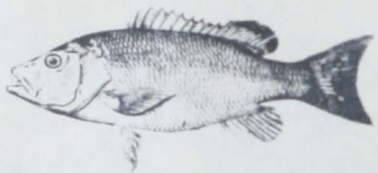

## GRAY SNAPPER

'Investigations on the Gray Snapper, Lutjanus griseus (Studies in Tropical Oceanography No. 10),' by Walter A. Starck II and Robert E. Schroeder, 224 pp., 44 figs., clothbound, Nov. 1970, $12. University of Miami Press, Drawer 9088, Coral Gables, Florida 33124.

The book contains two separate studies of the gray snapper made near the Florida Keys.

I. The first is Walter A. Starck's "The Biology of the Gray Snapper, Lutjanus griseus (Linnaeus), in the Florida Keys." It investigates the species' life history: habitat, color patterns, morphology, feeding habits. It compares this history with that of 7 other common inshore lutjanids of the West Indies region. The author points out that this species is underexploited.



The snappers are a large group of generally medium-sized predaceous fishes common to tropical and warm temperate seas. They feed largely on crustaceans and fish. With several exceptions, they inhabit shore and shelf waters and, occasionally, enter fresh water. They are rated excellent food fishes and are important commercially in many areas. Several species (excluding Lutjanus griseus) have been connected with ciguatera poisoning. Many species are sought as game fishes.

The author says little is known about their biology--true too for most tropical fishes--and the group needs systematic review.

The gray snapper is the most abundant and widespread species of Lutjanus in the western Atlantic. It is particularly abundant in the Florida Keys. There, the extensive grass beds of Florida Bay and the nearby Florida reef tract unite to provide excellent habitats for young and adults.

II. The second monograph is Robert E. Schroeder's "Ecology of the Intestinal Trematodes of the Gray Snapper, Lutjanus griseus, Near Lower Metecumbe Key, Florida, With a Description of a New Species." It "examines seasonal changes of trematode populations in relation to movements, habitats, and the size and sex of the hosts."

Figures and tables illustrate the data in both studies.

## FISHERY BIOLOGY

"Fishery Bulletin" of the National Oceanic & Atmospheric Administration, National Marine Fisheries Service, Department of Commerce, Vol. 68, No. 2, Feb. 1971, pp. 177-346, illus., is a continuation of the Fishery Bulletin of the U.S. Fish and Wildlife Service.

Bulletins are distributed free to libraries, research institutions, State agencies, and scientists. Some bulletins are sold by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

This bulletin contains 10 technical articles on scientific investigations. They have been printed and issued as Separates.

"Young of the Atlantic Sailfish, Istiophorus platypterus," by Jack W. Gehringer, Jan. 1970, pp. 177-189.

In 1960 and 1962, 154 Atlantic sailfish were dip netted on cruises of BCF's charter vessel 'Silver Bay' off U.S. South Atlantic coast. This group was examined to determine changes during development. It was compared with 34 eastern Atlantic specimens dip netted in 1968 by BCF's 'Undaunted' in Gulf of Guinea. All study material is cataloged in the fish collections of BCF Tropical Atlantic Biological Laboratory, Miami, Fla.

"Mollusks and Benthic Environments in Hillsborough Bay, Florida," by John L. Taylor, John R. Hall, and Carl H. Saloman, March 1970, pp. 191-202.

This report relates the diversity and abundance of mollusks to bottom conditions in Hillsborough Bay, Fla., where dredging and pollution from domestic and industrial sources now control the ecology. The data are from benthic and hydrological surveys by BCF's Biological Laboratory, St. Petersburg Beach, Fla., during August-September 1963.

"Migration of Juvenile Salmon and Trout into Brownlee Reservoir, 1962-65," by Richchard F. Krema and Robert F. Raleigh, April 1970, pp. 203-217.

The migrations of juvenile chinook, coho, sockeye, and kokanee salmon, and rainbow trout from Snake and Weiser Rivers and from Eagle Creek were studied. Populations of fish were sampled with floating traps above reservoir and a fixed louver trap in Eagle Creek near lower end of Brownlee Reservoir. Age and length of fish, timing of migration, and numbers of fish of native or hatchery origin were determined. The information was needed to evaluate effect of Brownlee Reservoir on migrations of anadromous fish.

