



"Fish and Shellfish Farming in Coastal Waters," by P.H. Milne. Published by Fishing News (Books) Ltd. 23 Rosemount Ave., London, England. \$ 18.53.

The increasing alarm about over-exploitation of world fisheries makes this a very timely book. All over the globe there is interest in fishfarming as a possible solution.

The author engages the problems and successes in a volume filled with information. He surveys fish and other marine species suitable for farming. Chapters cover design and construction of hatcheries, ponds, raceways, and tanks--and their aquatic and equipment requirements. New material and techniques are discussed. Legal aspects, choice of site, and material are considered. Chapters are devoted to the many difficulties the fish farmer encounters: control of predators, marine pollution, and the effects of marine enclosures on environment. Some facts justify hope--e.g., lobsters commercially grown in heated water attain marketable size in 3 years compared to 5 years in the sea.

Dr. Milne is a specialist in surveying and site evaluation, coastal engineering, applied oceanography, and marine farming. He is consultant and advisor to British fishing agencies.

Many pictures and diagrams are included. Also, there are many usable references, and appendices on wind, wave forces, tidal currents, mesh net design criteria, and pile design calculations. It can be a valuable aid to anyone interested in sea farming for profit.

FISHING GEAR

"FAO Catalogue of Fishing Gear Designs," published by arrangement with Food and Agriculture Organization of the United Nations by Fishing News (Books) Ltd. 23 Rosemount Ave., London EC4A 2 JL, England. \$ 12.35.

Fishermen around the world can find valuable use for this book. It includes 80 designs of nets and rigging that have proved successful in the principal world fisheries.

Full explanatory matter is given concisely in 3 languages. A series of appendices covers a wide range of basic information: abbreviations and symbols used for designs, equivalents and conversions, trade names of synthetic fibers and examples of synthetic fiber ropes, common netting yarns, cutting rates and taper ratios, and an extensive glossary of fishing gear terms.

The designs themselves are so skillfully drawn that anyone using the explanatory text can easily read and interpret them. They are ranged in sequence of horse powers used for towing. Fishermen will be able to test comparable equipment efficiency and adapt it to local conditions.

Trawl nets are diagrammed. Purse seines, lift and tangle nets, gillnets and pots, dredge, longline and troll line are depicted. Designs are uncluttered and uncrowded, details and figures are very clear, translations do not dominate the page.

One important sideline of the Catalogue, which is an update of a 1965 issue, "is the promotion of international standardization of fishing gear specifications which is the prerequisite for efficient worldwide exchange of knowledge and experience."

ENVIRONMENTAL SCIENCE

"Nutrients in Natural Waters," edited by Herbert E. Allen and James R. Kramer. A Wiley-Interscience Publication, John Wiley & Sons, New York, London, Sydney, Toronto.

A new volume in the series 'Environmental Science and Technology', it presents the latest thinking and research on nutrients by experts

in the chemical and biological sciences and in engineering.

With one exception, all chapters are adapted by the authors from papers presented in the symposium at the National Meeting of the American Chemical Society in Los Angeles, March 28-29, 1971. Subjects include "Chemical Analysis of Nutrients," "Detergent Developments and Their Impact on Water Quality," "Bioassay Analysis of Nutrient Availability," "Oxygen-Nutrient Relationship within the Central Basin of Lake Erie." They cover chemistry, biochemistry, and geochemistry of nutrients.

Chapters I, II, and III deal with the 3 principal nutrients--nitrogen, phosphorous, and carbon. Chapters VIII, IX, and X detail research in the Great Lakes.

Succeeding chapters consider nutrient removal from wastewater by physical-chemical processes and biological treatment methods. Since data accumulated during the past 20 years indicate eutrophication is caused primarily by greater discharges of phosphorous, the book discusses phosphorous control by aluminum and iron salts, lime, etc. Nitrogen removal is examined. Biological methods for removing detrimental nutrients are presented.

Chapters touch on U.S. and Canadian government controls of nutrients in water.

There are many charts, tables, formulas, and references.

"It seems clear that if we are to preserve for future generations some semblance of biological order--science and technology must quickly come to play a dominant role in designing our social and industrial structure for tomorrow," the editors state. They have done creditable service in collecting the work of experts on nutrients in natural waters. It is an authoritative book that will prove useful for career or graduate-level reading.

