



RECENT FISHERY PUBLICATIONS

Recent publications of interest to the commercial fishing industry are listed below

FISH AND WILDLIFE SERVICE PUBLICATIONS

THESE PROCESSED PUBLICATIONS ARE AVAILABLE FREE FROM THE DIVISION OF INFORMATION, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON 25, D. C. TYPES OF PUBLICATIONS ARE DESIGNATED AS FOLLOWS;

- 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.

Number	Title
CFS-835	- Mississippi Landings, November 1952, 2 p.
CFS-844	- Massachusetts Landings, December 1952, 8 p.
CFS-845	- Maine Landings, December 1952, 4 p.
CFS-846	- Mississippi Landings, December 1952, 2 p.
CFS-847	- Florida Landings, December 1952, 6 p.
CFS-848	- Texas Landings, January 1953, 4 p.
CFS-850	- New Jersey Landings, November 1952, 2 p.
CFS-851	- New Jersey Landings, December 1952, 2 p.
CFS-854	- Massachusetts Landings, January 1953, 7 p.
CFS-855	- Maine Landings, January 1953, 3 p.
CFS-856	- Mississippi Landings, January 1953, 2 p.
CFS-857	- Florida Landings, January 1953, 6 p.
CFS-858	- Texas Landings, February 1953, 4 p.
CFS-859	- Fish Meal and Oil, February 1953, 2 p.
CFS-860	- Lake Fisheries, 1951 Annual Summary, 5 p.
CFS-861	- Frozen Fish Report, April 1953, 8 p.
CFS-863	- Packaged Fish, 1952 Annual Summary, 4 p.
CFS-869	- Maine Landings, 1952 by Months, Annual Summary, 6 p.
FL -178	- Partial List of Fishing Boat Builders (Revised), 4 p.
FL -336p-	- Quarterly Outlook for Marketing Fishery Products, April-June 1953, 37 p.
FL -393	- Preliminary Review of The Fisheries of The United States, 1952 (Revised), 20 p.

Wholesale Dealers in Fishery Products (Revised):

SL - 3	- Massachusetts, 1953, 10 p.
SL - 4	- Rhode Island, 1953, 2 p.
SL - 7	- New Jersey, 1952, 5 p.
SL - 8	- Pennsylvania, 1952, 3 p.
SL - 14	- South Carolina, 1952, 3 p.
SL - 15	- Georgia, 1952, 2 p.
SL - 17	- Alabama, 1952, 3 p.
SL - 18	- Mississippi, 1952, 3 p.
SL - 22	- Oregon, 1952, 4 p.
SL - 23	- Washington, 1952, 8 p.
SL - 40	- Oklahoma, 1951, 1 p.

Number Title Firms Canning (Revised):

SL -102	- Maine Sardines, 1952, 2 p.
SL -102A-	- California Sardines, 1952, 1 p.
SL -103	- Tuna and Tuna-Like Fishes, 1952, 2 p.
SL -104	- Mackerel, 1952, 1 p.
SL -105	- Alewives and Alewife Roe, 1952, 1 p.
SL -108	- Salmon Eggs for Bait, 1952, 1 p.
SL -109	- Caviar and Fish Roe, 1953, 2 p.
SL -110	- Oysters, 1952, 2 p.
SL -116	- Food for Animals from Fishery Products, 1952, 2 p.
SL -118	- Groundfish Flakes, 1952, 1 p.

Firms Manufacturing (Revised):

SL -152	- Oyster Shell Products, 1952, 2 p.
SL -155	- Marine-Shell Buttons, 1952, 1 p.
SL -159	- Fresh-Water Mussel-Shell Products, 1952, 1 p.