"Distribution and Movement of Juvenile Salmon in Brownlee Reservoir, 1962-65," by Joseph T. Durkin, Donn L. Park, and Robert F. Raleigh, April 1970, pp. 219-243.

The juvenile chinook, coho, sockeye, kokanee salmon were studied. Their rates and direction of movement, spatial distribution, and successful passage to outlet varied in relation to surface currents, water temperature, and dissolved oxygen concentrations.

"Emigration of Juvenile Salmon and Trout from Brownlee Reservoir, 1963-65," by Carl W. Sims, April 1970, pp. 245-259.

Floating scoop traps below Brownlee Dam caught samples of marked and unmarked salmon and trout that had left impoundment from July 1963 through August 1965; estimates of emigration were based on these samples.

Success of passage varied among years and populations. It was affected by the reservoir environment during outmigration. Downstream migrants that entered the reservoir early in season were more successful than later arrivals. Also, emigration was more successful when reservoir level was low.

"Characteristics of Some Larval Bothid Flatfish, and Development and Distribution of Larval Spotfin Flounder, Cyclopsetta fimbriata (Bothidae)," by Elmer J. Gutherz, May 1970, pp. 261-283.

The article discusses pertinent literature on larval flatfish of the family Bothidae and some characteristics helpful in identifying these larvae.

"Control of Oyster Drills, Eupleura caudata and Urosalpinx cinerea, with the Chemical Polystream," by Clyde L. MacKenzie Jr., May 1970, pp. 285-297.

Summarizes laboratory and field experiments during development of a method to control oyster drills for use on commercial oyster beds in southern New England and New York. This article includes the results of 15 treatments during 1961-67.

"Comparative Distribution of Mollusks in Dredged and Undredged Portions of an Estuary, with a Systematic List of Species," by James E. Sykes and John R. Hall, May 1970, pp. 299-306.

This report compares the numbers and varieties of mollusks in fine sediments of dredged canals with those in undisturbed bottoms of sand and shell in Boca Ciega Bay, Florida.

"Effect of Water Velocity on the Fish-Guiding Efficiency of an Electrical Guiding System," by John R. Pugh, Gerald E. Monan, and Jim R. Smith, June 1970, pp. 307-324.

The purpose of this study was to determine the effect of three water velocities--0.2, 0.5, and 0.8 meter per second--on the fish-guiding efficiency of an electrical guiding system operating under field conditions.

"Revision of the Genus Symphysanodon (Pisces: Lutjanidae) with Description of Four New Species," by William D. Anderson Jr., October 1970, pp. 325-346.

The genus is redescribed: four new species--two from western Atlantic and two from Pacific--are described; S. typus, from Pacific and, until recently, the only known species of the genus, is redescribed; a key to the species is provided. The author discusses systematic position of the genus, synonymies of species, and zoogeography and phylogency of genus; species are compared; there are brief comments on distributions.

THE FOLLOWING PUBLICATIONS OF THE DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION, NATIONAL MARINE FISHERIES SERVICE, ARE AVAILABLE FREE FROM DIVISION OF PUBLICATIONS, NOAA, CONNECTICUT AVE. & VAN NESS ST. NW., BLDG. 52, WASHINGTON, D.C. 20234:

FISHERY COOPERATIVES

"List of Fishery Cooperatives in the United States, 1969-70," Fishery Leaflet 627, 13 pp.

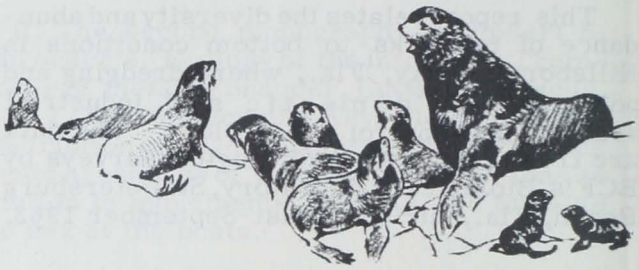
This leaflet contains only those organizations of fishermen recognized now by the U.S. Department of the Interior as cooperatives under Fishery Cooperative Marketing Act of 1934.

