



FISH AND WILDLIFE SERVICE PUBLICATIONS

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- CFS - CURRENT FISHERY STATISTICS OF THE UNITED STATES AND ALASKA.
 FL - FISHERY LEAFLETS.
 SL - STATISTICAL SECTION LISTS OF DEALERS IN AND PRODUCERS OF FISHERY PRODUCTS AND BYPRODUCTS.
 SSR.--FISH - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).
 SEP.-- SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

- | <u>Number</u> | <u>Title</u> |
|---------------|---|
| CFS-1154 | - New York Landings, April 1955, 4 pp. |
| CFS-1156 | - New Jersey Landings, April 1955, 2 pp. |
| CFS-1158 | - Florida Landings, March 1955, 6 pp. |
| CFS-1159 | - Massachusetts Landings, March 1955, 5 pp. |
| CFS-1160 | - California Landings, January 1955, 4 pp. |
| CFS-1161 | - Middle Atlantic Fisheries, 1953 Annual Summary, 5 pp. |
| CFS-1162 | - Rhode Island Landings, April 1955, 3 pp. |
| CFS-1163 | - Texas Landings, April 1955, 3 pp. |
| CFS-1164 | - California Landings, February 1955, 4 pp. |
| CFS-1165 | - Alaska Fisheries, 1954 Annual Summary, 6 pp. |
| CFS-1166 | - New Jersey Landings, May 1955, 2 pp. |
| CFS-1168 | - New York Landings, May 1955, 4 pp. |
| CFS-1169 | - Frozen Fish Report, June 1955, 8 pp. |
| CFS-1172 | - Fish Meal and Oil, May 1955, 2 pp. |
| CFS-1176 | - Rhode Island Landings, May 1955, 3 pp. |
| CFS-1177 | - Maine Landings, May 1955, 4 pp. |
| CFS-1178 | - Texas Landings, May 1955, 3 pp. |
| FL -336y | - Commercial Fisheries Outlook, July-Sept. 1955, 29 pp. |

Firms Canning:

- SL - 103 - Tuna and Tunalike Fishes, 1954 (Revised), 2 pp.
 SL - 105 - Alewives and Alewife Roe, 1954 (Revised), 1 p.
 SL - 107 - Fish and Shellfish Specialities, 1954, 7 pp.
 SL - 109 - Caviar and Fish Roe, 1954 (Revised), 2 pp.
 SL - 112 - Shrimp, 1954 (Revised), 2 pp.

Firms Manufacturing:

- SL - 152 - Oyster Shell Products, 1954 (Revised), 1 p.
 SL - 153 - Fish Glue and Isinglass, 1954 (Revised), 1 p.
 SL - 154 - Seaweed Products, 1954 (Revised), 1 p.
 SL - 156 - Pearl Essence, 1954 (Revised), 1 p.
 SL - 159 - Fresh-Water Mussel-Shell Products, 1954 (Revised), 1 p.
 SL - 160 - Menhaden Oil and Meal, 1954 (Revised), 2 pp.

SSR-Fish. No. 155 - Pacific Sardine (Pilchard) Eggs and Larvae and Other Fish Larvae, Pacific Coast, 1953, 76 pp., illus., processed, May 1955.

Sep. No. 409 - Reduction of Curd in Canned Salmon Prepared from Frozen Fish, Part I - Use of Tartaric-Acid and Sodium-Chloride Brine Dips.

Sep. No. 410 - Winter Smelt Fishing Out of Escanaba, Michigan.

Research in Service Laboratories Section:

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| Sep. No. 411 | } | Federal Specifications for Fishery Products. |
| | | Chemical Changes in Fish Protein During Freezing and Storage. |
| | | Unidentified Growth Factors in Fish Byproducts. |
| | | Fish Oil and Meal Samples Collected for Evaluation. |

THE FOLLOWING SERVICE PUBLICATION IS AVAILABLE ONLY FROM THE SPECIFIC OFFICE MENTIONED:

Landings and Prices of Fishery Products, Boston Fish Pier, 1954 (Includes "Trends in the Fishing Industry at Boston"), by Thomas J. Risoli, 15 pp., processed, June 1955. (Available free from the Market News Service, U. S. Fish and Wildlife Service, 10 Commonwealth Pier, Boston 10, Mass.) Fish marketing trends and conditions in Boston for 1954 are discussed in this publication. Detailed data on landings and ex-vessel prices of fish and shellfish landed at the Boston Fish Pier during 1954 are presented. Statistics are given by months and species and by type of gear, together with comparative data for previous years.

