

FISH AND WILDLIFE SERVICE PUBLICATIONS

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CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES.
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.

Number	Title
CFS-3202	- Maryland Landings, July 1963, 3 pp.
CFS-3242	- Georgia Landings, May 1963, 3 pp.
CFS-3244	- Maryland Landings, 1962 Annual Summary, 9 pp.
CFS-3245	- Virginia Landings, May 1963, 3 pp.
CFS-3256	- Massachusetts Landings, January 1963, 5 pp.
CFS-3260	- Frozen Fishery Products, July 1963, 8 pp.
CFS-3263	- Shrimp Landings, March 1963, 7 pp.
CFS-3264	- Shrimp Landings, April 1963, 7 pp.
CFS-3274	- Maryland Landings, June 1963, 3 pp.
CFS-3280	- Frozen Fishery Products, August 1963, 8 pp.
CFS-3281	- Gulf Coast Shrimp Data, January 1963, 15 pp.
CFS-3284	- Gulf Coast Shrimp Data, February 1963, 15 pp.
CFS-3285	- Gulf Coast Shrimp Data, March 1963, 18 pp.
CFS-3286	- Oregon Landings, 1962 Annual Summary, 2 pp.
CFS-3287	- Georgia Landings, July 1963, 3 pp.
CFS-3289	- North Carolina Landings, July 1963, 4 pp.
CFS-3290	- South Carolina Landings, July 1963, 3 pp.
CFS-3291	- Middle Atlantic Fisheries, 1962 Annual Summary, 4 pp.
CFS-3292	- California Landings, June 1963, 4 pp.
CFS-3293	- Rhode Island Landings, June 1963, 3 pp.
CFS-3294	- Hawaii Fisheries, 1962 Annual Summary, 4 pp.
CFS-3295	- Alabama Landings, June 1963, 3 pp.
CFS-3299	- Gulf Coast Shrimp Data, April 1963, 21 pp.
CFS-3300	- Alabama Landings, July 1963, 3 pp.
CFS-3301	- New York Landings, July 1963, 4 pp.
CFS-3306	- Shrimp Landings, May 1963, 7 pp.
CFS-3313	- Louisiana Landings, July 1963, 2 pp.
CFS-3316	- South Atlantic Fisheries, 1962 Annual Summary, 6 pp.
CFS-3318	- Florida Landings, August 1963, 8 pp.

Wholesale Dealers in Fishery Products, 1962 (Revised):
SL-12 - Virginia, 11 pp.
SL-16 - Florida, 15 pp.

Sep. No. 692 - Handling and Packing of Frozen Breaded Shrimp and Individually Frozen Peeled and Deveined Shrimp.

Sep. No. 693 - Five Years of Voluntary Fishery Products Inspection.

Sep. No. 694 - Foreign Fisheries Briefs.

New England's Commercial Fisheries, Conservation Note 13, 8 pp., illus., December 1962. Discusses briefly the history of the New England fisheries, and the fisheries for bottomfish--haddock, ocean perch, flounders, cod, whiting, pollock, scup, white hake, cusk, and butterfish; pelagic fish--sea herring, menhaden, tuna, mackerel, and sharks; anadromous fish--alewives, shad, and salmon; and shellfish--lobster, sea scallop, bay scallop, clams, crabs, oysters, and mussels. The final section covers the industrial fishery; its expansion in the late 1940's and early 1950's, the nutritional value of industrial fish byproducts, and the development of fish protein concentrate for human consumption.

A Program of Fishery Research and Services, North Atlantic Region, Circular 164, 23 pp., illus., printed, May 1963. Outlines the North Atlantic Region's share in the responsibility assigned to the Bureau of Commercial Fisheries by the Congress, "To aid in maintaining the welfare of the fisheries of the United States and its territories by conducting research, investigations, and studies and by providing marketing, informational, and other services for the commercial fishing industry and the general public." Discusses the regional structure--biological research, exploratory fishing and gear research, technological research, technical advisory unit, marketing, statistical services, market news, financial assistance, safety at sea, and resource management. Also covers the status of the fisheries and research programs for trawl fish, menhaden, herring, oysters, sea scallops, clams, and blue crabs. Presents information on service programs of the technical advisory unit, statistical work, market news, market promotion and test kitchen research, direct financial assistance, resource management, safety at sea, and discusses the fishing industry of tomorrow.

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-17	- Italian Fishing Industry, 1962, 11 pp.
MNL-26	- Taiwan Fisheries in 1962, 21 pp.
MNL-75	- Argentina's Fishing Industry, 1962, 13 pp.
MNL-84	- Faroe Islands Fisheries, 1962, and 1963 Trends, 32 pp.

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

On the Requirements for a Research Submarine, by O. A. Sokolov, 9 pp., processed. (Translated from the Russian, Methods and Results in Underwater Research, vol. 14, 1962, pp. 116-122.)

Studies on Biting of Fishes. I--On Feeding in the Goldfish, by Teiji Kariya, 11 pp., illus., processed. (Translated from the Japanese, Suisan Zoshoku, vol. 7, no. 3, March 1960, pp. 29-36.)