No two fishery cooperatives are identical. Each was organized to solve a problem--unique to fishermen of a geographic area. Therefore, the organizational and operational activities of each cooperative are different.

Two other lists are published, one for unions, another for associations: "List of Fishermen's and Fish Shore Workers' Unions in the United States," and "List of Fishery Associations in the United States."

FUR SEALS

"Fur Seal Investigations, 1968," by National Marine Fisheries Service, Marine Mammal Biological Laboratory, Sand Point Naval Air Station, Seattle, Washington 98115, SSR-Fisheries No. 617, 125 pp., 32 figs., 53 tables, 3 appendices, 1970.



The purpose of this research on Pribilof Islands was to appraise the reaction of the herd to population levels adjusted purposely to calculate level of maximum sustained yield.

The report has two parts:

Part I--"Fur Seal Investigations, 1968," summarizes information collected in 1968 and describes progress toward achievement of this goal.

Part II--"Pelagic Fur Seal Investigations, 1968," had these objectives: (1) to collect information on distribution of fur seals in winter, including arrival time of year-classes, and their feeding habits off Washington; and (2) to resurvey migration, distribution, and feeding habits of fur seals in waters of western Alaska with special emphasis on collecting young females to study reproductive condition in late spring and summer.

PLANKTON

"Macrozooplankton and Small Nekton in the Coastal Waters Off Vancouver Island (Canada) and Washington, Spring and Fall of 1963," by Donald S. Day, SSR-Fisheries No. 619, 94 pp., illus., 1971.

Predictions of the location and abundance of commercial fishes that depend on plankton for food can be improved by knowing the distribution and numbers of plankton within large regions of the sea. The waters over the continental shelf and slope along the west coast of U.S. and Canada appear to be one of world's highly productive marine environments. However, little is known about distribution and composition of macrozooplankton and small nekton inhabiting region off Vancouver Island, British Columbia, and Washington. This report shows abundance, distribution, and composition of these organisms over continental shelf and slope.

SALMON

"Distribution of Salmon and Related Oceanographic Features in the North Pacific Ocean, Spring 1968," by Robert R. French, Richard G. Bakkala, Masanao Osako, and Jun Ito, SSR-Fisheries No. 625, 22 pp., illus., 1971.

This report details fishing and oceanographic results of sampling in a wide area of North Pacific Ocean and presents data on relation between salmon distribution and oceanographic features.

"Effect of Quality of the Spawning Bed on Growth and Development of Pink Salmon Embryos and Alevins," by Ralph A. Wells and William J. McNeil, SSR-Fisheries No. 616, 6 pp., 1970.

This report describes the growth and development of embryos and alevins of pink salmon, Oncorhynchus gorbuscha, in natural spawning beds of different quality in Sashin Creek, a small stream in southeastern Alaska.

"Predation of Sculpins on Fall Chinook Salmon, Oncorhynchus tshawytscha, Fry of Hatchery Origin," by Benjamin G. Patten, SSR-Fisheries No. 621, 14 pp., illus., 1971.

Patten studied predation by sculpins on fry of fall chinook salmon that migrated into Columbia River from two hatcheries: the Elokomin River Hatchery (operated by Washington's Department of Fisheries) and the Oxbow Hatchery (Oregon Fish Commission). Losses of salmon to sculpins may have been related to diet and to size of releases. In Elokomin River, predation was greater on salmon fed a wet diet than on those fed moist pellets. Improvement of hatchery procedures probably is best way to reduce losses of hatchery-reared salmon to sculpins.

SALMON & TROUT

"Spawning Areas and Abundance of Steelhead Trout and Coho, Sockeye, and Chum Salmon in the Columbia River Basin--Past and Present," by Leonard A. Fulton, SSR-Fisheries No. 618, 36 pp., illus., 1970.

Fulton discusses spawning areas removed from use before 1969 and those in use in 1969; abundance; and future of runs for: steelhead trout, Salmo gairdneri; coho salmon, Oncorhynchus kisutch; sockeye salmon, O. nerka; and chum salmon, O. keta. All four have lost many spawning areas because of water-use developments and changes in watershed resulting from logging, highway construction, agricultural cultivation, placer mining, and dumping of wastes.

Fulton says future prospects are fair for steelhead trout, good for coho salmon, and poor for sockeye and chum salmon.