MISCELLANEOUS PUBLICATIONS

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

La Biología Marina y la Pesca, by Carlos G. Aguayo, Contribucion No. 5 del Centro de Investigaciones Pesqueras, 48 pp., illus., printed in Spanish. Dependencia de la Division Agrícola del Banco de Fomento Agrícola e Industrial de Cuba, Playa Habana, Bauta, Cuba, 1954.

(Canada) Fisheries Statistics of Canada, 1953, 34 pp. (tables), printed in English and French, C\$1.25. Dominion Bureau of Statistics, Ottawa, Canada, 1955. A review of the fishery statistics of Canada for 1952 and 1953 prepared in collaboration with Dominion and Provincial Fisheries Departments. It includes data on the quantity and value of the catch of fishery products for Canada as a whole (excluding Newfoundland); production of fish oils and fish meal; production of frozen, salted, smoked, pickled, and canned fish; shellfish production; employment in fish-processing establishments; and value of exports and imports of fishery products. Also contains data on the total value of the fisheries by province for 1944-1953; Canada's lobster pack by province for 1944-1953; and fishing bounties paid to vessels and boats in 1953.

(Canada) Summary Statistics of Canada's Fisheries 1934-1953 (Plus Review of Statistics by Areas for 34 years, 1920-1953), 32 pp., illus., printed. (Reprinted from Canadian Fisheries Annual, 1955, pp. 81-112.) Department of Fisheries, Ottawa, Canada. Includes quantity and value of fishery products by areas, by provinces (excluding Newfoundland), and by species; fresh and frozen fillet production; and exports of fishery products by species and by countries. Graphs illustrate landings of fish and shellfish, landed values, and percentages of total landings by species for the Maritimes, Quebec, and British Columbia from 1934-1953; fresh-water fisheries; Canadian imports and exports by form and by country; and estimated production of salted codfish in Newfoundland from 1934-1953.

"A Contribution to the Life Histories of Commercial Shrimps (Penaeidae) in North Carolina," by Austin B. Williams, article, Bulletin of Marine Science of the Gulf and Caribbean, vol. 5, no. 2, June 1955, pp. 116-146, illus., printed. University of Miami Press, Coral Gables, Fla. (Also Contribution No. 38, University of North Carolina Institute of Fisheries Research, Morehead City, N. C.) This paper reviews the estuarine portion of the life histories of Penaeus setiferus, P. duorarum, and P. aztecus in North Carolina. After larval migrations from spawning places at sea, the young enter estuaries as benthonic post-larvae. P. setiferus is judged to grow 36 mm., P. duorarum 52 mm., and P. aztecus 46 mm. per month in brackish nursery areas during the warmer months. Juveniles gradually move toward the sea as

they approach mature sizes. P. aztecus recruitment is greatest in May. The earliest recruits reach commercial size by July. No juveniles and few adults overwinter in North Carolina. P. duorarum recruitment extends from June to October. The earliest recruits reach commercial size in autumn, but the remainder overwinter and attain commercial size in spring. Mature adults occur in the littoral zone prior to the recruitment period. P. setiferus recruitment occurs chiefly in June. The young attain commercial size by late summer. A sparse population of adults overwinters in the littoral zone. These are sexually mature in spring. A number of ecological factors in the nursery areas are discussed. The role of interspecific competition for nursery areas is considered. P. aztecus and P. duorarum occupy these areas at different times. P. setiferus may compete with both of these species for nursery ground.

(Delaware) Biennial Report, 1953 and 1954, Publication 2, 83 pp., illus., printed. Marine Laboratory, Department of Biological Sciences, University of Delaware, Newark, Del., Dec. 1954. This report describes the work of the Marine Laboratory, its major projects and objectives, activities, and accomplishments during 1953-54. Among the subjects included is an evaluation of the magnitude of the commercial and sports fisheries of the State of Delaware. Complete 1952 commercial fishery statistics have been compiled for the entire State and for each county. The catch by species, by county, and by gear has been assembled and summarized. Total landings of the menhaden fishery, trawl fishery, oyster and crab fishery have been assembled for the years 1952, 1953, and as much of 1954 as is available. These records are estimates of production based on interviews and dock landings. The landings of the trawl fishery by species by year for the years 1947-54 have been summarized. These are from dock landing records. The fisheries research program includes discussions of the gray squeteaque (sea trout), Cynoscion regalis, investigation; the trawl-fishery investigation of Delaware Bay; the beach-zone investigation; and blue-crab and oyster studies.

