Kelp Bass (PARALABRAX CLATHRATUS) and Its Fishery, 1947-1958, by Parke H. Young, Fish Bulletin 122, 67 pp., illus., printed. Printing Division, Documents Section, California Department of Fish and Game, Sacramento 14, Calif., 1963.

BIOCHEMISTRY:

On Changes in the Myosin Fraction of Fish Muscle on Freezing, Cold-Storage, and Thawing, by O. E. Nikkila, Translation No. 5547, 4 pp., processed. (Translated from the Russian, Kemia, vol. IV, no. 12, 1957, pp. 3-7.) Commonwealth Scientific and Industrial Research Organization, 314 Albert St., East Melbourne C2, Australia, 1961.

"Observations on the Post-Mortem Biochemical Changes in Fish Muscle in Relation to Rigor Mortis," by N. Tomlinson and others, article, Journal of the Fisheries Research Board of Canada, vol. 18, 1961, pp. 321-336, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

"On the Source of Free Ribose Formed Post-Mortem in the Muscle of Lingcod (*Ophiodon elongatus*)," by N. Tomlinson and V. M. Creelman, article, Journal of the Fisheries Research Board of Canada, vol. 17, 1960, pp. 603-606, illus., printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

BRAZIL:

Sudene, Boletim de Estudos de Pesca, vol. 2, no. 11, November 1962, 21 pp., processed in Portuguese. Departamento de Estudos Especiais, Divisao de Pesca, Superintendencia do Desenvolvimento do Nordeste, Edificio Juscelino Kubitschek, 12° Andar, Recife, Pernambuco, Brazil. Includes, among others, these articles: "Apreciacao Sumaria da Sitacao das Pescas Brasileiras" (Summary Appraisal of the Position of the Brazilian Fisheries); "Estudos de Biologia da Pesca de Lagostas" (Biological Studies of the Spiny Lobster Fishery); "Pesca do Xareu na Bahia e sua Tradicao Historica" (Yellow Mackerel in Bahia and Its Life History), by Vicente Antao de Carvalho; "A Pesca Maritima em Pernambuco" (The Marine Fishery in Pernambuco); and "Completa Trinta Anos de Existencia o Servico de Piscicultura" (The Fish Culture Service Completes 30 Years of Existence).

Sudene, Boletim de Estudos de Pesca, vol. 3, no. 5, May 1963, 28 pp., processed in Portuguese. Departamento de Industrializacao, Divisao de Pesca, Superintendencia do Desenvolvimento do Nordeste, Edificio Juscelino Kubitschek, 12° Andar, Recife, Brazil. Includes, among others, articles on: "Consumo de Pescado no Nordeste" (Fish Consumption in the Northeast); "Estudo da Biologia e Pesca da Lagosta" (Biology and Fishery Study of the Spiny Lobster), by Gercilde de A. Borges; and "Pescaria do Atuneiro Kaiko Maru 12" (Fishing by the Tuna Vessel Kaiko Maru 12), by Silvio B. Moraes.

Sudene, Boletim de Estudos de Pesca, vol. 3, no. 6, June 1963, 30 pp., illus., processed in Portuguese. Departamento de Industrializacao, Divisao de Pesca, Superintendencia do Desenvolvimento do Nordeste, Edificio Juscelino Kubitschek, 12° Andar, Recife, Brazil. Includes, among others, these articles: "Desenvolvimento da Producao Pesqueira Nordestina" (Development of Fishery Production in the Northeast); and "Biologia e Pesca da Lagosta" (Spiny Lobster Biology and Fishery), by Gercilde de A. Borges.

CALIFORNIA:

Statistical Report of Fresh, Canned, Cured and Manufactured Fishery Products for 1962, Circular No. 37, 15 pp., printed. Biostatistical Section, Marine Resources Operations, Sacramento, Calif., 1963.

CANADA:

A Brief Review of the Fisheries of Nova Scotia, by John W. Watt, 79 pp., processed. Fisheries Division, Department of Trade and Industry, Province of Nova Scotia, Halifax, Nova Scotia, Canada, May 1963. Discusses the birth and growth of the salt fish industry (1497-1885), decline of the salt fish industry (1886-1939), the transition from salt fish to fresh fish (1850-1939), and the fishing industry (1940-1963). The Nova Scotia Government created a

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Fisheries Division in 1943. Its first annual report outlined proposals that included: (1) reorganization of the Fishermen's Loan Board to provide funds for improved types of boats and vessels; (2) vocational training for fishermen; (3) large capital contributions for fish-freezing plants; and (4) financial assistance for small or "intermediate" ports or areas.

Costs and Earnings of Selected Fishing Enterprises, Atlantic Provinces, 1961, by John Proskie, Primary Industry Studies no. 1, vol. 11, 200 pp., illus., processed. Economics Service, Department of Fisheries of Canada, Ottawa, Canada, 1963. This is an annual progress report on a study of the economics of 140 primary fishing enterprises. The enterprises are grouped in 21 classes according to region and type and size of fishing craft and gear employed. In the first part, the findings for the 1961 season are compared with those available for earlier seasons. The second part includes detailed tables summarizing the fishing activities and financial results for the enterprises included in the 1961 phase of the study. The study in 1961 was extended to include for the first time a sample of Nova Scotia and New Brunswick gill-netters and a sample of Danish seiners in New Brunswick.

CARP:

"Carp Study," by R. J. Robel, article, Utah Fish and Game, vol. 19, no. 8, August 1963, pp. 20-21, illus., printed, single copy 25 cents. Utah State Department of Fish and Game, 1596 W. North Temple, Salt Lake City 16, Utah. In 1959, the Utah State Department of Fish and Game in cooperation with other agencies initiated a joint 3-year study to help determine the effect of carp on waterfowl food plant production. Results showed that carp adversely affect the production of sago pondweed. Even low populations of carp reduce the growth of this important waterfowl food plant.

CEYLON:

Preliminary Bibliography of Fish and Fisheries in Ceylon, IPFC Occasional Paper 1962/5, printed. Indo-Pacific Fisheries Council, FAO Regional Office for Asia and the Far East, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1962.

