

## BOOK REVIEWS

Psuty, N.P. & Ofiara, D.D. 2002. **Coastal hazard management, lessons and future directions from New Jersey.** xii + 429 pp. Rutgers University Press, New Brunswick, New Jersey. ISBN 0-8135-3150-0.

This book is the result of a fruitful collaboration between a coastal scientist and a specialist of public policy and management. It is highly relevant for coastal management, conservation, and planning. New Jersey beaches are a prime tourist attraction and the large number of coastline visitors has contributed to environmental degradation. As with most shorelines around the world, they are eroding and consequently threatening development. Logically, a variety of chapters discuss coastal dynamics and features as well as implications of sea level rise and storminess in relation to coastal changes. Not surprisingly, development at the water edge has been accompanied by an exposure to the hazards of erosion and flooding. Attempts were made to stabilize large portions of the New Jersey shore with hard structures (sea walls, bulkheads, groins) and the word 'Newjerseyzation' is now currently used for an armoured coast where almost no natural beach remains. In more recent times, large-scale artificial beach nourishment has been applied to New Jersey and continues to the present. Durability of replenished beaches, initial costs, and maintenance are discussed.

Dune maintenance also represents a soft approach to beach stabilization. As N.P. Psuty is a well-known coastal dune specialist, it is not surprising that a separate chapter is devoted to foredunes, an important component of the sand-sharing system which includes beaches and offshore bars. Foredunes also are natural buffers to storm surge and flooding. Additionally, they provide habitats for endemic plants and offer aesthetic qualities. Foredunes can continue to exist even though the sandy shorelines have a long history of erosion because they are able to migrate, moving inland as the beaches are retreating. As a result, they deserve to be protected, restored and maintained. Objectives in dune management and wise practices in the matter are discussed in detail, including placement and dimension of a foredune, fencing, planting, conservation ordinances. All this information is highly relevant.

Slightly less than half of the book is devoted to coastal economics and management. A useful chapter is aimed to introduce readers to the concepts and decision models which can be used to assess coastal management schemes according to economic criteria. Then, for instance, cost-benefit of beach nourishment projects are analysed and hazard mitigation programs discussed from this point of view. A detailed account of the re-assessment of the New Jersey Shore Protection Master Plan, which was undertaken in the mid-1990s with stakeholder participation, is given. Trends, options, and future directions in hazard management are provided and evaluated. Such considerations on economics and coastal public policy go beyond the New Jersey case on which they are based.

The authors have produced an authoritative handbook which is attractively printed and illustrated. It achieves its aim of integrating scientific data and socio-economic considerations. Coastal practitioners, stakeholders, and policy makers will find useful information in it. Obviously, it should be of interest to the readers of the *Journal of Coastal Conservation*.

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Martínez, M.L. & Psuty, N.P. (eds.) 2004. **Coastal dunes, ecology and conservation.** Ecological Studies 71, 386 pp, Springer, Berlin,. ISBN 3-540-40829-0.

This book is divided into six sections which cover a wide range of topics related to coastal dunes both in temperate and tropical latitudes. Geomorphology, ecology, environmental problems, and management strategies are addressed. In section I, attention is drawn to the development of foredunes under a variety of sediment budget scenarios. Differences between coastal dunes occurring in the temperate latitude and those found in the tropics are also examined. Section II deals with flora and fauna, focusing on vegetation dynamics and showing the paucity of available data on dune animals. Section III highlights the factors contributing to the stressful environment in which plants are living: substrate mobility, high temperatures, salinity, and scarcity of nutrients. Biotic interactions are explored in Section IV, a nice example being given by the role of algal mats which facilitate the development of pioneer plants. In response to the fact that many coastal dune systems of the world are in advanced stages of degradation, Section V is devoted to the need of management policies, presenting the need for both restoration and conservation. Different strategies and technologies throughout the world are also reviewed. Finally, Section VI, which is in fact a conclusion, presents a discussion on the conflict common to all natural systems: the balancing between exploitation and conservation. As far as conservation is concerned, whenever possible stabilization programs should be abandoned and natural aeolian dynamics maintained or restored.

This informative, well-illustrated book is not only directed to dune specialists and graduate students, it is also highly relevant for coastal managers.

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