Die See- und Küstenfischerei und die Fischversorgung der Bundesrepublik Deutschland im Jahre 1954 (The High Seas and Coastal Fishery of the Federal Republic of Germany and the Fish Supply of that Republic in 1954), Statistische Berichte series, 63 pp., printed in German. Statistisches Bundesamt, Wiesbaden, Germany, June 1955.

"Diving Through an Undersea Avalanche," by Capt. Jacques-Yves Cousteau, article, The National Geographic Magazine, vol. CVII, no. 4, April 1955, pp. 538-542, illus., printed, single copy 65 cents. National Geographic Society, Washington, D. C. Describes an exploration nearly a mile beneath the Mediterranean in the French Navy's bathyscaphe which started an avalanche of mud from the cliffsides of an oceanic canyon.

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Drift Currents in the Red Tide Area of the Easternmost

Region of the Gulf of Mexico, by Ilmo Hela, Donald de Sylva, and Clarence A. Carpenter, Report 55-11, 33 pp., illus., processed. The Marine Laboratory, University of Miami, Coral Gables, Fla., March 1955. In a red-tide outbreak, dead fish are frequently seen floating on the sea surface, even far offshore. Under certain conditions, as yet not completely known, the dead fish are flushed ashore and the occasional litterings of the beaches with the unpleasant results are probably the principal ways in which red tide affects the inhabitants of the west coast of Florida, both economically and otherwise. During 1954 two drift-card operations were performed in the easternmost shallow region of the Gulf of Mexico. Given the locations and times of the drops and of their recovery, the direction and speed of the resultant movement of the driftcards may be deduced with relative accuracy, provided that one takes into consideration only those cards which are found either afloat offshore or those which, if picked up ashore, are found soon after their landing. The authors state that, "during red-tide outbreaks in the future it should be possible to forecast the manner and place in which dead fish are likely to wash ashore, simply from wind data. It is hoped that this knowledge will prove useful to the citizens of the Gulf Coast of Florida in their efforts to eliminate the effects of the red tide."

"The Effects of Iced and Frozen Storage Upon the Trimethylamine Content of Flounder (*Parophrys vetulus*) Muscle," by Charlie M. Good and Joseph A. Stern, article, *Food Technology*, vol. 9, no. 7, July 1955, pp. 327-332, illus., printed. The Garrard Press, 119 West Park Ave., Champaign, Ill. A report of a study of the relationship of quality prior to freezing to the changes occurring during frozen storage of fish muscle. Standard tests for spoilage were employed. English sole (*Parophrys vetulus*) were held in iced storage for periods ranging from 0 to 15 days. At intervals during this period samples were removed from the ice and filleted. Fillets were packaged, frozen, and held in frozen storage at 0°F. for periods up to 24 weeks. Samples were subjected to various spoilage tests prior to freezing and at intervals during the period of frozen storage. Of the various tests investigated, only the determination of trimethylamine was found to be of value in estimating the quality of English sole prior to freezing. The trimethylamine content of the fillets did not change during frozen storage, and it was concluded that the test could be used, after frozen storage, to indicate the quality of the flesh at the time it was frozen.

La Escasez de la Manjua (JENKINSIA LAMPARTAENIA) y Apuntes Para su Posible Solucion en Cuba, by Jose M. Torres Curbelo, 20 pp., illus., processed, in Spanish. Seccion de Asuntos Pesqueros, Division Agricola, Banco de Fomento Agricola e Industrial de Cuba, La Habana, Cuba, 1954.

Ficocoloides de Algas Marinas Cubanas, by Felix G. Soloni Toural, Contribucion No. 4 del Centro de Investigaciones Pesqueras, 23 pp., illus.,

printed in Spanish. Dependencia de la Division Agricola del Banco de Fomento Agricola e Industrial de Cuba, Playa Habana, Bauta, Cuba, 1954.