CLAMS:

Serial Atlas of the Marine Environment--A Geographic Study of the Clam, SPISULA POLYNYMA (Stimpson), by J. Lockwood Chamberlin and Franklin Stearns, Folio 3, 18 pp., illus., printed, \$8. Serial Atlas of the Marine Environment, American Geographical Society, Broadway at 156th St., New York 32, N. Y., September 1963. A geographic study of a clam, designed to show how maps can be used to analyze the environmental factors which determine why marine animals live where they do. The clam, Spisula polynyma, is an edible though commercially unimportant species found in both the Atlantic and Pacific oceans. On specially prepared maps, the authors plot what is actually known about the geographical distributions of the clam and show how the two chief controlling factors--bottom temperatures and bottom sediments--determine where the clam lives. The basic importance of the study for scientists and, eventually, for commercial fisheries lies in the method of cartographic analysis developed by the study. The clam study forms Folio 3

of the Serial Atlas, which is being issued as a series of separate folios, each a complete study in itself of a physical, biological, chemical, or geological aspect of the ocean. The two earlier folios dealt with sea surface temperatures in the western North Atlantic and with temperatures at a depth of 200 meters throughout the North Atlantic.

CLUP:

"Zamorazivanje e Hranenie Salaki v Al'ginatom Zele (Freezing and Storage of Clup in an Alginate Jelly)", by G. C. Konokotin and L. I. Zuikova, article, Rybnoe Khoziaistvo, vol. 36, no. 10, 1960, pp. 67-70, illus., printed in Russian. VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U. S. S. R. Clup, a fish peculiar to the Baltic Sea where it is caught on an industrial scale, has a short storage life. It can be stored only 24 hours under cooling. The authors developed an alginate jelly for the freezing and storage of clup for 12 months in cold rooms at -4° F. The solution for the preparation of the jelly is made up of 1.0 percent sodium alginate, 1.0 percent lactic acid and 0.05 percent of calcium chloride. This solution becomes solid at 34° F. and its pH is 3.5.

COLOMBIA:

Establishing a Business in Colombia, by Herbert A. Lindow, OBR 63-107, 16 pp., printed, 15 cents. Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C., August 1963. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.) Discusses investment opportunities, amount and type of U. S. investment, joint ventures, licensing and technical assistance, and rights of foreigners. Also covers entry and repatriation of capital and exchange rates, business organization, industrial property protection, labor legislation, taxation, and exports.

COMPOSITION:

Status of Importance of Minor Elements in Food, Especially in Fish, by J. Kuhnau, paper presented at FAO International Conference on Fish in Nutrition, Washington, D. C., 19-27 September 1961, printed. University of Hamburg, Hamburg, Germany.

CONTAINERS:

Etude de la Corrosion des Boites de Conserves par les Sardines a l'Huile (Study of Rusting of Cans of Sardines in Oil), by R. Meesemaeker and others, 19 pp., illus., processed in French. Federation des Industries de la Conserve au Maroc, 291 Bd. Mohammed V, Casablanca, Morocco, March 1963.

COOPERATIVES:

Problems of Cooperation (A Discussion Group Guide), by Emory S. Bogardus, 102 pp., printed, 75 cents. The Cooperative League of the U. S. A., 343 Dearborn St., Chicago 4, Ill. The questions and the accompanying materials will enable discussion groups to follow a systematic plan in considering the problems and the accompanying activities of a cooperative. Each cooperative will have problems peculiar to itself. Yet basic to these problems are certain essentials of efficient cooperative procedure. These are emphasized throughout this booklet as a background for stimulating worthwhile discussions. This study guide will be found useful for members of all types of cooperatives--consumer cooperatives, farm

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supply cooperatives, producer and marketing cooperatives, and all those that deal in services of one kind or another.

CORALS:

Corals (New Genera and Genotypes), by E. D. Soshkina, 16 pp., processed. (Translated from the Russian, Trudy Paleontologicheskogo Instituta, vol. LVI, 1955, pp. 118-128.) Paleontology and Stratigraphy Branch, U. S. Geological Survey, Washington, D. C., September 1960.

CRABS:

"Transport of Common Crab (*Scylla serrata*) in Living Condition," by R. B. Vasudeo and H. G. Kewalramani, article, Indian Journal of Fisheries, vol. 7, no. 1, pp. 169-173, illus., printed. Indian Journal of Fisheries, Ministry of Food and Agriculture, New Delhi, India.

The following publications, presented at a Special Meeting on Crustacea held in 1962, are available from the International Council for the Exploration of the Sea, Charlottenlund Slot, Denmark:

Observations on Growth of the Edible Crab (CANCER PAGURUS), by E. Edwards, Special Meeting on Crustacea No. 15, 19 pp., illus., processed.

Yield Assessment in the Norfolk Fishery for Crabs (CANCER PAGURUS), by D. A. Hancock, Special Meeting on Crustacea No. 27, 19 pp., illus., processed.

The Possible Use of Fish Meal as a Bait for Catching Crabs, by James Mason, Special Meeting on Crustacea No. 19, 2 pp., processed.

The Scottish Crab-Tagging Experiments, 1960-61, by James Mason, Special Shellfish Symposium No. 18, 18 pp., illus., processed.

DIRECTORIES:

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Capacidad de Produccion de la Industria de Harina de Pescado en el Peru (Production Capacity of the Fish Meal Industry in Peru), by I. Tilic, Informe No. 4, printed in Spanish. Instituto de Investigaciones de los Recursos Marinos, Callao, Peru, 1962.

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Preliminary Report of the Effect of Varying Levels of Fishing on Eastern Bering Sea King Crabs, *PARALITHODES CAMSCHATICA* (Tilesius), by Takashi Miyahara and Herbert H. Shippen, Special Meeting on Crustacea No. 38, 26 pp., illus., processed.

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in fishing and related activities and in operations on aquatic products. The application of the Act to employment in such enterprises was broadened by amendments effective September 3, 1961. Under the amended Act, a substantial number of employees working in the processing (except canning), marketing, freezing, curing, storing, packing for shipment, or distributing of fish, shellfish, or other aquatic forms of animal or vegetable life and their byproducts will be subject to its minimum wage provisions for the first time. Also, certain employers engaged in some of these activities have employees who are newly subject to the Act under the amendments extending coverage to employees employed in specified enterprises engaged in commerce or in the production of goods for commerce. An exemption from minimum wages as well as overtime pay has been extended by the 1961 amendments to certain employees working in canning of marine products at sea. The bulletin's objective is to make available in one place, for the information of those who may be concerned with these and related provisions of the law, the official interpretations of such provisions by which the Department of Labor will be guided in carrying out its responsibilities under the Act.