SSR-Fish. No. 92 - Use of Electricity in the Control of Sea Lampreys: Electromechanical Weirs and Traps and Electrical Barriers, by Vernon C. Applegate, Bernard R. Smith, and Willis L. Nielsen, 56 p., illus., December 1952. An account of experiments conducted in 1951 and 1952 with electromechanical and electrical barriers for the blocking and/or capture of sea-lamprey runs in tributary streams of northern Lake Huron and northern Lake Michigan. Details are presented on structural characteristics, experimental manipulations, and effects on sea lampreys and other fish. All installations were operated from 110-volt alternating-current power. On the basis of the experiments detailed, recommendations are offered on devices suitable for the control of sea

lampreys under various stream conditions. The general structure and plan, and electrical characteristics of the devices must be adjusted to such factors as depth of water and extent of its fluctuation, rate of stream flow, physical nature and conductivity of bottom materials, conduc-

tivity of water, and need for the protection of fish that migrate simultaneously with the sea lamprey.

Sep. 347 - Experimental Tuna Purse Seining in the Central Pacific.

THE FOLLOWING SERVICE PUBLICATION IS FOR SALE AND IS AVAILABLE ONLY FROM THE SUPERINTENDENT OF DOCUMENTS, WASHINGTON 25, D. C.

Laws and Regulations for Protection of the Commercial Fisheries of Alaska, 1953, Regulatory Announcement 39, 62 p., printed, March 1953, 20 cents. This publication is divided into two sections. One section contains laws for the protection of the commercial fisheries of Alaska and related information, including the authority for regulation, rules regarding oyster culture, Bristol Bay residence requirements, regulation of salmon

on escapement, fishing-gear restrictions, exceptions to weekly closed seasons, etc. The second section contains all the regulations for the protection of the commercial fisheries of Alaska, amended to date, and which became effective April 6, 1953. These 1953 regulations supersede the regulations published in Regulatory Announcement 35 which became effective March 15, 1952.

MISCELLANEOUS PUBLICATIONS

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

Bullfrog Farming and Frogging in Florida, Bulletin No. 56, 80 p., illus., printed. Department of Agriculture, Tallahassee, Fla., January 1952. Describes the raising of frogs and the necessity of scientific handling for market. Brief descriptions are presented of the characteristics and habits of the southern bullfrog, *Rana grylio*, and the common bullfrog, *Rana catesbiana*, and the biology of the family of *Ranidae*. Among the subjects covered are: catching wild frogs; economic value of frogs; raising bullfrogs domestically; establishment of a frog farm in Florida; stocking ponds; preparation of frogs for market; and famous ways to serve frog meat. A list of publications on frogs is also included. The frog industries of Japan and France are also discussed.

describes a simple, inexpensive wooden holding unit in which commercial quantities of lobsters have been kept alive and active for several weeks. A diagram of the wooden tank and details of a filter box are included. The factors, such as temperature, salinity, and oxygen, which control the survival of lobsters in both natural and artificial sea water, are also discussed.

Commercial Fishing -- America's Oldest Industry, 16 p., illus., printed. Gulf Oil Corporation, Gulf Refining Company, Pittsburgh 30, Pa. This colorfully illustrated booklet presents the background and importance of the commercial fishing industry--the oldest established industry in the United States. It gives the highlights of the industry as practiced today in the six principal fishing areas of the country--New England, Middle Atlantic, South Atlantic, Gulf of Mexico, Great Lakes, and West Coast. Such items as precise geographic locations, types of fish found in the waters of the area, and methods of fishing are described in each of the sections. New developments within the industry and within each of the fishing areas are outlined--gill-net fishing, the spotting of menhaden schools by airplane, new varieties of fish, and new fishing areas. It contains several pages on fish-processing plants.

Home Curing of Meats and Fish, by A. W. Oliver and E. W. Harvey, Extension Bulletin 731, 10 p., printed. Federal Cooperative Extension Service, Oregon State College, Corvallis, Oregon, December 1952. Contains a section on the home curing of salmon. Instructions are given for preparing mild-cured salmon, and light-smoked or kippered salmon. Methods are also given for preparing salted sablefish (black cod) and salted smelt, besides the curing of other meats.

