

Marine Community Ecology and Conservation

Edited by M.D. Bertness, J.F. Bruno, R.R. Silliman, and J.J. Stachowicz. 2014. Sinauer Associates Inc., 23 Plumtree Road, P.O. Box 407, Sunderland, MA, USA, 01375-0407. 566 pages, 116.68 USD, Cloth.

This book introduces itself as a sequel to the 2001 edition by M.D. Bertness the principal editor. Research in marine ecology has progressed and the summary of information available is more comprehensive with new data and more global research included. Like the 2001 edition this is a textbook for graduate students and ecologists, particularly those preparing for comprehensive exams. The earlier edition was also out of print.

As a text which summarizes all of the research to date and the situations in the current oceans of the world, the book is understandably quite dense. It begins with the early studies in marine ecology and the ecologists which made those studies. Where do we start (?) is a question which might puzzle the reader when faced with such a large topic and wealth of data. The book is organized into 23 chapters, summarizing the work of scientists on abiotic and biotic forces in the different salt water environments in the world. The book is subdivided into sections Processes that Generate Patterns in Marine Communities, Community Types, and Conservation following a history of Marine Community Ecology. Then each has topics related specifically to communities, populations, diversity, predator-prey relationships and diseases. But the mirror of discussion as in all of ecology is regrettably pollution, climate change, threats from various sources and the usual doom and gloom record of decades, even centuries of pollution and lack of any management strategies. At the end of the text are a few words of hope, strategies for restoration and some reports of current ecosystem conservation and management.

Most ecological research is scientific study in response to an obvious threat in the ecosystem or a more comprehensive study in response to the history of pollution and mismanagement in any one area of the sea-coast. The current focal points of research seem to be marine protected areas and marine spatial planning and it is to this end that the book leads us. Overfishing, intensive harvests of shallow water invertebrates, and habitat loss are factors which have been well documented in oceans at this time and the effects of these

changes over the past half-century, since records have been kept, show a decline in biomass harvested and the top-down and bottom-up effects on different ecosystems' production. The accumulation of pollutants near cities and from any given landmass is a topic which is only in the beginning stages of documentation but impacts many of the inshore marine ecosystems and species diversity. The book highlights warning signs and documents red flags from many different areas over long periods of time. The time-line is important since pollution did not start with the modern generation and certainly will not end in the present day.

There is a wide variety of literature produced concerning Marine Communities but the oceans are vast and the areas which have been studied are only a sampling of the multitude of habitats in any ocean type. For example, to study the biogeography of ocean communities, one has to study latitude and the abundance of species which are represented from warm to cold latitudes, the regional variations due to currents, and environmental heterogeneity of specialized areas. With latitude variation there have to be studies of different community types in intertidal, soft sediments, salt marshes, coral reefs and pelagic environments to name a few. When working with each of those communities the factors of climate change, threats of overfishing and habitat degradation have to be balanced to discover the original abundance and interaction with all species represented. Some consideration has to be given to restoration of endangered species and marine conservation of water quality, species interaction, native versus introduced species and nearby land developments before a reasonable prediction of future community structure can be suggested.

That the book is dense and technical is understood by its definition. This level of research has to be available to all researchers and professionals who study the complexities of any ecological problem regarding the world's oceans and their contact with continents. The only chapter which would be regarded as entertaining leisure reading was the first, A Short History of Marine

Community Ecology and perhaps some of the last chapter when the editor relates accounts of media attempts at changing our food habits in the interest of conservation. A suggestion of further study opportunities is also a positive informal note within the technical material. This is a go-to book for answers of what has been studied so far and a check-list of the people involved in the studies. I worked my way slowly through the

book and learned a lot of marine ecology in the process even though I pride myself in staying current with news and features involving general ecology topics. This text is a monumental work and we are better informed having it in hand.

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