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The Lake Erie Fishing Industry; Report Dealing with Representations Made to the Provincial Government in 1962, 34 pp., printed. Department of Economics and Development, Toronto, Ontario, Canada, 1963.

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A Comparison of the Catch of Norway Lobsters Using Trawls of 50 and 70 mm. Respectively, by H. J. Thomas, Special Meeting on Crustacea No. 21, 4 pp., illus., processed.

The Distribution of the Norway Lobster around Scotland and the Stock Composition of the Norway Lobster in Areas of Different Fishing Intensity, by H. J. Thomas, Special Shellfish Symposium No. 16, 17 pp., illus., processed.

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Nephrops Norvegicus Fishing Grounds around the Irish Sea, by C. O'Riordan, Special Meeting on Crustacea No. 11, 4 pp., processed.

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phlet No. 10, 64 pp., illus., printed. Interagency Committee on Oceanography, Federal Council for Science and Technology, Office of Naval Research, Rm. 1818, 17th St. and Constitution Ave. NW., Washington, D. C., 20360, June 1963. Discusses why a long-range plan is needed, for whom it is written, and what this plan is supposed to do; national goals in oceanography--strengthening basic science, improving national defense, managing resources in the world ocean, managing resources in domestic waters, protecting life and property ashore and insuring the safety of operations at sea; and special groups concerned with oceanography--oceanographic science, the fishing industry, offshore oil industry, the sea-mining industry, shipping, and recreation industry. Also covers capabilities and systems to support oceanographic goals--strengthening basic science, defense, world ocean resources, safety at sea and protection ashore, services, instrumentation, and manpower; surveys and services--ocean survey plan, the National Oceanographic Data Center, Navy's Oceanographic Instrumentation Center, and Oceanographic forecasting service; the international setting--U. S. S. R., Japan, United Kingdom, and Canada; program summary and evaluation; and organizational problems.

Osnovy Ucheniia o Rezvitiu Morskikh Beregov (Fundamentals of the Science of the Development of Sea Shores), by V. P. Zenkovich, 710 pp., illus., printed in Russian. Academy of Sciences of the U. S. S. R., Moscow, U. S. S. R., 1962. Discusses basic ideas on the hydrodynamics of the coastal zone, sea deposits and their transverse displacement, the abrasion process and factors determining it, profiles of underwater slope in natural conditions, above-water elements of the shore zone, and transport of deposits along the shore. Also covers accumulative forms of shore zones, bay shores and their evolution, phases of shore evening, the development of shores by vertical movements, the effect of rivers and fluvial deposits on the development of the sea-shore, eolian processes on seashores, shore formations caused by tides and storm convergencies, and some tasks of further research.

--Milan A. Kravanja

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Department of Fish and Game, Sacramento, Calif., 1963. California was the leading Pacific coast oyster producer during the latter half of the 19th century. After the decline early in this century of the San Francisco Bay oyster industry based on young oysters imported from the East Coast, the California industry had a marginal existence until a major revival of the industry in the mid-1950's. At that time, large-scale plantings of young oysters imported from Japan raised California oyster production to a level similar to that achieved in the late 19th century. By volume California in 1958 was second ranking oyster producer on the Pacific coast, and seventh among all United States oyster-producing states.

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"Insecticides: Effects on Cutthroat Trout of Repeated Exposure to DDT," by Don Allison and others, article, Science, vol. 142, no. 3594, November 15, 1963, pp. 958-961, illus., printed, single copy 35 cents. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington, D. C. 20005.

"Pesticide Fish Kills," article, Outdoor California, vol. 24, no. 9, September 1963, pp. 3-4, illus., printed. California Department of Fish and Game, 722 Capitol Mall, Sacramento, Calif.

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Ekologicheskaiia Fiziologiia Ryb. Tom I (Ecological Physiology of Fishes, Part I), by N. S. Stroganov, 444 pp., printed in Russian. Izdatel'stvo Moskovskogo Universiteta, Moscow, U. S. S. R., 1962. This book is the collection of lectures held by Prof. Stroganov since 1937 at the Chair of Hydrobiology of the Biological Faculty of Moscow State University, first under the title Physiology of Fishes and since 1949 as Ecological Physiology of Fishes. The term is defined by Prof. Stroganov as that part of physiology which studies the laws of physiological processes in an organism and their dependence on environmental conditions. The book is divided into 9 chapters as follows: (1) chemical composition of the fish body; (2) skin cover; (3) blood; (4) blood circulation; (5) breathing; (6) interchange of gases; (7) feeding; (8) assimilation and dissimilation; and (9) reproduction. An exhaustive bibliography follows each chapter citing references to works in Russian, English, German, French, Japanese, and other languages.

--Milan A. Kravanja

PLANKTON:

"Comparison of Zooplankton Biomass Determinations by Indian Ocean Standard Net, Juday Net and Clarke-Bumpus Sampler," by D. J. Tranter, Collected Reprint 497, 5 pp., illus., printed. (Reprinted from Nature, vol. 198, no. 4886, June 22, 1963, pp. 1179-1180.) Division of Fisheries and Oceanography, Commonwealth Scientific and Industrial Research Organization, Cronulla, Sydney, Australia.

The Cultivation of Marine Planktonic Diatoms and Dinoflagellates, by Yu. G. Kabanova, 26 pp., processed. (Translated from the Russian, Trudy Inst. Okeanol., vol. 47, 1961, pp. 203-216.) Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Lowestoft, Suffolk, England, 1962.

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

POLLUTION:

"Estimation of the Damage to Fisheries Caused by Pollution," by J. A. Timmermans, article, Travaux Station de Recherches Groenendael, Ser. D., no. 34, 36 pp., printed in French, Station de Recherches, Groenendael, Jette, Belgium.

"Mortality Thresholds of Fish in Fly Ash Suspension," by J. M. Thomas, Collected Reprint 493, 1 p., illus., printed. (Reprinted from The Australian Journal of Science, vol. 25, no. 9, March 1963, p. 414. Division of Fisheries and Oceanography, Commonwealth Scientific and Industrial Research Organization, Cronulla, Sydney, Australia.

POLYUNSATURATED FATTY ACIDS:

"Polyunsaturated Acid in Fish Fat, in the Diet and in the Blood," by O. Notevarg and B. N. Cyvin, paper presented at FAO International Conference on Fish in Nutrition, Washington, D. C., 19-27 September 1961, printed. Norwegian Institute of Technology, Trondheim, Norway.