A Study on the "Biting" of Skipjack in the Live-Bait Fishery. Part I--Relation between the "Biting" and the Alimantal Canal in the Tohoku Sea Area, by Hideyuki Hotta, Teiji Kariya, and Toru Ogawa, 32 pp., illus., processed. (Translated from the Japanese, Bulletin of the Tohoku Regional Fisheries Research Laboratory, no. 13, March 1959, pp. 60-78.)

A LIMITED NUMBER OF COPIES OF THE FOLLOWING ENGLISH TRANSLATIONS OF FOREIGN LANGUAGE ARTICLES IS AVAILABLE FROM THE TRANSLATION PROGRAM, BRANCH OF REPORTS, U. S. BUREAU OF COMMERCIAL FISHERIES, 2725 MONTLAKE BLVD. E., SEATTLE, WASH., 98102.

The Application of Biometrics in Taxonomy, by A. A. Liubishchev, OTS 60-51147, 11 pp., printed.

On the Dynamics of Coastal Currents, by V. G. Labeish, OTS 60-51146, 7 pp., printed.

Experimental Data on the Toxicology of the Insecticide Heptachlor, by V. I. Osetrov, OTS 61-11488, 6 pp., printed.

Pacific Salmon--Selected Articles from Soviet Periodicals, OTS 60-51139, 284 pp., printed.

The Pattern of Climatic Fluctuation Structure in the Arctic during the Last Decades, by V. L. Petrov, OTS 60-51154, 9 pp., printed.

Stations for Improving Natural Propagation of Far East Salmon, by G. V. Nikol'skii, OTS 6-21098, 9 pp., printed.

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

(Baltimore) Monthly Summary--Fishery Products, April and June 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, August 1963, 17 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, September 1963, 8 pp., illus. (U. S. Bureau of Commercial Fisheries, Biological Laboratory, P. O. Box 6121, Pt. Loma Station, San Diego 6, Calif.) Contains sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists; for the month indicated.

(Chicago) Monthly Summary of Chicago's Wholesale Market Fresh and Frozen Fishery Products Receipts, Prices, and Trends, September 1963, 13 pp. (Market News Service, U. S. Fish and Wildlife Service, U. S. Customs House, 610 S. Canal St., Rm. 1014, Chicago, Ill. 60607.) Receipts at Chicago by species and by states and provinces for fresh- and salt-water fish and shellfish; and weekly wholesale prices for fresh and frozen fishery products; for the month indicated.

Gulf of Mexico Monthly Landings, Production and Shipments of Fishery Products, August 1963, 8 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, September 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, August and September 1963, 21 pp. each. (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 months indicated.

New York City's Wholesale Fishery Trade--Monthly Summary--July and August 1963, 16 and 18 pp., respectively. (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; fish meal, oil, and solubles; and landings at Fulton Fish Market docks; for the months indicated.

Production of Fishery Products in Selected Areas of Virginia, Maryland, and North Carolina, 1962, by William N. Kelly, 40 pp., processed. (Market News Service, U. S. Fish and Wildlife Service, 18 S. King St., Hampton, Va. 23369.) A summary of commercial landings of fish and shellfish and the production of crab meat and shucked oysters as reported by producers and wholesalers from selected principal fishing localities of Virginia, Maryland, and North Carolina. The statistics contained in this annual summary represent the approximate commercial fisheries production only and do not represent complete commercial landings or production for a given area, individual state, or the Chesapeake Bay area as a whole. However, the statistics give an indication as to the trend in fisheries production for the specific areas designated and reflect the over-all production trend by species, localities, and states.

(Seattle) Washington and Alaska Receipts and Landings of Fishery Products for Selected Areas and Fisheries, Monthly Summary, September 1963, 9 pp. (Market News Service, U. S. Fish and Wildlife Service, 706 Federal Office Bldg., 909 First Ave., Seattle, Wash. 98104.) Includes Seattle's landings by the halibut and salmon fleets reported through the exchanges; landings of halibut reported by the International Pacific Halibut Commission; landings of otter-trawl vessels as reported by the Fishermen's Marketing Association of Washington; local landings by independent vessels; coastwise shipments from Alaska by scheduled and non-scheduled shipping lines and airways; imports from British Columbia via rail, motor truck, shipping lines, and ex-vessel landings; and imports from other countries through Washington customs district; for the month indicated.

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

"Anesthetizing and Air-Transporting Young White Sturgeons," by Duane T. Rodman, article, The Progressive Fish-Culturist, vol. 25, no. 2, April 1963, pp. 71-78, illus., processed, single copy 25 cents.

"Artificial Hybridization of the Muskellunge and Grass Pickerel in Ohio," by Donald L. Tennant and George Billy, article, The Progressive Fish-Culturist, vol. 25, no. 2, April 1963, pp. 68-70, illus., processed, single copy 25 cents.

"Bibliography on Biology of Cod, Gadus morhua, and Related Species," by John P. Wise, Fishery Bulletin 215 (from Fishery Bulletin of the Fish and Wildlife Service, vol. 62), 60 pp., printed, 40 cents, 1963.