Florida Salt Water Fishing, 65 pp., illus., printed. Florida State Board of Conservation, Tallahassee, Florida. Includes a guide to Florida salt-water fishing by Federal highways; list of the prominent game fish of Florida, with instructions on where and how to catch them; illustrations and descriptions of some of the world's finest game fish; salt-water fishing laws; and a summary of Florida commercial marine-fish landings for 1952 by species. Also includes a discussion of the nutritive value and preparation of Florida fish and shellfish and recipes for cooking these fish and shellfish.

(FAO) Report to the President of the Foreign Operations Administration, January 1953 to June 1955, 25 pp., printed. Foreign Operations Administration, Washington, D. C., June 30, 1955. An account of some of the major activities of the Mutual Security Program and a review of the work of the many Executive Branch agencies which have cooperated in the conduct of this program. The report on progress covers (1) major shifts in program emphasis; (2) new program methods; (3) improved program organization and management; (4) response to emergencies and crises; and (5) the major results. A summary of the outlook in relation to the present status of the Mutual Security Program covers (1) U. S. economic interests; (2) Europe's economic future; (3) capital needs abroad; and (4) aid to underdeveloped areas.

A Historical Review of the Shad Fisheries of North America, by Romeo Mansueti and Haven Kolb, Publication No. 97, 99 pp., illus., printed. Chesapeake Biological Laboratory, Solomons, Md., December 1953. A historical review of the shad fisheries was begun in 1951 in order to summarize and bring up to date the information to be found in the literature and available from various state and Federal agencies. The review covers several aspects that are not synthesized in the current literature, namely: (1) the role of management and regulations in the restoration of the shad fisheries; (2) the role of fishways in shad migrations; (3) the evaluation of hatcheries in the rehabilitation of shad runs; (4) a general study of the socio-economics of the fisheries; and (5) a review of the over-all and sectional trends and the annual recorded commercial production of shad. The study summarizes the essential points in: (1) a review of the early history of shad in each state and geographic area; (2) the current fisheries for shad in these areas; (3) factors contributing to the decline in production of shad in each state; and (4) recent information on life history, with emphasis on the phenomenon of migrations. A complete bibliography of American and foreign shads is included. At the same time, many scattered and significant studies dealing with basic research on the biology of shad, and effective means of managing the fisheries have been abstracted and cited in appropriate places in the report. During the past 50 years the

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relative productivity and value of the shad fisheries of North America have decreased as reflected in recorded commercial catches. In 1897 the United States catch aggregated almost 50 million pounds, and at the time was a growing valuable industry. In 1949 the fisheries ranked 38th in volume (about 11 million pounds), and 26th in value (\$1.6 million). The reasons for the decline are due to many conditions that are biological and socio-economic in nature. These differ from one area to another in varying degrees. The factors which have been held responsible are: (a) pollution; (b) destruction or impairment of spawning and nursery areas by siltation; (c) overfishing; (d) hydroelectric and canal dams; and perhaps (e) natural fluctuations in abundance. Natural catastrophes, parasites, and predators are not considered important in causing a decrease in commercial production. Attempts to rehabilitate the fisheries by means of stocking artificially-reared fry and pond-reared fingerling shad appear to have failed in every instance. The introduction of shad fry on the Pacific Coast, however, has resulted in a major fishery. Early in the history of the decline, the first attempts at managing shad were in the form of week-end interdictions, limiting of seasons, and of declaring illegal certain gear that were highly efficient. The most recent and significant program is a controlled catch management plan operating at this time only in Maryland, which attempts to control the fishing rate for shad by restricting the number of fishermen and gear through a licensing program in order to assure a greater escapement of brood stock and thus, in time, a greater sustained yield. An analysis of the conditions existing at three fishways at the following locations: (a) Bonneville Dam on the Columbia River, (b) Lawrence Dam on the Merrimack River, and (c) Holyoke Dam on the Connecticut River, indicates that such passes are not fully successful despite the transportation of numbers of shad over dams. One of the reasons for difficulty in evaluating passes is that the percentage of the total run that ascends fishways cannot be determined. The total run is unknown for all but a few rivers in North America. In the final analysis, the prognosis of the shad fisheries does not appear promising. It appears doubtful that shad can be restored to the status of the late 19th century even with management programs and other devices.