RADIOACTIVITY:

"Ispol'zovanie Radioaktivnykh Izotopov v Rybnom Khozjaistve (The Use of Radioactive Isotopes in the Fishing Industry)," by G. S. Karzinkin, 71 pp., printed in Russian. Piskchepromizdat, Moscow, U. S. S. R., 1962. Discusses the use of radioactive isotopes in fish tagging and in the study of fish metabolism. Also covers the use of radioactive potassium, radioactive phosphorus, strontium and yttrium, cerium, iron, cobalt, zinc, iodine, carbon, and sulfur.

RED SEA:

"The Israel South Red Sea Expedition," by O. H. Oren, article, Nature, vol. 194, June 23, 1963, pp. 1134-1137, printed. St. Martin's Press, Inc., 175 Fifth Ave., New York 10, N. Y.

"Israel's Red Sea Expedition," by O. H. Oren, article, Ariel, Summer Issue 1963, pp. 70-79, printed. Israel Government Printers, Ministry of Foreign Affairs, Cultural Relations Department, Jerusalem, Israel.

RESEARCH VESSEL:

"Research Vessel Kalava and Co-Operative Oceanographic Investigations in Indian Waters," by S. Jones, article, Journal, Marine Biological Association, India, vol. 1, no. 1, 1959, pp. 1-6, illus., printed. Marine Biological Association, Marine Fisheries Post Office, Mandapam, South India.

SALMON:

"Abundance, Size, and Age of Red Salmon Smolts from the Wood River System, 1962," by Wilbur Church and Michael Nelson, Informational Leaflet No. 33, 11 pp., illus., processed. Alaska Department of Fish and Game, Support Bldg., Juneau, Alaska. Discusses methods, index of abundance, timing of the migration, and size and age composition. Also included are statistical data on Mosquito Point smolt catches, length frequencies of red salmon smolts, length and age of red salmon smolts, and season's weighted length frequency for 1962.

"The Investigation of Salmon Shark as a Predator on Salmon in the North Pacific, 1960," by Osamu Sano,

article, Bulletin of the Hokkaido Regional Fisheries Research Laboratory, no. 24, 1962, pp. 148-162, printed. Hokkaido Regional Fisheries Research Laboratory, Yoichi, Hokkaido, Japan.

Kvichak Salmon Studies: 1962 Spawning Ground Studies, by Wan Soo Kim and R. L. Demery, Circular No. 195, 26 pp., printed. Fisheries Research Institute, University of Washington, Seattle, Wash., 1963.

1959 Pink Salmon Catches in Canadian Waters North of the Convention Area, by A. S. Hourston, Manuscript Report Series (Biological) No. 750, 25 pp., printed. Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1963.

1961 Pink Salmon Catches in Canadian Waters North of the Convention Area, by A. S. Hourston, Manuscript Report Series (Biological) No. 751, 23 pp., printed. Fisheries Research Board of Canada, Biological Station, Nanaimo, B. C., Canada, 1963.

"Pitanie Molodi Semgi (Salmo salar L.) na Rannikh Stadiyakh Razvitiya pri Vyrashchivanii v Prudakh" (The Diet of Pond-Reared Young Salmon (Salmo salar L.) in the Early Stages of Development), by I. B. Bogatova, article, Voprosy Ikhtiologii, vol. 2, no. 1, 1962, pp. 169-173, printed in Russian. Akademia Nauk SSSR, Ikhtiologicheskaya Kommissiya, Moscow, U. S. S. R.

Politics and Conservation, The Decline of the Alaska Salmon, by Richard A. Cooley, 251 pp., illus., printed, \$5, 1963. Harper and Row Publishers, Inc., 49 E. 33rd St., New York, N. Y., 10016. The purpose of this study is to trace the development of Federal policies for the conservation of the Alaska salmon resource in an effort to understand how the policies were formulated and executed, what major forces shaped their ultimate content, and why they have been so ineffective in maintaining the resource at a high level of production. Part one analyzes the environmental setting to determine the major factors which have conditioned the structure of the industry and the resulting pattern of exploitation. The research method used here is primarily statistical and economic analysis. Part two traces the historical development of the Federal conservation program, emphasizing the major issues and conflicts that evolved, the attitudes and activities of the various interest groups, and the public policies that resulted. This is based on a thorough examination of the written record as found in congressional hearings, committee reports, the Congressional Record, official reports of government agencies, enacted laws and policy statements, newspapers and trade journals, and the writings, addresses, letters, and reports of persons and organizations involved in the policy-formulating process. Part three presents the conclusions and evaluates their implications in terms of the probable future of the resource under State government administration.

Red Salmon Spawning Ground Surveys in the Nushagak and Togiak Districts, Bristol Bay, 1962, by Wilbur Church and Michael Nelson, Informational Leaflet No. 34, 24 pp., processed. Alaska Department of Fish and Game, Support Bldg., Juneau, Alaska, July 31, 1963. The purpose of the surveys was to pro-

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

vide accurate estimates of abundance and distribution of red salmon in the various spawning areas. Such estimates are necessary to both research and management for optimum escapement studies and the attainment of escapement goals. The report discusses survey methods, total population estimates, estimates of spawning ground population in the Nushagak District, distribution of pink salmon in the Nushagak District, and estimates of spawning ground populations in the Togiak District. Also included are statistical tables giving data on comparisons of peak estimates in Wood River Lakes, Igushik Lakes and Lake Nunavaugluk, Tikchik Lakes and Nushagak-Mulchatna, and Togiak District; total population estimates of red salmon in the Nushagak District and Togiak District; and pink salmon data for Nuyakuk-Tikchik rivers.

"Rol'kormleniya i Podogreva Vody pri Iskusstvennom Vyrashchivanii Lososei v Zapolyar's" (The Role of Feeding and of Warming of the Water in the Artificial Rearing of Salmon above the Arctic Circle), by E. L. Bakhtanskii, article, *Rybnoe Khoziaistvo*, vol. 10, 1961, pp. 15-18, printed in Russian. VNIRO Glavniproekta, pri Gosplanie SSSR, Moscow, U. S. S. R.