"A Cost Analysis of Farm Ponds in Tomkins County, New York," by Henry A. Regier, article, The Progressive Fish-Culturist, vol. 25, no. 3, July 1963, pp. 144-148, processed, single copy 25 cents.

"Folic Acid as an Anti-Anemia Factor for Brook Trout," by Arthur M. Phillips, Jr., article, The Progressive Fish-Culturist, vol. 25, no. 3, July 1963, pp. 132-134, processed, single copy 25 cents.

"Kidney Disease of Salmonid Fishes and the Analysis of Hatchery Waters," by James W. Warren, article, The Progressive Fish-Culturist, vol. 25, no. 3, July 1963, pp. 121-131, processed, single copy 25 cents.

"A Portable A. C.-D. C. Back-Pack Fish Shocker Designed for Operation in Ontario Streams," by H. R. McCrimmon and A. H. Berst, article, The Progressive Fish-Culturist, vol. 25, no. 3, July 1963, pp. 159-162, illus., processed, single copy 25 cents.

"Salmon and Steelhead Runs at Eagle Creek National Fish Hatchery," by John Parvin and Marvin A. Smith, article, The Progressive Fish-Culturist, vol. 25, no. 2, April 1963, pp. 97-100, processed, single copy 25 cents.

"Trout Culture in Denmark," by F. Bregnballe, article, The Progressive Fish-Culturist, vol. 25, no. 3, July 1963, pp. 115-120, illus., processed, single copy 25 cents.

MISCELLANEOUS PUBLICATIONS

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ABALONE:

"Diet and Growth in the Black Abalone, Haliotis cracherodii," by David Leighton and Richard A. Boottian, article, Ecology, vol. 44, no. 2, Spring 1963, pp. 227-238, illus., printed, single copy \$5. Circulation Office, Duke University Press, Box 6697, College Station, Durham, N. C.

ALGAE:

Production Bases for the Development of Unicellular Algae, by N. P. Arutyunyan, OTS 63-21044, 14 pp., processed, 50 cents. (Translated from the Russian, Izvestiya Akademii Nauk Armyanskoy SSSR, Biologicheskiye Nauki, vol. 15, no. 11, November 1962, pp. 85-93.) Office of Technical Services, U. S. Department of Commerce, Bldg. T-30, Ohio Dr. and Independence Ave. SW., Washington 25, D. C., February 1, 1963.

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ANATOMY:

"The Caudal Neurosecretory System of Fishes," by Howard A. Bern and Noboru Takasugi, article, General and Comparative Endocrinology, vol. 2, 1962, pp. 96-110, printed. Academic Press Inc., 111 Fifth Ave., New York 3, N. Y.

Investigation of the Possible Utility of Meristic Characters of Fishes as Indicators of Coastal Circulation, Final Report, 2 pp., printed, \$1.10. University of Oregon, Eugene, Oreg., 1963. (For sale by the Office of Technical Services, U. S. Department of Commerce, Bldg. T-30, Ohio Dr. and Independence Ave. SW., Washington 25, D. C.) Meristic characters of fish (numbers of vertebrae, fin spines, and fin rays) give a good account of the thermal history during early development. Preliminary studies indicate that by intensive sampling of populations of juveniles of certain species as they arrive from their larval tour in the plankton, a good assessment could be made of the direction this larval tour took.

ANTIBIOTICS:

"Antibiotic Dips for Preserving Fillets," article, Canadian Fisherman, vol. 50, no. 8, August 1963, pp. 22-23, printed, single copy C\$2. National Business Publications Ltd., Gardenvale, Que., Canada.

"Que Faut-Il Penser de la Glace aux Antibiotiques? Offre-t-Elle un Reel Interet?" (What Must One Think of the Antibiotic Dip? Does It Offer Any Real Interest?), article, France Peche, no. 75, July-August 1963, pp. 47-50, printed in French. France Peche, Boite Postale 179, Lorient, France.

ASCORBIC ACID:

"Ascorbic Acid Content in Edible Tunicates from the Italian Seas," by Cosimo Sebastio (Exptl. Inst., Pescara, Italy), article, Chemical Abstracts, vol. 57, October 29, 1962, 11614a, printed. The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

ATLANTIC:

The Bionomics of the Fisheries Resources of the Eastern Tropical Atlantic, by Alan R. Longhurst, Colonial Office Fishery Publication No. 20, 1963, 71 pp., illus., processed, \$3.60. Sales Section, British Information Service, 845 Third Ave., New York 22, N. Y.

BACTERIOLOGY:

"The Behavior of Food-Poisoning Bacteria in Fish Preserves and Oils," by K. O. Schwerin (Bur. Vet. Res. Animal Health, Greifswald, Germany), article, Chemical Abstracts, vol. 57, October 29, 1962, 11605g, printed. The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

BERMUDA:

Annual Report of the Director of Agriculture and Fisheries for the Year 1962, 21 pp., printed. Department of Agriculture and Fisheries, Hamilton, Bermuda, February 1963. Includes a section on work of the Fisheries Division. Discusses the drafting of new fisheries regulations, installation of fish-freezing and cold-storage facilities at a marketing center, interviewing of and discussion of problems with local fishermen, and organization of an Association of Fishermen.

