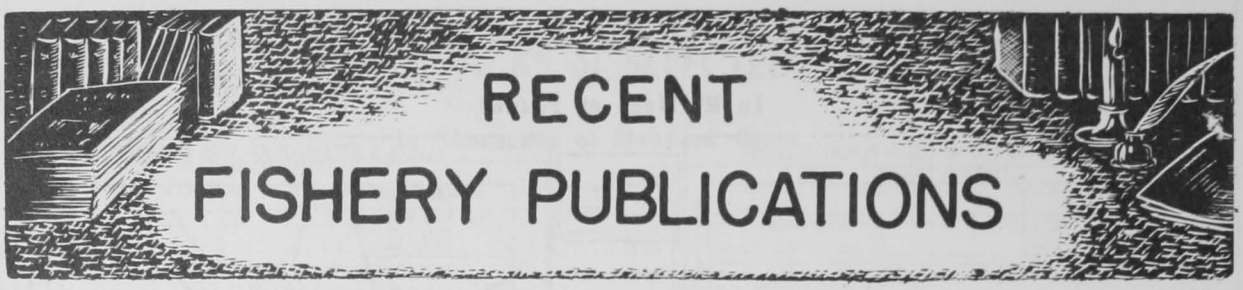

Recent publications of interest to the commercial fishing industry are listed below.

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.
SSR.-FISH. - SPECIAL SCIENTIFIC REPORTS--FISHERIES (LIMITED DISTRIBUTION).
SEP.-SEPARATES (REPRINTS) FROM COMMERCIAL FISHERIES REVIEW.

Number Title

CFS-924 - Frozen Fish Report, October 1953, 7 p.
CFS-928 - Fish Meal and Oil, September 1953, 2 p.
CFS-930 - Texas Landings, September 1953, 2 p.
FL -412 - Menhaden Industry--Past and Present, 17 p.
Sep. No. 358 - Tuna Fishing at Tahiti.
Sep. No. 359 - Deep-Water Trawling Survey Off the Oregon and Washington Coasts (Aug. 25-Oct. 3, 1952).
Sep. No. 360 - Progress on Fishery Technological Research Projects, Fiscal Year 1953. Program for Fishery Technological Research, Fiscal Year 1954. Reports Published During Fiscal Year 1953 on Specific Phases of Fishery Technological Research.

SSR-Fish. No. 98 - Longline Fishing for Deep-Swimming Tunas in the Central Pacific, 1950-51, by Garth I. Murphy and Richard S. Shomura, 50 p., illus., processed, May 1953. This is an interim progress report on one phase of a group of investigations designed to insure the maximum development and utilization of the high-seas fishery resources in the central Pacific. Considered are the first results of a long-line fishing survey not yet completed. Includes a description of long-line fishing, horizontal distribution of deep-swimming tunas, vertical distribution, size composition and sex ratios of the tuna, and possibilities of commercial exploitation.

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Alaska's Fish and Wildlife, by Clarence J. Rhode and Will Barker, Circular 17, 64 p., illus., printed, 25 cents, 1953. This is primarily a reference handbook for newcomers to the Territory. School children will also find the booklet of value in their study of Alaska and its resources since it includes checklists of the more representative fish and wildlife species. It points out the importance of the renewable fish and wildlife resources to the economy of the Territory and emphasizes the need for protecting and managing them properly. In addition to the descriptions of Alaska's big game, fur animals, birds, and fishes, and the localities where found, the publication contains a number of illustrations.

