

## Biota of the Virginia Barrier Islands: Symposium Introduction

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The Virginia barrier islands extend 150 km along the seaward margin of the Delmarva Peninsula, from Assateague Island in the north to Fishermans Island in the mouth of Chesapeake Bay. This area includes 14 barrier islands and intervening inlets, numerous marsh islands, and extensive shallow bays, tidal flats and salt marshes. This coastline developed during the late Holocene rise in sea level (Shideler *et al.*, 1984). The time of formation of the islands and marshes was similar to that of other barrier islands along the mid-Atlantic coast, about 5,000 to 6,000 BP (Newman and Munsart 1968). The biological communities which occupy the modern islands are the product of less than 5,000 years of development. Given their susceptibility to recurrent disruption by storms and flooding, most of these communities have existed for much less than 5,000 years.

This barrier-lagoon complex has undergone continuous, rapid change as sea level has risen. The islands have migrated landward by means of erosion on their seaward margin and sand movement across the islands to the lagoons by overwash and inlet formation (Dolan *et al.*, 1979). The modern islands continue to experience shoreline recession, with local rates as high as 13 m per year (R. Dolan, pers. comm.). Migration has the effect of continually eroding, burying, raising and rearranging the elements of the barrier island landscape. In effect, there is an on-going, perpetual experiment in ecosystem disturbance, biotic responses and community development. The islands thus comprise an ideal natural laboratory for studies of ecology and evolution.

Although the islands have been inhabited sporadically since the arrival of Captain John Smith in 1608 (Graham 1976), most remain isolated, uninhabited and relatively natural (Dueser *et al.* 1976). The Nature Conservancy in 1970 designated 14,170 ha of islands and marshes as the Virginia Coast Reserve, dedicated to conservation, education and research (Cutler and Jenkins 1976). Most of the marsh and island acreage outside the Reserve is under federal or state control, including Assateague Islands National Seashore; Chincoteague, Eastern Shore of Virginia, and Fishermans Island National Wildlife Refuges; and Wreck Island Natural Area.

This dynamic system has attracted the attention of many researchers during the past 20 years. A symposium entitled "The Biota of the Virginia Barrier Islands" was convened in May 1988, to bring together biologists working on diverse aspects of the island biota. The 16 papers included here represent a diverse array of taxa, habitats and topics, and are a direct result of the discussions which followed the

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symposium. These papers represent the most comprehensive introduction available to the biota of the Virginia barrier islands. It is hoped this volume will prove useful to future researchers and to those charged with the stewardship and management of these islands.

#### ACKNOWLEDGEMENTS

Many individuals played vital roles in bringing this project to completion. John M. Hall and Barry Truitt of the Virginia Coast Reserve encouraged much of the research reported here. Richard S. Sojka and Donald R. Young chaired sessions during the symposium. Joseph C. Mitchell generously assisted with the final editing of the manuscripts. James H. Martin, editor of the Virginia Journal of Science, encouraged publication of this symposium volume and made numerous concessions to accommodate inclusion of over-size tables and figures. The authors patiently awaited publication as the volume slowly came together. Their patience far surpassed what would normally be expected. Preparation and publication of this volume was assisted by the Virginia Coast Reserve Long-Term Ecological Research Program of the University of Virginia (NSF BSR-8702333).

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