BIOCHEMISTRY:

"Biochemical Changes in Fish Muscle during Rigor Mortis," by D. J. Nazir and N. G. Magar, article, Journal of Food Science, vol. 28, January-February 1963, pp. 1-7, printed. Institute of Food Technologists, 510-522 N. Hickory St., Champaign, Ill.

"Marine Sterols. V--Isolation of 7,24(28)-Ergostadien-38-OL from Starfish," by U. H. M. Fagerlund and D. R. Idler, article, Journal of the American Chemical Society, vol. 81, 1959, p. 401, printed. The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

Nucleotide Concentration in Codling (GADUS CAL-LARIAS) Muscle Passing Through Rigor Mortis at 0°, by N. R. Jones and J. Murray, Torry Memoir No. 56, printed. Torry Research Station, Aberdeen, Scotland, 1961.

"Nucleotide Degradation in the Muscle of Iced Haddock (Gadus aeglefinus), Lemon Sole (Pleuronectes microcephalus), and Plaice (Pleuronectes platessa)," by Bung-Orn Kassemarn and others, article, Journal of Food Science, vol. 28, January-February 1963, pp. 28-37, printed. Institute of Food Technologists, 510-522 N. Hickory St., Champaign, Ill.

BLOATER:

"Food of the Bloater, Coregonus hoyi, in Lake Michigan," by LaRue Wells and Alfred M. Beeton, article, Transactions of the American Fisheries Society, vol. 92, no. 3, pp. 245-255, printed. Secretary, American Fisheries Society, P. O. Box 483, McLean, Va.

BLOOD:

"Blood pH and Mortality in Rainbow Trout (Salmo gairdnerii) and Sockeye Salmon (Oncorhynchus nerka)," by R. E. E. Jonas, Harcharan Sehdeva, and N. Tomlinson, article, Journal of the Fisheries Research Board of Canada, vol. 19, July 1962, pp. 619-624, printed. Queen's Printer and Controller of Stationery, Ottawa, Canada.

CALIFORNIA:

Publications of Department of Fish and Game, 11 pp., printed, May 1963. State Printing Division, Documents Section, N. 7th St. at Richards Blvd., Sacramento 14, Calif.

CANADA:

Journal of the Fisheries Research Board of Canada, vol. 20, no. 4, July 1963, 251 pp., illus., printed, single copy C\$2. Queen's Printer and Controller of Stationery, Ottawa, Canada. Includes, among others, articles on: "Influence of Light and Temperature on the Reproductive Cycle of the Eastern Brook Trout, Salvelinus fontinalis (Mitchill)," by Nancy E. Henderson; "Extent of Atresia in Maturing Ovaries of the Eastern Brook Trout, Salvelinus fontinalis (Mitchill)," by Nancy E. Henderson; "Extractives of Fish Muscle. 3--Amounts, Sectional Distribution, and Variations of Fat, Water-Solubles, Protein and Moisture in Cod (Gadus morhua L.) Fillets," by N. Damberg; "Observations on the Migration of Young Sockeye Salmon (Oncorhynchus nerka) through a Large, Complex Lake System," by W. E. Johnson and C. Groot; "The Effect of Tagging with Petersen Disc Tags on the Swimming Ability

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of Fingerling Steelhead Trout (*Salmo gairdnerii*)," by Dan W. Clancy; "Source of Paralytic Shellfish Toxin in the Bay of Fundy," by A. Prakash; "Accelerated Cooling of Wet, Heavily Salted Fish," by A. L. Wood; "Temperature, Salinity and Plankton in the Eastern North Atlantic and Coastal Waters of Britain, 1957. II--The Relationships between Species and Water Bodies," by B. McK. Bary; and "An Investigation of Herring (*Clupea harengus* L.) Spawning Using Free-Diving Techniques," by S. N. Tibbo, D. J. Scarratt, and P. W. G. McMullon.

Oceanography and Canadian Atlantic Waters, by H. B. Hachey, Bulletin No. 134, Cat. No. Fs 94-134, 126 pp., illus., printed, C\$1.50. Queen's Printer and Controller of Stationery, Ottawa, Canada, 1962.

CANNING:

Refrigerative Canning of Fish Products, by V. P. Zaitsev, 430 pp., printed in Russian. Pishchepromizdat, Mruzooskii, Prospekt No. 1, Moscow, U. S. S. R., 1962.

CHILE:

"Chilean Fishing-Industry Survey," article, Food Technology, vol. 17, April 1963, pp. 32-33, printed. The Garrard Press, 510 N. Hickory St., Champaign, Ill.