Check List of Philippine Fishes, by Albert W. Herre, Research Report 20, 978 p., printed, $2.25 (paper cover), 1953. A knowledge of the number and kinds of fishes that comprise the fauna is indispensable to any program designed to explore or develop commercial fisheries, or to further the knowledge of the fishery resources as a basis for their conservation and management. Therefore, this check list of Philippine fishes was prepared as a fundamental item of the Service's Philippine Fishery Program. It lists approximately 2,145 species of the fishes known to inhabit the waters of the Philippines as of May 1, 1948. A number of additional species taken a few miles outside the political boundaries of the Philippines are listed but are not in-

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cluded in the approximation as they have not yet been taken within the nominal limits of the archipelago. In all probability, according to the author, the Philippine fish fauna totals about 2,400 species. In this list are given the names of all known species of fish which inhabit the waters of the Philippines, as many of the common names for each species as have been obtainable, the known geographic distribution of each species, the more important references for each fish listed, and those synonyms about which there was no doubt.

Common Tuna-Bait Fishes of the Central Pacific, by Fred C. June and John W. Reintjes, Research Report 34, 57 p., illus., printed, 20 cents, 1953. The pole-and-line fishery for tunas is dependent upon an adequate supply of live bait for use as chum to attract and hold schools of fish. The present work is designed for the practical field identification of the more common tuna-bait fishes found in the central Pacific region, which for purposes of this report includes the waters surrounding the Hawaiian, northern Line, and Phoenix Island groups. Presented are illustrated keys to the families and species, with descriptions and notes on distribution, and an evaluation of the tuna-bait resources of the central Pacific region with a description of each potentially important baiting area. An index of scientific, English, Hawaiian, and Gilbertese names of the various fishes considered concludes the report.

Estimation of Growth Rate in Animals by Marking Experiments, by Milton J. Lindner, Fishery Bulletin 78 (From Fishery Bulletin of the Fish and Wildlife Service, Volume 54), 7 p., illus., printed, 10 cents, 1953. Describes a method for estimating growth of animals of unknown ages. Tag and recapture data over a relatively short period of time may be used to determine, graphically and analytically, the growth characteristics of animals whose ages are unknown. An example utilizes shrimp-tagging data.

Fecundity of Hudson River Shad, by Burton A. Lehman, Research Report 33, 11 p., illus., printed, 10 cents, 1953. Describes a study of the fecundity of the shad (Alosa Sapidissima) which was undertaken in 1951 to supply information to the Atlantic States Marine Fisheries Commission for fishery regulations along the Atlantic coast. The generally accepted figure for the annual egg production of the shad has been 25,000 to 30,000. In this study, the fecundity of 22 shad taken from the Hudson River in April 1951 ranged from 116,000 to 468,000 ova, depending on the age and size of the fish. The number of eggs that could be taken by spawntakers for hatchery purposes at any one time has generally been accepted as the total number of eggs a shad could produce in a season. Since only a part of the eggs are ripe and ready for spawning at one time, these earlier records represent but a fraction of the number of ova actually produced during a spawning season.

Food of Yellowfin Tuna in the Central Pacific, by John W. Reintjes and Joseph E. King, Fishery Bulletin 81 (From Fishery Bulletin of the Fish and Wildlife Service, Volume 54), 23 p., illus., printed, 20 cents, 1953. This study is based on the quantitative analysis of the stomach contents of 1,097 yellowfin tuna (Neothunnus macropterus) taken in the central Pacific in 1950 and 1951. The fish were captured by three fishing methods, trolling, pole-and-line, and long line; came from varying habitats, inshore and offshore, surface and subsurface; and were of different size groups. The results show that the yellowfin accepts a great variety of animal food from plankton to large fish and squid. Of the total volume of food remains, 47 percent was fish, 26 percent squid, and 25 percent crustaceans. A total of 38 fish families and 11 major invertebrate groups was represented. Composition of the food varied considerably with size of yellowfin and locale of capture, whether surface or subsurface, near shore or offshore. Comparison of the average volumes of stomach contents indicated that yellowfin from offshore areas contained as much food in their stomachs as those captured just off the reef; and those from subsurface levels as much as those from the surface. Feeding took place during daylight hours. Yellowfin captured in the zone of high zooplankton abundance near the equator contained greater amounts of food in their stomachs than those captured at more northerly or southerly latitudes. Since most elements of the pelagic fauna appear to be acceptable as food, distribution and abundance of the yellowfin is probably determined not by the occurrence of any specific food items but rather by the total amount of food organisms present in the area. Material collected in 1950 and 1951 during 12 cruises of the Hugh M. Smith, John R. Manning, and Henry O'Malley in waters surrounding the Line and Phoenix Islands was available for this investigation.