How To Set Up a Soft Shell Crab Plant in Florida, by Robert H. Young, Special Service Bulletin No. 11, 5 pp., processed. The Marine Laboratory, University of Miami, Coral Gables, Fla., April 1955. The results of an investigation during the fall of 1953, on behalf of the Florida State Board of Conservation, of the blue crab industry. This bulletin summarizes the method of setting up a plant for producing soft-shell crabs on a commercial scale. Crabs that will soon shed their shells are identified and separated by the color of the margin of the last segment of the swimming leg. The progressive color changes are: (1) white margin, (2) pink margin, and (3) red margin. With the appearance of the red margin the crab is about to shed its shell. Immediately following this stage a

split occurs along the posterior edge of the shell and the crab then becomes a "buster." Crabs retained to become soft shells are kept in floats or bins. Floats are used where the water depth and tidal action is sufficient to ensure that the trapped crabs will be covered by water at low tides and be supplied with water that is oxygenated. When these conditions are not available bins are placed onshore and water pumped to them. Soft-shell crabs are shipped alive in special containers in dry moss. They may also be shipped and stored in the frozen state for short periods of time.

Inter-American Tropical Tuna Commission Annual Report for the Year 1953 (Comision Interamericana del Atun Tropical Informe Anual Correspondiente al Ano 1953), 88 pp., printed in English and Spanish. Inter-American Tropical Tuna Commission, La Jolla, Calif., 1954. Included in this report are: the recommended program of investigations; progress on investigations; membership changes; and a short resume of the Commission's regular annual meeting at San Diego, Calif., on August 14. An appendix to the report describes the investigations conducted by the Commission during 1953, and discussed in this section are the compilation of current statistics of total catch, amount and success of fishing, and abundance of the fish population; compilation and analysis of historical data; research on theory of fishing; research on the biology, ecology, and life history of tunas; investigation of the oceanography of the Eastern Pacific; investigations of the biology, ecology, and utilization of bait species; and experimental reintroduction of anchovetas to the Gulf of Nicoya. The Commission, established by a Convention between the United States and Costa Rica, has as its purpose the collection and interpretation of information which will facilitate maintaining at levels of maximum sustained yield the populations of tropical tunas in the Eastern Pacific and of the bait species used in their capture. The Commission, organized in 1950, is directed by the Convention to undertake investigations of the tunas and bait species, and to make recommendations for joint action by the member governments designed to attain the objectives of the Convention.

"Investigation & Management of the Atlantic Salmon," article, Trade News, vol. 7, no. 10, April 1955, pp. 3-11, illus., printed. Department of Fisheries of Canada, Ottawa, Canada. A decline in the stocks of Canada's Atlantic salmon resources occurred following the peak attained in commercial production of salmon in 1930, and its continuance was the cause of much concern to Canadian government agencies, commercial fishermen, and the growing number of salmon-angling devotees. To combat it, the Federal-provincial Coordinating Committee on Atlantic Salmon was formed to prevent duplication of effort and to develop a coordinated program of research, regulation, compilation of statistics, and development by fish-culture procedures, of Atlantic salmon stocks in the five East Coast provinces. A plan of action was adopted whereby all proposed policies on research, regulation, statistics, and development would be submitted

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to the Committee for review, and the provinces would be encouraged to cooperate with the Federal Government in filling existing gaps in the knowledge of Atlantic salmon. Under the Minister of Fisheries, the Fisheries Research Board of Canada is responsible for the investigation and coordination of all Atlantic salmon investigations, and for carrying out the main research projects. An important part of the research program is conducted in Quebec by the provincial Department of Fisheries. The Conservation and Development Service of the Federal Department of Fisheries is responsible for the application of techniques developed through research and the coordination of the efforts of all Department field officers. During the past two years (1953-54) there have been indications that the decline in Atlantic salmon stocks has become arrested, and the program has now entered its second phase... that of increasing stocks. Information gained from past and continuing studies will provide a valuable basis for the development of a sound administration of the Atlantic salmon fishery. Progress made up to December 1953, particularly the results of the intensified research and application programs of recent years, has been recorded in detail by the Scientific Sub-Committee of the Coordinating Committee. This article deals with projects carried out and conclusions arrived at in 1954.

Journal du Conseil, vol. XX, no. 2, 118 pp., illus., printed, single copy Kr. 12 (US\$1.74). Messrs. Andr. Fred. Høst & Søn, Bredgade, Copenhagen, Denmark, December 1954. Among the articles presented in this journal are the following: "Distribution of Laminariaceae around Scotland," by F. T. Walker; "Engineering and Economic Aspects of Marine Plankton Harvesting," by Philip Jackson; and "The Destruction of Oyster Spat by Urosalpinx cinerea (Say) on Essex Oyster Beds," by D. A. Hancock.