Montemar, vol. 1-2, no. 3, March 1963, 47 pp., illus., printed in Spanish with English summary. Universidad de Chile, Instituto de Biología, Biblioteca, Casilla 13-D, Vina del Mar, Chile. Includes articles on: "Observaciones sobre la Madurez Sexual del Cachalote Macho (*Physeter catodon* L.), Capturado en Aguas Chilenas" (Observations on the Sexual Maturity of Male Sperm Whales (*Physeter catodon* L.) Captured in Chilean Waters), by Anelio Aguayo Lobos; and "Cyamidae (Crustacea: Amphipoda) en *Physeter catodon* L. Capturados en Chile con descripción de una Nueva Especie *Cyamus bahamondei*" (Cyamidae (Crustacea: Amphipoda) Parasites on *Physeter catodon* L. Captured in Chile with a Description of a New Species *Cyamus bahamondei*), by Ramon Buzeta B.

CHINA:

"The Fisheries of Mainland China," by E. F. Szczepanik, article, Fishing News International, vol. 1, no. 1, 1961, pp. 39-42, printed. Arthur J. Heighway Publications, Ltd., Ludgate House, 110 Fleet St., London EC4, England.

CHITIN:

"Studies on Chitin. V--The Action of Mineral Acids on Chitin," by R. H. Hackman, article, Australian Journal of Biological Sciences, vol. 15, 1962, pp. 526-537, illus., printed. Commonwealth Scientific and Industrial Research Organization, 314 Albert St., Melbourne C2, Australia.

CLAMS:

"Variacion Estacional de la Composicion Quimica de la Almeja Babosa (*Tapes pullastra*, Mont.)" (Seasonal Variation in Chemical Composition of Clam, *Tapes pullastra* Mont.), by G. Alvarez-Seoane, article, Investigacion Pesquera, vol. 17, 1960, pp. 3-32, illus., printed in Spanish with English summary. Consejo Superior de Investigaciones Cientificas, Universidad de Barcelona, Barcelona, Spain.

"*Venus mercenaria* (L.) in Southampton Water," by Alan D. Ansell, article, Ecology, vol. 44, no. 2, Spring 1963, pp. 396-397, illus., printed, single copy \$5. Circulation Office, Duke University Press, Box 6697, College Station, Durham, N. C.

CLUPEOID FISH:

"Electrophoretic Analysis of the Hemoglobins of Atlantic Clupeoid Fishes," by Carl J. Sindermann and Kenneth A. Honey, article, Copeia, no. 3, September 25, 1963, pp. 534-537, illus., printed, single copy \$2.50. American Society of Ichthyologists and Herpetologists, 18111 Nordhoff St., Northridge, Calif.

COLOMBIA:

Legislacion Nacional de Pesca Y Caza Vigente (National Legislation in Force on Fishing and Hunting), 218 pp., illus., printed in Spanish. Division de Recursos Naturales, Ministerio de Agricultura, Bogota, Colombia, 1963.

COMBINATION VESSEL:

"Aspects of the Combination Fishing Vessels," by J. G. de Wit, article, Holland Shipbuilding, vol. 10, no. 5, 1961, pp. 36-38, printed. The Marine Publication Co., 10 Burgemeester's Jacobplein, Rotterdam, Netherlands.

COMPOSITION:

"Lobster Shell and Hemolymph Composition under Normal and Acidotic Conditions," by Kora K. Hayes, Leon Singer, and W. D. Armstrong (University of Minnesota, Minneapolis, Minn.), article, Chemical Abstracts, vol. 57, July 9, 1962, 1392g, printed. The American Chemical Society, 1155 16th St. NW., Washington 6, D. C.

CYPRINID FISH:

"Cyprinid Fishes of the Subgenus *Cyprinella* of *Notropis*. The *Notropis whipplei-analostanus-chloristius* Complex," by Robert H. Gibbs, Jr., article, Copeia, no. 3, September 25, 1963, pp. 511-528, illus., printed, single copy \$2.50. American Society of Ichthyologists and Herpetologists, 18111 Nordhoff St., Northridge, Calif.

DECOMPOSITION:

"Formol in Marine Products. The Influence of Treatment by Sulphur Anhydride," by F. Soudan and others, article, Revue des Travaux, Institut Scientifique et Technique des Peches Maritimes, vol. 25, no. 4, 1961, pp. 407-412, printed in French. Institut Scientifique et Technique des Peches Maritimes, 59 Ave. Raymon Poincare, Paris XVI, France.

DRIED FISH:

"Dried Fish Handling in Nigeria. A Report of the West African Stored Products Research Unit," by M. J. Rollings and L. A. W. Hayward, article, Food Manufacture, vol. 37, October 1962, pp. 498-501, printed. Leonard Hill Ltd., 9 Eden St., London NW1, England.

DRYING:

The Drying of Fish, British Patent 893,769, printed. British Patent Office, 25 Southampton Bldgs., London WC2, England.

ENZYMES:

"Enzymatic Studies on the Glycolysis in Fish Muscle," by Fumio Nagayama, article, Bulletin of the Japa-

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nese Society of Scientific Fisheries, vol. 27, November 1961, pp. 1014-1017, printed. Japanese Society of Scientific Fisheries, Shiba-Kaigandori 6, Minato-Ku, Tokyo, Japan.

Fish Muscle Enzymes and Their Technological Significance, by N. R. Jones, Torry Memoir No. 104, printed. Torry Research Station, Aberdeen, Scotland.