Nature of Variability in Trawl Catches, by Clyde C. Taylor, Fishery Bulletin 83 (From Fishery Bulletin of the Fish and Wildlife Service, Volume 54), 25 p., illus., printed, 20 cents, 1953. A fundamental problem in deriving the characteristics of a population from a series of samples is the determination of the magnitude and sources of variability in successive samples. Such variability may arise (1) from the manner in which the population is distributed in space and (2) from variations inherent in the method selected for sampling. This paper considers the variability associated with catches of fish by the otter trawl with respect to such sources. The data used in this study were collected on Georges Bank during the summers of 1948-51 by the research vessel Albatross III.

Zooplankton Abundance in the Central Pacific, by Joseph E. King and Joan Demond, Fishery Bulletin 82 (From Fishery Bulletin of the Fish and Wildlife Service, Volume 54), 37 p., illus., printed, 25 cents, 1953. The investigation described in this report considers the quantity of zooplankton, one of the two main constituents of the total plankton crop, and its relation to certain physical and chemical factors in the central Pacific environment. An analysis of

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variance of zooplankton volumes demonstrated significant differences between day and night hauls, between cruises, and among latitudes but not between longitudes. The greatest abundance, both by number and volume, of zooplankton occurred in the region of the equator. The rich zone, extending from about 6° N. to 5° S. latitude, supported populations three to four times as great as more northerly or southerly latitudes. The greatest concentrations were found north of the equator, when related to a "convergence;" when no marked convergence existed the peak of abundance was displaced a few degrees southward. The abundance of zooplankton was correlated with inorganic phosphate, oxygen, temperature, and thermocline depth. These environmental factors are influenced by upwelling associated with the equatorial divergence, which replenishes the supply of nutrients in the euphotic zone and creates favorable conditions for the growth of plant and animal life. While the data presented do not give a measure of the rate of production, they do provide a useful index to the relative productivity of different areas of the central Pacific. Zooplankton abundance in the central Pacific was investigated on four cruises of the Hugh M. Smith in 1950 and 1951.

MISCELLANEOUS PUBLICATIONS

THESE PUBLICATIONS ARE NOT AVAILABLE FROM THE FISH AND WILDLIFE 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.

A Bibliography of the Indian shad, HILSA ILISHA (Hamilton), by S. Jones, 11 p., printed. (Reprinted from Journal of the Zoological Society of India, vol. 4, no. 1, pp. 89-99, June 1952). Central Inland Fisheries Research Station, Barrackpore, via: Calcutta, India. A list of publications on the Indian shad, a food fish of prime economic importance. A subject index is also included.

(California) Statistical Report of Fresh and Canned Fishery Products (Year 1952, Sardine Season 1952-1953), Circular No. 27, 19 p. (mostly tables), printed. Marine Fisheries Branch, Department of Fish and Game, San Francisco, Calif., 1953. The tables in this publication show the California commercial landings of all fish and shellfish by species and by main fishing areas; fishery products shipments into the State; a list of canning and reduction plants (plants primarily processing sardines, tuna, mackerel, and squid); production of canned, cured, and manufactured fishery products and byproducts (including fish meal and oil); and historical data.

(Canada) Fisheries Statistics of Canada, 1952 (British Columbia), 7 p., printed, French and English, 25 Canadian cents. Department of Trade and Commerce, Dominion Bureau of Statistics, Ottawa, Canada. Consists of tables giving the production and landed and marketed values of the principal species of fish and shellfish landed in British Columbia in 1950-52; quantity and value of manufactured fishery products for 1951-52; canned salmon pack by areas and species for 1951-52; canned salmon pack by species for 1943-52; capital equipment in the primary fisheries operations; and the number of fishermen engaged in the fisheries for 1951-52.