"The Kannizzati Fishery of Malta," by T. W. Burdon, article, World Fishing, vol. 4, no. 7, July 1955, pp. 20-21, 44, illus., printed. John Trundell Ltd., Temple Chambers, Temple Ave., London, E. C. 4. Describes the method of fishing in the waters around Malta with a "kannizzati" net--a true lampara. Approximately 40 percent of the fish landed in Malta each year originates from the "kannizzati" fishery. This fishery is remarkable in that the fishermen harvest a resource which is largely neglected elsewhere. Catches consist almost entirely of dolphin and pilotfish which migrate into the waters around Malta in August, leaving in December. These fish will collect around any floating object in the open sea and it is this habit which the fishermen exploit.

"The Long Haul," by John L. Farley, article, Bulletin of the International Oceanographic Foundation, vol. 1, no. 2, May 1955, pp. 12-17, illus., printed. The Marine Laboratory, University of Miami, Coral Gables, Fla. A review of the Fish and Wildlife Service's programs for the conservation and development of our Nation's fishery resources, with particular reference to the new Gulf of Mexico tuna fishery, conservation of salmon, and interna-

tional aspects of fishery resources between now and 1975 according to Service predictions.

Microbiology--An Introduction, by Ernest A. Gray, 187 pp., illus., printed, \$3.75. Philosophical Library, Inc., New York 16, N. Y., 1955. This book is a simple introduction to microbiology. The author indicates how organisms are so intimately associated in nature--in other words, he stresses their ecology--and at the same time points to the invaluable work of pioneers. By stressing the historical background of a science, the author presents a more sober and a more realistic approach to microbiology as a whole or to the many fascinating important puzzles it presents. Of particular interest to those interested in the resources of the waters will be the chapters dealing with algae and the microbiology of inland waters and the sea.

--J. Pileggi

The Occurrence of Oily Pilchards in New South Wales Waters, by M. Blackburn and R. Downie, Division of Fisheries Technical Paper No. 3, 11 pp., illus., printed. Commonwealth Scientific and Industrial Research Organization, Melbourne, Australia, 1955. Efforts were made to check a hypothesis that pilchards are abundant below the surface and sufficiently fat to be profitably reduced into oil and meal in the summer months on the coast of New South Wales. Results obtained in January 1954 in the Port Stephens-Newcastle area were highly satisfactory. Although shoals were not seen at the surface they were readily detected in abundance by echosounding, and all samples taken by drift net consisted of fat fish. Oil content ranged from 11 to 17 percent by weight of raw fish (compared with 5 percent or less in the same region in winter), which would permit profitable reduction if sufficiently large and regular catches could be made.

"One Hundred Hours Beneath the Chesapeake," by Gilbert C. Klingel, article, The National Geographic Society, vol. CVII, no. 5, May 1955, pp. 681-696, illus., printed, single copy 65¢. National Geographic Society, 16th and M St., NW., Washington 6, D. C. A description of a study, with photographs in color, of the creatures that live in swarming millions in the Chesapeake Bay's depths. Beneath these black waters, two men in a strange diving chamber, the Aquascope, explored the mysteries of marine life in its natural habitat.

El Ostion Comercial de Cuba, by Isabel Perez Farfante, Contribucion No. 3 del Centro de Investigaciones Pesqueras, 42 pp., illus., printed in Spanish. Dependencia de la Division Agricola del Banco de Fomento Agricola e Industrial de Cuba, Playa Habana, Bauta, Cuba, 1954.

"Photographing the Sea's Dark Underworld," by Harold E. Edgerton, article, The National Geographic Magazine, vol. CVII, no. 4, April 1955, pp. 523-537, illus., printed, single copy 65 cents. National Geographic Society, Washington, D. C. A description of an exploration of the Mediterranean depths with steel-encased cameras operated from cables, sleds, and bathyscaphe.

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Aqualunged photographers cannot safely penetrate the ocean's vast realm more than 240 feet beneath the surface. The bathyscaphe has made it possible to send men and cameras 13,287 feet down to the bottom. Cable-suspended units have obtained effective and automatic photographic coverage of marine life in the vast intermediate zones.