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An Improved Prawn Trap, by T. H. Butler, Circular No. 67, 7 pp., printed. Fisheries Research Board of Canada, Biological Station, Naniamo, B. C., Canada, February 25, 1963.

"Some New Indices of Quality for Ice Stored Prawns," by T. K. Govindan, article, Science and Culture, vol. 28, no. 1, 1962, pp. 36-37, printed. Central Institute of Fisheries Technology, Ernakulam, South India.

SMALL BUSINESS MANAGEMENT:

Cooperative Arrangements Among Small Food Processors, by Wallace Rehberg, Hugh L. Cook, and Stanley Hack, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C. 20416. Cooperative arrangements could increase the survival rate of small firms in the food processing industries. Most such arrangements among food processors in Wisconsin have been used primarily for purchasing supplies, developing brand names, and exchanging management information. These arrangements have helped small, independent food processors gain the economies of large-scale operations, but economic opportunities suggest that the functions could profitably be expanded.

The Flow of Funds in Manufacturing Firms, by Caleb A. Smith, Management Research Summary, 2 pp., processed, 1963. Small Business Administration, Washington, D. C. 20416. Presents: (1) flow-of-funds data for 151 firms over a 7-year period; (2) a discussion of the tables; and (3) illustrations of possible uses of the data, especially in counseling small businessmen. Only one-fourth of the firms studied had, during their year of greatest expansion, obtained half or more of the funds for plant and equipment from sales of stock and assumption of long-term liabilities. Less than 1 in 10 covered the whole expenditure from these sources.

Investment Decision Making in Small Businesses, by Martin B. Solomon, Jr., Management Research Summary, 4 pp., illus., processed. Small Business Administration, Washington, D. C. 20416, March 1962. Small businessmen can profitably give attention to three phases of investment decision making--planning, search, and choice. The report deals mainly with the search for and choice of investment opportunities. The purpose of the study was to determine what procedures will help the small businessman make sound decisions about the investment of his company's funds. Conclusions are based primarily on a study of the investment decisions of 40 small business firms.

Marketing Through Food Brokers, by Frank Johnson, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C. 20416. Brokers, operating in one specific locale, can often develop more effective selling relations than company sales representatives. When selecting new companies to represent, brokers seek those whose products can be worked into the existing sales structure and not conflict with products already being handled. The greater part of a broker's business comes from his top four lines. Total commissions tend to be proportional to the number of companies represented.

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

Operations Research in Small Business, by N. Paul Loomba, Albert Buckberg, and Bob R. Holdren, Management Research Summary, 2 pp., processed, 1963. Small Business Administration, Washington, D. C. 20416. Emphasis on a "systems" approach is perhaps the most important contribution of operations research to small business. The systems approach gives an executive information he can use in making decisions that involve conflicting objectives. Small firms can use the operations research approach and methods without incurring prohibitive costs. However, some of the applications of operations research, such as setting inventory policy, are complicated and may be too expensive for small companies.

Pointers on Raw Materials Inventory Control, by David Schneider, Management Aid No. 155, 4 pp., processed. Small Business Administration, Washington, D. C. 20416. Raw materials represent a major part of the investment in many small plants. Proper inventory control can help owner-managers to increase the return on that investment. Proper inventory control involves the procurement, care, and disposition of materials. It helps to keep stocks moving through the plant and thus prevents investing money in unnecessary stocks. This leaflet discusses steps that can be used in setting up inventory control or in checking an existing control system. Suggests several kinds of records that may be used to control inventory efficiently in small plants.

Puerto Rican Manufacturing--Local and Nonlocal Ownership, by Amadeo I. D. Francis, Management Research Summary, 2 pp., processed. Small Business Administration, Washington, D. C. 20416, 1963. In number and in production totals, nonlocally owned manufacturing firms in Puerto Rico grew much faster between 1954 and 1958 than did locally owned firms. Nevertheless, shipments within the Commonwealth by locally controlled firms expanded by \$78 million during the 4-year period. The growth in sales within Puerto Rico by nonlocally owned firms was accomplished primarily by competing with imports--that is, replacement of imports by production in the Commonwealth itself.

Redistribution of Trade in Population Shifts, by Surinder K. Mehta, Management Research Summary, 4 pp., processed. Small Business Administration, Washington, D. C. 20416. Suburbanization of retail establishments and sales has accompanied suburbanization of population in Rhode Island, according to the report. In general, the advantages of older retail trade centers in volume of sales per establishment and per capita sales have lessened. It was found, however, that per capita sales in Providence were still relatively very high. Redistribution of population seems to have had little or no effect on the distribution of wholesale sales, or on volume of sales per establishment in the various communities. There was some effect, however, on the distribution of wholesale establishments. The suburbanization of population seems to have had some effect on the distribution of the service trades but the effect varied considerably by type of service trade activity.