SALMON AND TROUT:

"Investigation and Management of Atlantic Salmon and Trout. Part I--The Research Program; Part II--The Management Program," articles, *Trade News*, vol. 16, no. 1, July 1963, pp. 3-16, illus., processed. Information and Consumer Service, Department of Fisheries, Ottawa, Canada. Part I discusses salmon catch statistics since 1949, salmon research in the Maritime Provinces, salmon research in Newfoundland, trout limnological investigations, and trout research in Nova Scotia. Part II covers adult salmon transfers, proposed construction of new pulp mill, pollution investigations, salmon net mesh size experiment, Indian River diversion, lake investigations, engineering surveys, and construction projects in Newfoundland; Saint John River investigations, salmon tagging in Saint John Harbour, pollution investigations, Annapolis Aboideau fish passage studies, Tusket River survey, and early-run-late-run experiment in the Maritimes; engineering service including counting fences; and hatchery service.

SANITATION:

"The Protection of Wood in Fish Rooms, by J. J. Waterman, *Torry Advisory Note No. 7*, 5 pp., printed, 1963. Torry Research Station, Aberdeen, Scotland.

SARDINES:

"Existing Regulations for Sardine Fishing in the Mediterranean, GFCM Studies and Reviews No. 20, 27 pp., processed. General Fisheries Council for the Mediterranean, Food and Agriculture Organization of the United Nations, Viale delle Termi di Caracalla, Rome, Italy, July 1963.

SEA GRASS:

"Distribution of the Sea Grass, *Thalassia*, in the United States," by Donald R. Moore, Contribution No. 475, 14 pp., printed. (Reprinted from *Bulletin of Marine Science of the Gulf and Caribbean*, vol. 13, no. 2, June 1963, pp. 329-342.) The Marine Laboratory, Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

SEA LAMPREY:

"Predation of the Sea Lamprey, *Petromyzon marinus* on the Atlantic Mackerel, *Scomber scombrus*," by Grace L. Orton, article, *Copeia*, no. 3, 1962, pp. 663-665, printed. American Society of Ichthyologists and Herpetologists, 18111 Nordhoff St., Northridge, Calif.

SEALS:

Ssaki Baltyku (Seals of the Baltic), by Andrzej Ropelewski, No. 3, 75 pp., illus., printed in Polish. Nakladem Zakladu Ochrony Przyrody, Krakow, Poland, 1952.

SHARKS:

"The Role of Olfaction in Shark Predation," by Albert L. Tester, article, *Pacific Science*, vol. 17, no. 2, April 1963, printed. University of Hawaii Press, Honolulu, Hawaii.

"Sharks: Attraction by Low-Frequency Sounds," by Donald R. Nelson and Samuel H. Gruber, article, *Science*, vol. 142, no. 3594, November 15, 1963, pp. 975-977, illus., printed, single copy 35 cents. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington, D. C., 20005.

SHRIMP:

Descripcion de la Morfologia Externa e Interna del Langostino con Algunas Aplicaciones de Indole Taxonomica y Biologica, HYMENOPENAEUS MULLERI (Bate), Crustacea, Fam. Penaeidae (Description of the External and Internal Morphology of the Shrimp with Some Applications of Taxonomic and Biological Class), by Enrique E. Boschi and Victor Angelescu, 74 pp., illus., printed in Spanish with English summary. Universidad de Buenos Aires, Facultad de Ciencias Exactas y Naturales, Departamento de Biologia, Buenos Aires, Argentina, 1962.

Investigations of Brine Shrimp, by Donald C. Hales, 1 vol., printed, 1957. Utah Fish and Game Department, Salt Lake City, Utah.

La Peche Belge aux Crevettes (The Belgian Shrimp Fishery), by E. Leloup and Ch. Gilis, Special Meeting on Crustacea No. 3, 4 pp., illus., processed in French. International Council for the Exploration of the Sea, Charlottenlund Slot, Denmark, 1962.

Shrimp Landings and Production of the State of Texas for the Period 1956-1959, with a Comparison with Other Gulf States, by Gordon Gunter, 11 pp., illus., printed. (Reprinted from *Publications of the Institute of Marine Science*, vol. 8, 1962, pp. 216-226.) Institute of Marine Science, Port Aransas, Tex.

Studies on Frozen Storage of Prawns, IPFC Occasional Paper 1963/2, printed. Indo-Pacific Fisheries Council, FAO Regional Office for Asia and the Far East, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1963.

The following publications, presented at a Special Meeting on Crustacea held in 1962, are available from the International Council for the Exploration of the Sea, Charlottenlund Slot, Denmark:

Les Crevettes Profondes de la Region Atlantique Iberico-Marocaine Repartition Bathymetrique et Geographi-

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que, Importance Economique (Deep-Water Shrimps of the Atlantic Ibero-Moroccan Region, Bathymetric and Geographic Distribution and Economic Importance), by Cl. Maurin, Special Meeting on Crustacea No. 8, 4 pp., processed in French.

The Deep-Sea Prawn (PANDALUS BOREALIS) in Icelandic Waters, by Aolsteinn Sigrosson and Ingvar Hallgrimsson, Special Meeting on Crustacea No. 28, 11 pp., illus., processed.

Deep-Sea Prawns and the Prawn Fishery in Greenland Waters, by Erik Smidt, Special Meeting on Crustacea No. 1, 5 pp., illus., processed.

Further Results of the German Shrimp Industry, by P. F. Meyer-Waarden and K. Tiewes, Special Meeting on Crustacea No. 35, 13 pp., illus., processed.

Methods to Improve the Yield of the Dutch Shrimp Fisheries, by R. Bøddeke, Special Meeting on Crustacea No. 33, 5 pp., processed.

The Pandalus in the Skagerak (Length, Growth and Changes in the Stock and Fishery Yield), by Aage J. C. Jensen, Special Meeting on Crustacea No. 37, 4 pp., illus., processed.

Summary, Dynamics of a Penaeid Shrimp Population and Management Implications, by Joseph H. Kutkuhn, Special Meeting on Crustacea No. 14, 5 pp., illus., processed.

SHRIMP FARMING:

"Problems of Sea Farming Aren't All Technical," by S. F. Manning, article, National Fisherman/Maine Coast Fisherman, vol. 44, April 1963, pp. 22-23, printed. Journal Publishing Co., Belfast, Me.