(Canada) Fisheries Statistics of Canada, 1951 (British Columbia), 8 p., printed, French and English, 25 Canadian cents. Department of Trade and Commerce, Dominion Bureau of Statistics, Ottawa, Canada. Consists of tables giving the production and landed and marketed values of the principal species of fish and shellfish landed in British Columbia in 1949-51; quantity and value of manufactured fishery products for 1950-51; canned salmon pack by areas and species for 1950-51; canned salmon pack by species for 1942-51; capital equipment in the primary fisheries operations, and the number of persons engaged in the fisheries for 1950-51.

(Canada) Fisheries Statistics of Canada, 1952 (Prince Edward Island), 4 p., printed, French and English, 25 Canadian cents. Department of Trade and Commerce, Dominion Bureau of Statistics, Ottawa, Canada. Consists of tables giving the production and landed and marketed values of the principal species of fish and shellfish landed in Prince Edward Island in 1950-52; quantity and value of manufactured fishery products for 1951-52; capital equipment in the primary fisheries operations; the number of fishermen engaged in the fisheries; and the vessels used in the sea fisheries.

(Canada) Fisheries Statistics of Canada, 1951, (Quebec), 6 p., printed, French and English, 25 Canadian cents. Department of Trade and Commerce, Dominion Bureau of Statistics, Ottawa, Canada. Consists of tables giving the production and landed and marketed values of the principal species of fish and shellfish landed in Quebec in 1949-51; quantity and value of manufactured fishery products for 1950-51; vessels used in the sea fisheries; capital equipment in the primary fisheries operations; and the number of persons engaged in the fisheries.

(Canada) Fisheries Statistics of Canada, 1951 (Ontario, Prairie Provinces and Northwest Territories), 8 p., printed, French and English, 25 Canadian cents. Department of Trade and Commerce, Dominion Bureau of Statistics, Ottawa, Canada. Consists of tables giving the production and landed and marketed values of the principal species of inland fish landed in Ontario in 1949-51; capital equipment in the primary fisheries operations; and the number of persons engaged in the fisheries. Similar data are also given for the Prairie Provinces (Manitoba, Saskatchewan, and Alberta) and the Northwest Territories.

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"Danish Seining," by Alan Glanville, article, FAO Fisheries Bulletin, vol. 6, no. 3 (May-June 1953), pp. 63-87, illus., printed, single copy 30 cents. Food and Agriculture Organization of the United Nations, Rome, Italy. (For sale by International Documents Service, Columbia University Press, New York 27, N. Y.) A comprehensive, well illustrated report on the history, methods of operation, and use, advantages, and disadvantages of Danish seining. This method of fishing was invented in Denmark in 1848 by a fisherman named Jans Vaever. By the turn of the century it had proven so effective that it was in use by large sea-going vessels in the North Sea and adjacent waters, spreading to England and Scotland in the 1920's. It was subsequently introduced into Ireland, Australia, New Zealand, and Newfoundland. Japan also uses a type of Danish Seine. Now ranking as one of the most important types of fishing in Europe, the method involves the use of two long ropes and a net which are used to surround a large area of sea bottom and handled so that when the ropes are pulled in to the vessel the enclosed area is reduced in size and the fish therein are driven to the center and finally into the net. Advantages of Danish seining are: (1) a large area of bottom can be covered, (2) the method is very efficient, catching a high percentage of bottom fish in the area, (3) the quality of the catch is excellent because the fish are in the net only a short time and are landed alive, and (4) since the winch does all the work, power requirement is very low in relation to the quantity of fish caught. Disadvantages are: (1) the bottom must be smooth and clear of all obstructions, (2) operations cannot be conducted in strong tides, (3) much rope is used up, and expenses for this item are high, and (4) the method is very tiring and requires a high degree of skill among the crew. There are two methods of Danish seining, anchor fishing and fly dragging. The former, widely used by Scandinavian fishermen and some English crews, involves anchoring of the vessel while hauling. In fly dragging, used by all the Scottish vessels and to some degree by the English and Irish, the vessel steams ahead while the gear is being taken in on the winch. Both these methods have advantages on certain grounds and for certain species of fish. More ground is covered in fly dragging and it is more effective for round fish. However, it is less effective for plaice, and the fuel costs are naturally higher than in anchor fishing. In closing, the author advises beginners not to become discouraged if large catches are not made on the first few trys with the Danish seine as it takes time to learn and will bring good results as experience is gained.