A Study of Retailer Survival, by Elizabeth Y. Deran, Management Research Summary, 2 pp., processed, 1963. Small Business Administration, Washington,

D. C. 20416. A summary of a study on how successful small retail firms differ from less successful and failing firms. The most successful firms were more likely to pursue a vigorous merchandising policy, consult outside accountants, post records daily, and use operating ratios than the less successful firms. A larger percent of the successful owners had prior managerial experience in the same or related lines. The less successful firms had more problems due to neighborhood changes, personal affairs, chainstore competition, or excessive customer credit.

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"Bacteriology of Spoilage of Fish Muscle. I--Sterile Press Juice as a Suitable Experimental Medium" by Peter Lerke, Ralph Adams, and Lionel Farber, article, Applied Microbiology, vol. 11, no. 5, September 1963, pp. 458-462, illus., printed, single copy \$3. The Williams and Wilkins Co., 428 E. Preston St., Baltimore 2, Md.

SQUID:

"Polysaccharides from the Liver of the Squid *Ommastrephes Sloani pacificus*," by Eugene Rosenberg and Stephen Zamenhof, article, Journal of Biochemistry, vol. 51, no. 4, 1962, pp. 274-276, printed. Editorial Board Dept. of Biochemistry, Faculty of Medicine, Tokyo University, Bunkyo-ku, Tokyo, Japan.

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TRAWLING:

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Studies of Two Races of Cutthroat Trout in Northern Idaho, by Robert C. Averett, 58 pp., illus., printed. Idaho Fisheries Division, Moscow, Idaho, 1962.

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"Las Conservas de Pescado en el Mercado Ingles" (Canned Fish in the English Market), by Alevin, article, Industria Conservera, vol. XXIX, no. 287, May 1963, p. 119, printed in Spanish. Union de Fabricantes de Conservas de Galicia, Calle Marques de Valadares, 41, Vigo, Spain.

U. S. S. R.:

Complete Mechanization and Automation in the Fish Industry--An Urgent Task, by A. A. Ishkov, OTS 63-21606, 20 pp., illus., processed, 50 cents. (Translated from the Russian, Rybnoe Khoziaistvo, no. 2, 1963, pp. 3-9.) Office of Technical Services, U. S.

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

Department of Commerce, Ohio Dr. and Independence Ave. SW., Washington 25, D. C.

Problems of Fishing Industry Development, by A. Ishkov, OTS 63-21330, 8 pp., printed. (Translated from the Russian, Pravda, January 28, 1963, p. 2.) Office of Technical Services, U. S. Department of Commerce, Ohio Dr. and Independence Ave. SW., Washington 25, D. C., March 15, 1963.

Translations from Rybnoye Khozyaystvo (Fishing Industry), No. 2, 1962, USSR, 29 pp., printed, 75 cents. Office of Technical Services, U. S. Department of Commerce, Ohio Dr. and Independence Ave. SW., Washington 25, D. C., June 10, 1963.

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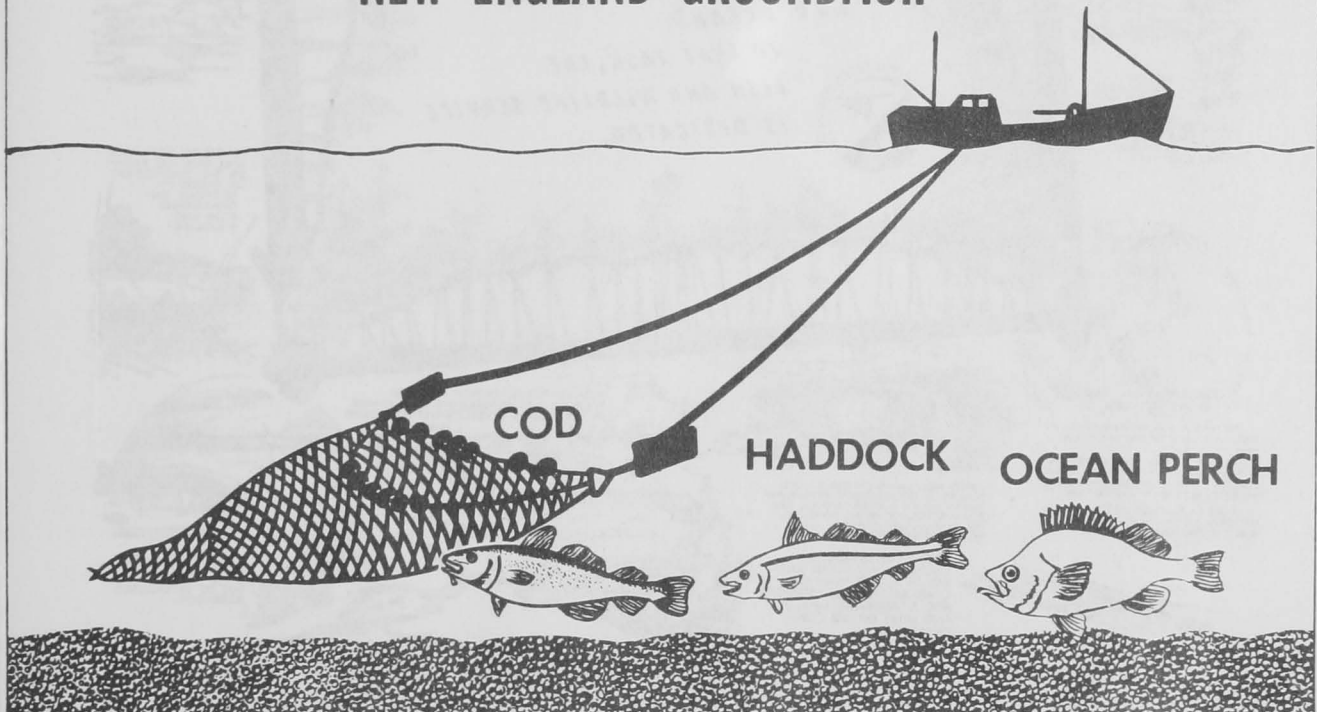
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NEW ENGLAND GROUND FISH