SMALL BUSINESS MANAGEMENT:

Analyzing Food Brokers' Costs and Margins, by Frank Johnson, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C. 20416, 1963. Food brokers selling a variety of products averaged a higher commission rate than those specializing in sales of a single commodity. Salaries and auto and travel costs accounted for more than 80 percent of brokers' expenses. Mergers and acquisitions have been occurring at increasingly rapid rates.

Counseling Affiliated Food Retailers; a Manual for Food Wholesalers, by Robert L. Bull, no. 31, 220 pp., \$5. Food Distribution Section, University of Delaware, Newark, Del., 1963.

The Effect of Tight Money on Small Business Financing, by Deane Carson, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C. 20416, 1963. When money is tight, discrimination against small firms in the bank-loan market may take two forms. Banks may reduce the flow of loanable funds to small firms in order to maintain or expand the flow to larger firms. Or they may raise interest rates proportionately more on small-business than on large-business loans.

Factors in Small Business Success or Failure, by Edward J. Chambers and Raymond L. Gold, Man-

agement Research Summary, 4 pp., processed. Small Business Administration, Washington, D. C. 20416, 1963. The businessmen taking part in the study generally agreed that success in a small business is likely to come to the man who has the following traits: he works long, hard hours; he has the ability to recover quickly and press on in the face of a setback; he is competitive in attitudes and actions; he is willing to take a minimal profit from his business until he achieves a firm financial position; and he masters the technical and social skills his operation require. The data suggest that there is a "take-off" or a "slide" point in a businessman's career beyond which cumulative experience of success or failure affects his motivation.

Financial Planning in Closely Held Businesses, by Joseph J. Geraci, Management Aid for Small Manufacturers No. 156, 4 pp., processed. Small Business Administration, Washington, D. C. 20416, September 1963. Financial planning can give a closely held company two things: (1) daily operating strength or business nutrition, and (2) business continuation--an existence when the owner-manager is no longer in the business through retirement, death, or some other reason. This report discusses why these two elements are especially needed in closely held firms. It describes pitfalls which such companies must avoid and outlines what should be included in their financial planning.

Food Brokers' Sales and Merchandising Programs, by Frank Johnson and Robert Bull, Management Research Summary, 2 pp., processed, 1963. Small Business Administration, Washington, D. C. 20416. One of a series dealing with the activities of food brokers in the United States. Discusses: (1) agreements between brokers and the manufacturers they represent (called principals); (2) basic operating relations; (3) sales management problems; and (4) brokers' retail merchandising activities.

How Small Firms Handle Their Legal Problems, by Sumner Marcus and Edward J. Chambers, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C. 20416. The manager of a small business, according to the report, should consider carefully whether his firm would benefit from the following practices: (1) periodic consultation with his lawyer to determine whether legal considerations dictate changes in any of the firm's practices; (2) an arrangement with his lawyer that would ensure his awareness of legal problems; and (3) limitation of his dependence on nonlegal advisors to matters that are clearly within their areas of specialization and that do not call for advice they are not qualified to give.

Improving Office Procedures in Food Brokers' Firms, by Daniel J. Bartz, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C., 20416. Work simplification is increasingly important to food brokers because of (1) the need to allocate more time to retail merchandising and sales management, and (2) the many records and reports required for company use and for compliance with Government regulations. The five steps in work simplification are: select the job to be improved; get the facts; challenge every job detail; find a better way to do the job; and install the new method.

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Management Counseling of Small Business, by Karl Morrison, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C. 20416, 1963. Findings showed that management counseling can improve the effectiveness of small businesses; while several sources of such counsel are available, no great use is made of them; and some of the barriers to the use of management counsel are deeply imbedded in the very nature of these small firms. It was suggested that a method should be developed for certifying management consultants, similar perhaps to that for public accountants; and small businessmen with identical problems should jointly employ consultants to provide specific services.

Management Counseling of Small Manufacturing Firms, by C. F. Dunham, W. E. Green and R. S. Downer, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C. 20416, 1963. The need for counseling involves such areas as: (1) adaptation of the available production facilities to more efficient operations; (2) motion and methods analysis and plant layout studies; (3) design of special equipment; and (4) advice on market analysis, advertising campaigns, sales promotion, sales forecasting, methods of selecting and training salesmen and other personnel, compensation plans, and selection of distributors. The type of counseling most needed, however, is that based on a thorough analysis of each firm's over-all situation--an analysis that will locate and define the real problem areas.

U. S. Small Business and the Latin American Market, by Carl H. Madden, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C. 20416, 1963. The most pressing need of small United States firms dealing with the Latin American market is for more services such as market information; overseas contacts; tariff, shipping, and other technical export and import information; data on pricing and quality of products; and translation of literature and correspondence. Many small businesses need information and help in learning how to analyze foreign markets intelligently, how to sell in those markets, how to ship and document their goods, and how to collect their money. The need can be met in part by cooperative effort and private organization of export activities. But where such efforts do not meet the need, its importance justifies newly planned Government services.

SMELT:

A Revision of the Smelt Family, OSMERIDAE, by D. E. McAllister, Bulletin No. 191, 53 pp., printed. National Museum of Canada, Ottawa, Canada, 1963.

SOUTH AFRICA REPUBLIC:

Netting Profits--Special Survey of the Inshore Fishing Industry, Supplement to the Financial Mail, June 21, 1963, 51 pp., illus., printed. Financial Mail, Johannesburg, South Africa Republic. A comprehensive survey of the expanding inshore fishing industry of South Africa and South West Africa. Covers markets, production, leading companies and personalities. The industry's chief problems are given as reliance on too narrow a base (mainly pilchards

and spiny lobsters), inadequate fishing harbors, and strong Russian and Japanese competition.

SPAIN:

"En 1962 Excedio Tambien Nuestra Pesca el Millon de Toneladas" (In 1962 Our Fishery Again Exceeded One Million Tons), article, Boletin de Informacion, no. 58, July 1963, pp. 8-16, printed in Spanish. Sindicato Nacional de la Pesca, Paseo del Prado, 18-20, 6^a Planta, Madrid, Spain. Presents statistical tables giving data on landings by the Biscayan fleet in Sierra Leone waters, quantity and value of national fishery landings, landings by species, landings of cod, landings by freezer vessels, and landings by coastal fishermen and on the high seas by provinces. Also presents data on tuna landings, landings of the principal fishery provinces, destination of landings by coastal fishermen and from the high seas, average prices of some species in 1962 and differences in value and quantity with the preceding year, and provincial fishery imports by species.