MARINE TECHNICIAN'S HANDBOOKS

The University of California's Institute of Marine Resources offers a series of manuals covering a variety of ocean-related subjects.

Manuals such as these have been in use by Scripps Institute of Oceanography personnel for many years. They are now being made available to others who are interested. Scientists and technicians who secured and processed the data for Scripps are the ones preparing the manuals. This assures the user that working descriptions of techniques and equipment are authentic, that variables such as weather and sea conditions are included.

These are a few of the titles offered:

Oxygen Analysis
Phosphate Analysis
Gravity Coring
Procedures for Shipboard Diving, &
University Guide for Diving Safety
The Sonar Pinger
Thermometry
Under Water Camera, Wire Lowered

Each manual is revised and updated to reflect the newest techniques.

For the technicians or scientists interested in professional data on oceanographic methods, this could be a good way to build a library of helpful handbooks.

To order any of the above at \$1.25 each, or for information on others published, contact Institute of Marine Resources, P.O. Box 109, La Jolla, California 92037.

WORLD FISHERIES EXAMINED

"World Fisheries Policy: Multidisciplinary Views," published by the University of Washington Press. \$9.50.

This is a 340-page, illustrated book that sheds new light on the problems and potentials of the world's fisheries. It seeks to evaluate the effectiveness of past fishery policies and outline concepts and attitudes that may shape future policies. The book is a result of a series of interdisciplinary seminars sponsored by the Graduate School of Public Affairs at the University of Washington.

There are sixteen essays by fishery experts from several countries. Seven of the authors are present or past officials of the National Marine Fisheries Service, which is

part of the Department of Commerce's National Oceanic and Atmospheric Administration. The editor is Dr. Brian J. Rothschild, Director of the NMFS Southwest Fisheries Center, La Jolla, California.

Topics explored include: territorial conflicts, the fishery needs and desires of developing countries, conservation standards, and equitable allocation of catches in today's fisheries; the drift from the goal of maximum sustained yield to more complex social-welfare goals; and the necessity of evolving new methods of fishery management through use of systems analyses and computer technology.

This book will be of interest to anyone concerned with the sea, but particularly to the many participants expected at the Conference on "Law of the Sea", sponsored by the United Nations and scheduled to begin later this year.

PUBLICATIONS INDEX

The Pacific Sea Grant Advisory Program (PASGAP) issued a second edition of "Inventory." It cites approximately 200 publications and 250 audio-visual films available from PASGAP Institutions. It provides a convenient, practical reference to non-technical material for a broad audience with general interests.

"Inventory" was compiled by Oregon State University Sea Grant Marine Advisory Program; edited by Vicki Gaffke and Gwil Evans.

It is easy to use. It is divided into: Subject Index; Publications Section; and Audio-Visual Material, alphabetical by title.

Since the PASGAP program is an international consortium of 7 universities and 3 regions of National Marine Fisheries Service (NMFS), there is a wide and helpful selection of material available. With "Inventory", it will be easy to locate. Information offered includes such titles as:

How to Cook Tuna
Continental Shelf Sediment Off Oregon
Oyster Farming--Culturing, Harvesting,
& Processing
Bottomfishing Provides a Pleasant
Change for Oregon Anglers
Organizing and Operating A Fishery
Cooperative, Parts 1 & 2
Ocean Zones and Boundaries:
International Law and Oceans

Teachers, scholars, government and industrial workers, and fishermen will find this special aid helpful in locating nontechnical information about marine resources.

"Inventory" is available from the Cooperative Extension Service, Oregon State University, Corvallis, Oregon 97331.

FROZEN FOODS: PROCESSING AND HANDLING

"Recommendations for the Processing and Handling of Frozen Foods," 2nd Edition. Edited by the International Institute of Refrigeration, 177 Boulevard Malesherbes, 75-Paris-17^e, France.

This edition records the new knowledge of freezing amassed in the past decade. The new techniques of processing and handling frozen foods are included.

The general principles of freezing and thawing of foodstuffs cover physical aspects, hygiene, packaging, transporting, displaying, retail selling, and nutritional aspects. A complete new section is devoted to quick-freeze products: vegetables, fruits, meats, dairy products, fish, and desserts.

The book is in French and English. There are many charts and tables. 236 pages. Paper bound \$9.00.

--Laura Burchard