Research and Management

and for FOOD and RECREATION

THE WORK OF THE FISH AND WILDLIFE SERVICE
U.S. DEPARTMENT OF THE INTERIOR

THE BUREAU OF COMMERCIAL FISHERIES

THE SERVICE IS COMPOSED OF TWO BUREAUS



THIS BUREAU IS PLEDGED TO STRENGTHEN AND MAINTAIN A VIGOROUS FISHING INDUSTRY. OF THE 24 MILLION TONS OF FISH CAUGHT ANNUALLY — INDUSTRY TAKES 12 MILLION TONS, FOOD, 1.30 MILLION TONS, AND AGRICULTURE, 1.10 MILLION TONS.

THE BUREAU OF SPORT FISHERIES AND WILDLIFE

RECREATION PROVIDED BY THIS BUREAU IS NOT SPORT FOR SPORT'S SAKE — BUT A WAY OF NECESSARY RELAXATION AND RESPIRE FOR A PEOPLE WHOSE WORK HAS SHIFTED SO LARGELY FROM PHYSICAL TO MENTAL EFFORT.



50 MILLION AMERICANS HUNT OR FISH EACH YEAR. OTHER MILLIONS ENJOY WATCHING OR PHOTOGRAPHING OUR WILDLIFE.

THE LAND IS LIMITED — THE SEA MUST PRODUCE MORE. RESEARCH HAS FOUND NEW METHODS OF FISHING — AS WELL AS NEW AREAS TO FISH.



GOVERNMENT LABORATORIES ARE FINDING BETTER WAYS OF USING PROTEINS FROM FISH AND FISH PRODUCTS.



RATIONAL MANAGEMENT OF THE ALASKAN FUR SEALS HAS INCREASED THEM FROM 130,000 ANIMALS TO 1 1/2 MILLION YIELDING THOUSANDS OF SEAL SKINS EACH YEAR.



A MAJOR PROBLEM FACING THE NATION IS THE CONSOLIDATION OF ITS FISH AND WILDLIFE RESOURCES WITH THE CHANGING COMBINATIONS OF LAND AND WATER, AND TO MEET THE CHALLENGE OF DEVELOPING THE FOOD POTENTIAL OF THE LAKES AND OCEANS.

TO THAT TASK, THE FISH AND WILDLIFE SERVICE IS DEDICATED.



AS IN FARMING — WILDLIFE LAND OR WATER MUST PRODUCE MORE BENEFITS FOR MORE SPECIES.

THE 26 MILLION ACRES OF WILDLIFE REFUGES ARE NOT ONLY HAVENS FOR FISH AND WILDLIFE — BUT ALSO HOUSE OUTDOOR WILDLIFE LABORATORIES.

PESTICIDE RESEARCH WILL GIVE THE FARMER THE PROTECTION HE NEEDS — WITHOUT ENDANGERING FISH AND WILDLIFE.



CONSERVATION HAS GONE TO SEA. THE WORLD HAS AWAKENED TO THE IMPORTANCE OF THIS GREAT UNDEVELOPED AREA. AS MAN LEARNS MORE ABOUT THE OCEAN, THE CLOSER HE COMES TO HIS GOAL OF FARMING THE SEA — RAISING HIS FOOD INSTEAD OF HUNTING FOR IT. AMERICA BELONGS TO NINE INTERNATIONAL COMMISSIONS DEALING WITH THE PRODUCE OF THE SEA.



WHEN HIGH DAMS ON BIG RIVERS THREATEN OR DESTROY SPAWNING AREAS OR FISH MIGRATIONS, THE SERVICE POLICY IS TO IMPROVE THE REMAINING HABITAT AND TO STOCK THE STREAMS.

THE MANAGEMENT OF FISH AND WILDLIFE AND THE DEVELOPMENT OF LAND AND WATER PROJECTS ARE A "PACKAGE DEAL," AND MUST BE SO CONSIDERED.

WITH PROPER PLANNING — FISH AND WILDLIFE ARE ASSURED SUITABLE HOMES IN WATERSHED DEVELOPMENT PROGRAMS



THE POPULAR FARM PONDS HAVE INCREASED THEIR PRODUCTION — DUE TO INTENSIFIED RESEARCH.

FISH LADDER