Indo-Pacific Fisheries Council Proceedings (3rd Meeting, 1st-16th February 1951, Madras, India), Section I, pp. 1-56, and Sections II and III, pp. 57-227, illus., printed. Food and Agriculture Organization of the United Nations, Rome, Italy, 1951. Section I reports proceedings. It gives the reports of the various committees; a summary account of the meeting; and the agenda and program of the meeting. It also lists the technical papers presented at the meeting, and lists the delegates, alternates, experts, advisers, and observers. Section II contains the technical papers presented at the meeting by delegations. Some of the papers relating to commercial fisheries are as follows: "Statement on Marine Investigations in Malaya," by Tham Ah Kow; "The Economic Marine Algae of Malaysia and their Applications--II The Phaeophyta," by J. S. Zaneveld; "Indigenous Marine Fishing Gear of Thailand--Supplementary Notes," by Swarn Charnphol; "A Consideration of the Classification of Fishing Gear and Methods," by T. W. Burdon; "An Attempt at Classification of Fishing Methods," by C. J. Bottemanne; "Sur la Pisciculture au Cam-

holding Live Lobsters in Aerated Artificial Sea Water, by D. G. Wilder, General Series No. 21, 4 p., illus., printed. Fisheries Research Board of Canada, Atlantic Biological Station, St. Andrews, N. B., Canada, January 1953. This circular summarizes the conditions required for the successful holding of live lobsters. The author de-

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bodge (Fish Culture in Cambodia)," by M. M. Lafont et Savoeun; "Fish Culture in Pakistan," by Nazir Ahmad; "Investigation of Sea-weed Products in India with a Note on Some Properties of Various Indian Agars," by Francesca Thivy; "A Survey of the Sea Fisheries of India," by D. V. Bal and S. K. Banerji; "L'Organisation du Service des Peches du Cambodge (Organization of Fisheries Department in Cambodia)," by Par M. Dom-Savoeun; and "Working of Fisheries Programmes by Member Countries of the Indo-Pacific Fisheries Council," by Dr. H. Srinivasa Rao. Section III contains the symposium papers, mainly on the collection of eggs and fry for transplanting.

Washington Department of Fisheries, Sixty-Second Annual Report, 128 p., printed. Washington State

Department of Fisheries, 1308 Smith Tower, Seattle 4, Washington, 1953. Discusses the problems and policies of the Department of Fisheries, with particular reference to the rehabilitation of the salmon fisheries. The research and management program for both fish and shellfish, and the Department's artificial propagation activities are commented on in considerable detail. Cooperative programs with other states, the Federal Government, and the International Pacific Salmon Commission are discussed. The report likewise contains information on the Department's enforcement program, the orders of the Director issued in 1951 and 1952, a list of departmental personnel, a summary of 1951 catch statistics, historical data on the catch of fishery products, and the pack of canned salmon.

--E. A. Power



SCHOOLING FISH CAN SEE

Vision plays a dominant role in the schooling of fish, although other senses may contribute. Only in tuna schools do individual fish act as leaders.

Fish that cannot see one another will not school, nor even form into aggregations, reports Dr. James W. Atz, ichthyologist of the New York Zoological Society. Vision plays the dominant role in fish schooling, although other senses like touch, hearing, and smell may have lesser parts.

A true school of fish is a group in which all individuals are facing a common direction, parallel and regularly spaced, and moving at a uniform speed. Aggregations are groups in which fish are attracted together but without uniform spacing or direction.

There may be cases of "false schooling," when aggregations of fish line up in the same direction in response to a water current. In an experiment with sunfish (*Lepomis*), an aggregation all lined up regularly when a current was started in their tank, but the group broke up as soon as the flow was stopped.

One popular theory explains fish schooling to work essentially this way: (1) two or more fish swim towards each other when they come into visual range; (2) they line up in parallel paths to keep each other in the desired close range while on the move or in a strong current; (3) a certain antagonism, however, may act to keep them a minimum distance apart.

Another idea is that schooling fish use one another as visual reference points, to help locate themselves in the empty space of water. Typical schooling fish are usually those of the open sea, where there is practically nothing--except another fish--for a constantly moving fish to fix upon to give him a sense of location.

In general, fish in the center of a school are much closer together than those nearer the edge. With the exception of tuna schools, there are no reports that individual fish act as leaders of schools.

--Science News Letter, May 16, 1953.