--D. E. Powell

"The Fisheries of the Gaspe Peninsula," article, Trade News, June 1953, vol. 5, no. 12, pp. 3-4, illus., processed. Department of Fisheries, Ottawa, Canada. A brief history of the fisheries of the Gaspe Peninsula. Describes the development of the fisheries which have been exploited for at least four centuries.

FISHERY SCIENCE: Its Methods and Applications, by George A. Rounsefell and W. Harry Everhart, 456 p., illus., printed, $7.50. John Wiley & Sons, New York, 1953. Rounsefell and Everhart have produced a first--the first successful attempt to present a textbook with a claim to comprehensive treatment of what might better be called the science of fishery management. "The real purpose," the authors say in the Preface, "is to present the problems that confront the administrator, the research worker, and the student, and to show how to go about solving them."

Oddly enough, Part XI-Problems, comprised of Chapter 25, is the last section of the book. In it seven major categories of problems are presented; abundance predictions, natural balance, environmental measurements, genetics, role of nutrients, estuarine ecology, and interspecific relations--all cited as fields in which knowledge is notably deficient. Yet in all the preceding 24 chapters, devoted chiefly to an explanation of methods of solving problems, the standard problems facing research worker and administrator are forcefully indicated and not always solved.

"Fishery management," say the authors, "is the application of scientific knowledge concerning fish populations to the problem of obtaining the maximum production of fishery products, whether stated in tons of factory material or in hours of angling pleasure. This knowledge concerns the dynamics of fish populations, their environment, and their responses to variations in their environment, including exploitation by man." This is an extremely broad field and the attempt to include even a synoptic treatment of the many topics in 25 chapters has necessitated a rigid selection of only the most significant.

The authors quite justifiably "offer no apologies for omissions" and the reviewer has no criticism of those topics selected for inclusion, but the brevity imposed by space has invited the charge of superficial treatment of some subjects which have suffered by too great condensation. Part II, Natural Populations, comprised of 5 chapters totaling 84 pages, suffers from this difficulty. A study of populations and their fluctuations, population dynamics, is a quantitative science requiring a fairly advanced grade of mathematical treatment. For the average biologist the illustration and explanation of methods for separating and identifying populations, measuring the effects of exploitation, or estimating population size will be quite unintelligible unless he has had considerable training in statistics. If the authors had not assumed so much knowledge on the part of the reader and had shown a little more tolerance of ignorance, a little more sympathy with the beginner, they would have made a complex subject more understandable and thus would have encouraged both fresh-water and marine fishery investigators to master and use these valuable tools of research.

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The following parts of the book, III-Fish Ponds, IV-Fishing Gear, V-Protection Against Hazards, VI-Improvement of Habitat, and VII-Tagging of Fish are simple, straightforward, highly readable, descriptive accounts of a large segment of equipment and practices concerned with fisheries. In most of the chapters, brevity is again the chief fault, although the gadgetry of fish tagging seems to be unduly emphasized by detail in Chapter 16.

Part VIII, on age and growth, exhibits an abrupt change in pace. Chapter 18, How to Determine Age, is condensed but adequate, but Chapter 19, Growth, bogs down in mathematical formulae, and in confused and confusing physiological explanations. The authors could hardly expect to elucidate autocatalytic concepts of growth in the 26 lines devoted to that topic.