Red Tide Outbreaks off the Florida West Coast, by Anita Feinstein, A. Russell Ceurvels, Robert F. Hutton, and Edward Shoek, Report 55-15, 45 pp., illus., processed. The Marine Laboratory, University of Miami, Coral Gables, Fla., March 1955. A compilation of reports of red tide on the west coast of Florida from 1844 to January 1955 is given. Also included are two working diagrams of incidence of red tide, suggesting that (1) red tide occurs more frequently in the months August through January, (2) the individual red-tide outbreaks are part of larger outbreaks which seem to move from south to north, and (3) summer outbreaks appear to originate mostly north of Venice, winter and spring outbreaks farther south. Additional data are required to give complete support to (2). If this is substantiated, it is pointed out that control may be exerted by action in a limited focal area or areas of origin. Otherwise the problem of control may be of the greatest difficulty since it will require action over a much wider area or areas.

Report on Pollution and Fish Mortality in Bayou Chico, Pensacola, Florida, by Donald de Sylva, Report 55-21, 4 pp., processed. The Marine Laboratory, University of Miami, Coral Gables, Fla., May 1955.

Salinidad Temperatura y pH en la Playa Habana, by Felix Soloni Tournal, Contribucion No. 8 del Centro de Investigaciones Pesqueras, 5 pp., illus., printed in Spanish. Dependencia de la Division Agricola del Banco de Fomento Agricola e Industrial de Cuba, Playa Habana, Bauta, Cuba, 1954.

Sea Moss (CHONDRUS CRISPUS), Survey West Point to Pemaquid Neck, by Walter S. Foster, General Bulletin No. 4, 12 pp., illus., printed. Department of Sea and Shore Fisheries, Augusta, Maine, December 1954. An attempt has been made to determine the amount of sea moss, *Chondrus crispus*, an average moss raker could gather from the ledges and islands from West Point to Pemaquid Neck. On the maps of the regions surveyed showing density of moss, symbols have been added to show characteristics of the moss conditions in particular areas. Density of moss is shown indicating in hundreds of pounds the amount of moss that could be raked per tide under normal conditions. Eight hundred pounds per tide would

be average. The results given in this report can be interpreted as the total number of good loads (700 pounds per tide or over) or poor loads (600 pounds per tide or less) that an average moss raker would be able to gather.

(Uganda) Annual Report of the Game and Fisheries Department (For the Year Ended 31st December, 1953), 157 pp., illus., printed, 6s. (84 U. S. cents), The Government Printer, Entebbe, Uganda, 1955. Includes a section on the fisheries of the Uganda waters of Lake Victoria; Lake Albert (including the Albert Nile and associated fisheries); Lake Kyoga and waters of eastern Uganda; and Lakes George, Edward, and waters of western Uganda. Tables give the 1953 catch of fishery products by months and species for Lake George and by species for Lake Edward and Kazinga Channel; and quantities and values of dried (salted) and smoked fish exported in 1953 from Lakes Edward, George, and associated fisheries. Consumption of fish in Uganda in 1953, potential fisheries of Lake Albert, marketing of fish, exploratory and experimental fishery investigations, fish farming, boat building, water pollution, and angling are some of the other subjects covered. Other sections of the report deal with game.

United Kingdom Importers of Canned Fish, SBM No. 55-9, 2 pp., processed. The Office of Small Business, Foreign Operations Administration, Washington 25, D. C., June 9, 1955. A list of United Kingdom importers of canned fish, containing names and addresses supplied by the London Chamber of Commerce.

(Washington) State of Washington Commercial Fishing Statistics, 1954, 47 pp., printed. Washington State Department of Fisheries, Fishermen's Terminal, 4015 20th Ave. W., Seattle, Wash. Consists almost entirely of tables showing landings of fish and shellfish in the State of Washington by districts, species, and gear. Comparative data on the catch of most items are shown for the years 1935 through 1954. The report also contains information on the value of landings, vessels, and plants; and the operating expenses of processors, boatyards, and related information. Data are shown on the Washington salmon pack from 1900 to 1954, as is information on the United States and British Columbia Fraser River sockeye pack arranged by cycle years from 1900 to 1954. Data on the canned pack of other fish and shellfish and the production of oil and meal are also shown. In addition, the report contains data on the monthly salmon escapement over Bonneville Dam during the years from 1938 to 1954; the number of commercial fishing licenses issued by districts from 1938 to 1954; and a comparative statement of receipts from licenses, taxes, fines, and other sources.