"Presente e Futuro da Industria Conserveira Galega" (Present and Future of the Galician Canning Industry) by Francisco Lopez Gapont, article, Conservas de Peixe, vol. XVII, no. 208, July 1963, pp. 20-22, printed in Portuguese. Sociedade da Revista Conservas de Peixe, Lda., Regueirao dos Anjos, 68, Lisbon, Portugal.

SPINY LOBSTERS:

Essais de Peche a la Langouste sur les Bancs et le Plateau Continentale de l'Amerique Tropicale (Experimental Fishing for Spiny Lobsters on the Banks and the Continental Shelf of Tropical America) by R. Letaconneux, Special Meeting on Crustacea No. 9, 2 pp., processed in French. International Council for the Exploration of the Sea, Charlottenlund Slot, Denmark, 1962.

SPOILAGE:

Spoilage of Fish and Crustaceans, Rapid Determination of Volatile Ammonia by Accelerated Microdiffusion, by W. Vyncke and E. Merlevede, 14 pp., illus., printed in English with Dutch, French, and German summaries. (Reprinted from Archives Belges de Medecine Sociale, Hygiene, Medecine du Travail et Medecine Legale, no. 3, March 1963, pp. 147-160.) Laboratory of Industrial Hygiene, University of Ghent, Ghent, Belgium. A simple method for measuring volatile ammonia in fish and crustacea as an index of spoilage is described. It is based on the separation of ammonia by accelerated microdiffusion followed by spectrophotometrical measurement of the color produced with Nessler reagent. Four series of experiments with crustacea are added to demonstrate the possibilities of this method. Results show that volatile ammonia correlates well with total volatile bases (TVB), trimethylamine (TMA), and sensory test. It gives the same information about spoilage as TVB and TMA and is valuable especially when used for comparative experiments, and the study of preservatives such as benzoic acid and sodium chloride. Speed, simplicity, and a minimum of materials and products are the great advantages of this microdiffusion method.

SQUID:

"Observations on Bioluminescence in Ommastrephes pteropus (Steenstrup, 1855), with Notes on Its Occur-

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reference in the Family Ommastrephidae (Mollusca: Cephalopoda)," by Clyde F. E. Roper, Contribution No. 476, 11 pp., illus., printed in English with Spanish summary. (Reprinted from Bulletin of Marine Science of the Gulf and Caribbean, vol. 13, no. 2, June 1963, pp. 343-353.) The Marine Laboratory, Institute of Marine Science, University of Miami, 1 Rickenbacker Causeway, Miami 49, Fla.

EDEN:

"Aktuella Ekonomiska Problem inom Fisket" (Actual Economic Problems in the Fishery), by Ingemar Gerhard, article, Svenska Vastkust Fiskaren, vol. 33, no. 13-14, July 15, 1963, pp. 336-337, printed in Swedish. Svenska Vastkustfiskarnas Centralforbund, Goteborg, Sweden.

"Fisket Ar 1962 Gav Hygglig Inkomst men Blev ett Odeasar for Raktralare" (The 1962 Year of Fishing Did Not Yield Too Bad an Income but it Was a Fatal Year for Shrimp Trawling), article, Svenska Vastkust Fiskaren, vol. 33, no. 13-14, July 15, 1963, pp. 328-334, illus., printed in Swedish. Svenska Vastkustfiskarnas Centralforbund, Goteborg, Sweden.

EMBIOSIS:

"Symbiosis: On the Role of Algae Symbiotic with Hydra," by Leonard Muscatine and Howard M. Lenhoff, article, Science, vol. 142, no. 3594, November 15, 1963, pp. 956-958, illus., printed, single copy 35 cents. American Association for the Advancement of Science, 1515 Massachusetts Ave. NW., Washington, D. C. 20005.

TARIFFS:

"Seventh Supplemental Report, Tariff Classification Study, 11 pp., processed. Secretary, United States Tariff Commission, Washington 25, D. C., August 14, 1963. The seventh supplemental report sets forth changes made by the Commission in certain provisions of the Tariff Schedules of the United States identified in the Commission's public notice of July 11, 1963 (28 F. R. 7239). The report also contains an explanation of such changes and an appendix which includes written views and oral testimony received by the Commission. No fishery or fishery allied items included.

TRANSPORTATION:

"Conditions d'Emploi de l'Avion pour le Transport des Denrees Perissables" (Conditions for Use of Aeroplanes for the Transportation of Perishable Foodstuffs), article, Bulletin, Institut International du Froid, vol. 41, no. 1, 1961, pp. 302-308, printed in French with English summary. Institut International du Froid, 177 Boulevard Maiesherbes, Paris XVII, France.

"Railroads Offer Incentive Rates to Induce Frozen Food Freight," article, Quick Frozen Foods, vol. XXVI, no. 1, August 1963, pp. 311-312, printed. E. W. Williams Publications, Inc., 1776 Broadway, New York 19, N. Y.

"Study of Rates on Fish and Fishery Products Via Rail, Motor, Water, and Express Including the Development of Applicable Rates and Rate Levels, 57 pp., illus., processed. General Services Administration, Transportation and Communications Service, Washington, D. C. (Available from Transporta-

tion Section, U. S. Bureau of Commercial Fisheries, 400 Wyatt Bldg., Washington, D. C. 20005.) A transportation rate study showing various freight rate systems and individual rate relationships for fishery products. The study is composed of an exhibit divided into four parts plus an explanatory statement. The exhibit shows origin, destination, commodity, transportation tariff commodity description, rates, tariff authority, routing, minimum weights, and type of transportation. Part I covers imports, exports, and cross trade. Part II lists intercoastal steamship, and domestic rail, motor and REA express information. Part III contains the rates and charges applicable from major Alaska ports to Seattle via Alaska Steamship Company, for subsequent movement beyond Seattle by intercoastal carriers. Part IV shows charges assessed by port terminal operators at major United States ports for handling fishery products. The study will be useful for comparing the relationships of transportation costs between competitive points and for determining which companies perform the services and which tariffs are applicable between these points. The rates shown were effective during April, May and June 1962. Individual rates may have changed since then, and for this reason, the study should not be used as a reference for current rates.

TRAWL FISH:

"Glossary of Common Trawl Fish, by Howard D. Tait, Informational Leaflet No. 15, 5 pp., processed. Alaska Department of Fish and Game, Subport Bldg., Juneau, Alaska, 1962.