The remaining sections march on with an assurance and charm that is most pleasing. The chapter on fishery statistics is purely descriptive of a subject very familiar to the senior author and the chapter on stream and lake surveys obviously is home ground for the junior author. It is clear, detailed, and practical. The chapter on management techniques is good but too short, a comment which applies equally to the following one on artificial propagation as a tool of management.

The penultimate chapter, however, appeals to the reviewer as the cream of the lot. The authors present a discussion of fishery regulations and their effects, a subject which for some strange reason has had little attention from competent scientists. It is straightforward, thoughtful, sound, frank, courageous, and stimulating. Both scientists and administrators should study it.

Nearly every chapter includes a list of literature cited in the text, which should be studied by the serious student. The appendix contains a glossary and a helpful list of organizations and the journals they publish in the fishery field "to aid students and others in library browsing." There is an index. The illustrations are well produced and well selected (although it is odd to see a "blueback trout" among the characteristic game fishes in the single colored plate presented), and the publishers used good paper and good type in executing a good job of bookmaking.

In their first attempt, Rounsefell and Everhart have set a high standard in textbook writing for a field in which a unified account of the science was badly needed. The book should prove most useful in class instruction for upper division college courses and stimulating and helpful for conservation workers generally.

--Elmer Higgins

(FAO) List of Films--Fisheries and Related Subjects, by Mogens Jul and Dolores Fenn, 59 p., processed. Food and Agriculture Organization of the United Nations, Rome, Italy, 1953. The Food and Agriculture Organization is interested in promoting the use of films related to the field of fisheries which could assist in stimulating increased consumption of fishery products and in exchanging international knowledge about fishing methods and gear and fish processing. This list gives the titles of films, and a description and synopsis of each film. The addresses of the distributors of the films are also listed.

(FOA) Monthly Report of the Foreign Operations Administration to the Public Advisory Board (Data as of June 30, 1953), 77 p., illus., processed. Division of Statistics and Reports, Foreign Operations Administration, Washington 25, D. C. This issue, which contains data through June 30, 1953, summarizes the activities of the Mutual Security Agency, predecessor agency to Foreign Operations Administration. Charts and appendix tables on the European Program cover MSA/ECA operations beginning with April 3, 1948. Charts and appendix tables on the Far East Program cover MSA/ECA operations under the China Area Aid Act of 1950. A section of the report deals with defense support for Western Europe.

(FAO) Second World Food Survey, 66 p., illus., printed, 50 U. S. cents. Food and Agriculture Organization of the United Nations, Rome, Italy, November 1952. A report on the progress made by the world in producing the needed food supply, viewed in the light of changes that have occurred in the postwar period. The chapter on the problems, possibilities, and ways by which food production can be substantially increased includes a brief discussion on the desirability of increasing fish production. Also gives data on the national average food supplies (including fish) available for human consumption (estimated by the Food Balance Sheet method) for the prewar period, a recent postwar period, and the goal for 1960. Discussions include production, trade, consumption, and nutrition; and food consumption targets for 1960.

Observations on the Development and Systematics of the Fishes of the Genus COILIA Gray, by S. Jones and P. M. G. Menon, 20 p., illus., printed. (Reprinted from Journal of the Zoological Society of India, vol. 4, no. 1, pp. 17-36, June 1952). Central Inland Fisheries Research Station, Barrackpore, Via: Calcutta, India. The larval development of Coilia reynaldi Val. and C. dussumieri Val., and an early larvae of Coilia sp. are described and illustrated.

TRADE LIST

The Commercial Intelligence Branch, Office of International Trade, U. S. Department of Commerce, has published the following mimeographed trade list. Copies of this list may be obtained by firms in the United States from that Office or from Department of Commerce field offices at $1.00 per list:

Canneries - Venezuela, 3 p. (Sept. 1953). Includes canneries handling fishery products. Names and addresses of canneries are given. The types of products packed are listed, and the size and production capacity of each firm is indicated.