TRAWLING:

"Hacktralare, Flyttalar, och Tralsonders" (Stern Trawling, Floating Trawling, and Bottom Trawling), article, Svenska Vastkust Fiskaren, vol. 33, no. 13-14, July 15, 1963, pp. 338-340, illus., printed in Swedish. Svenska Vastkustfiskarnas Centralforbund, Goteborg, Sweden.

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

TUNA:

"Observations on the Spawning of Four Species of Tuna (Neothunnus macropterus, Katsuwonus pelamis, Auxis thazard and Euthynnus lineatus) in the Eastern Pacific Ocean, Based on the Distribution of Their Larvae and Juveniles," by Witold L. Klawe, article, Inter-American Tropical Tuna Commission Bulletin, vol. VI, no. 9, 1963, pp. 449-540, illus., printed in Spanish and English. Inter-American Tropical Tuna Commission, La Jolla, Calif.

Synopsis for F. A. O. Species and Stocks Thesaurus of Data on THUNNUS THYNNUS Maccoyi (Castelnau), by J. P. Robins, 36 pp., illus., processed. Commonwealth Scientific and Industrial Research Organization, Division of Fisheries and Oceanography, Cronulla, Australia, 1962.

TURKEY:

"Balik ve Balikcilik, vol. XI, no. 8, August 1963, 35 pp., illus., printed in Turkish with English table of contents. Et ve Balik Kurumu G. M., Balikcilik Mudur-

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lugu, Besiktas, Istanbul, Turkey. Includes, among others, articles on: "The Production of Fish Oil Which Are Used in Industry by the Action of Sulphur Compounds;" "Izui Line Hauler in the Marmara Sea," and "The Role of Lights in the Kingdom of Fish and Light Fishing."

UNITED KINGDOM:

Sea Fisheries Statistical Tables, 1962, 48 pp., printed, 5s. (about 70 U.S. cents). Ministry of Agriculture, Fisheries and Food, London, England, 1963. (Available from Her Majesty's Stationery Office, York House, Kingsway, London WC2, England.) For the first time in many years, United Kingdom landings of fresh fish increased and 1962's total of 15,718,000 cwts. was about 804,000 cwts. higher than that in 1961. Wholesale prices, however, dropped and the total value realized in 1962 was £48,862,000 compared with £49,258,000 in the previous year. The value of shellfish continued to rise to £2,461,000. This report consists of statistical tables showing the quantity, value, and average value of fish and shellfish landed in England and Wales by species, region, and method of capture. The different kinds of fish are divided into three main groups: demersal, pelagic, and shellfish. Also includes data on number of fishermen and fishing vessels employed as well as quantity and value of exports and imports, 1961-1962, by kinds and countries.

White Fish Authority, Annual Report and Accounts for the Year Ended 31st March 1963, 59 pp., illus., printed, 3s. 6d. (about 50 U.S. cents). Her Majesty's Stationery Office, York House, Kingsway, London WC2, England, June 14, 1963. Discusses the activities and functions of the White Fish Authority for the fiscal year ending March 31, 1963, its income, expenditures, and fishery loans. Includes sections on production of fishery products; marketing and distribution; research and experiments undertaken; training courses for fishermen; and investigations into the costs and earnings of inshore fishermen. Also includes statistical tables on distribution of trawlers; rebuilding of fleets; interest rates charged by the Authority on loans; a summary of white fish imports; and rates of special subsidy.

U. S. S. R.:

Biology of the Seas of the U. S. S. R., by L. Zenkevitch, 955 pp., illus., printed, \$25, 1963. Interscience Publishers, 440 Park Ave. S., New York 16, N. Y. No country in the world possesses such an abundance and variety of bodies of water as the U. S. S. R. There are in all, 14 seas comprising 5 percent of the total area of the world's water, and their composition ranges from full marine salinity to the brackish. There is an astonishing variety of physiogeographical conditions, which in turn presents a great complexity of flora and fauna, forming a rich subject for scientific investigation. This volume contains a great deal of scientific information, much of it arranged in illustrations, graphs, and tables. It is divided into three areas under headings of The Northern, Southern, and Far Eastern Seas of the U. S. S. R. The Northern Seas are the Barents, White, Kara, Laptev, Chukotsk, and Baltic. The Southern Seas are the Black, Azov, Caspian, and Aral. The Far Eastern Seas are Japan, Okhotsk,

and Bering. In each section the principal aspects of the area are first discussed; general characteristics, zoogeography, hydrological and geological conditions and, where applicable, its commercial productivity. Each sea is then examined in a separate chapter in relation to its particular characteristics, flora and fauna, chemistry, physical geography and geology, and the history of its exploration. Detailed information on the biology and ecology of fish and shellfish species in each sea is included. In addition to its contribution to methodology and approach, the work will prove invaluable as a source of information about areas with which the western biologist has no direct contact.

Management of Fisheries and Dynamics of Fish Populations, USSR, OTS 63-31056, 49 pp., processed, \$1.25. Office of Technical Services, U. S. Department of Commerce, Independence Ave. and Ohio Dr. SW., Washington, D. C. 20235, June 18, 1963.

Most Promising Fishing Regions According to Data of Oceanological Research USSR, by D. Ya. Berenbeym and A. N. Probatov, OTS 63-31089, 10 pp., illus., processed, 50 cents. Office of Technical Services, U. S. Department of Commerce, Independence Ave. and Ohio Dr. SW., Washington, D. C. 20235, June 21, 1963.

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Mechanization of Fishing in Andhra Pradesh, IPFC Occasional Paper 1963/4, printed. Indo-Pacific Fisheries Council, FAO Regional Office for Asia and the Far East, Maliwan Mansion, Phra Atit Rd., Bangkok, Thailand, 1963.

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VOCATIONAL TRAINING:

Report on the Educational Program for Fishermen of the Maritime Provinces, 17 pp., printed. Extension Department, St. Francis Xavier University, Antigonish, Nova Scotia, 1963.

System of Professional Training in the Fishery Industry: Lecture No. 7 of the Seminar and Study Tour for Fishery Administration from Indo-Pacific and Mediterranean Regions, September-October 1961, Moscow, 22 pp., printed. Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy.

Vocational Training and Certificates of Competency, 2 parts, printed. International Labour Organisation Committee on Conditions of Work in the Fishing Industry, Geneva, Switzerland, 1962.