

THE CHESAPEAKE BAY PROGRAM: SCIENCE, POLITICS, AND POLICY

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The Chesapeake Bay: Nature in the Cultural Environment and Cultural History in the Natural Environment

Along the East Coast of the United States, environmental advocates are fond of saying that the Chesapeake Bay is a resource of national significance. While this may be a subject of debate to observers elsewhere, the Bay *is* nonetheless this nation's largest estuary. Like all estuaries, it is a region where river flows and tides from the sea mix, but in the Chesapeake this occurs over thousands of square miles, mingling the particular signatures of nine major river systems and hundreds of small tributary creeks. The Chesapeake Bay basin, covering all or parts of six states and the District of Columbia, is also home to many federal, state, and local natural and cultural protected areas, each of which shares both a responsibility and an opportunity to interpret the Bay and its historic, economic, and cultural amenities to the public.

How did such a bay and its people come to be?

Rising sea levels following the last great glaciation accompanied the movement of early Native Americans across the regional landscape. The sea slowly eroded its way into the ancestral Susquehanna River gorge, and, about 5,000 years ago, the estuary assumed much of its present shape and extent. Erosional change and intrusion by the sea has continued; in fact, it seems to be accelerating as humanity compounds its problems with global warming.

European visitors may have made excursions into the Bay during Vi-

king times in the eleventh century, but certainly by the sixteenth century Portuguese and Spanish navigators explored its shores. The period of permanent European colonial contact (following 1607) is well-interpreted by the National Park Service's Jamestown-Yorktown program. In the first centuries of the post-contact period, ecologists estimate that between 300,000 and 600,000 acres of the Bay's shallows were carpeted with lush beds of submerged aquatic vegetation. They provided unimaginably rich habitat and superb protection for the Bay's living and commercially harvestable



Figure 1. The oyster skipjack "Lorraine Rose" in 1972. She is now long gone, and with her all but remnants of the large fleet which harvested the Bay's shellfish in the late 19th and early 20th centuries. Photo courtesy Kent Mountford.

resources.

By the late nineteenth century the Bay was the source for the lion's share of North American oysters. At one point, 13 railroad cars loaded with oysters left Baltimore for the West daily. The improvident harvest—in reality the mining—of tens of millions of bushels from this remarkable resource resulted in its virtual destruction. The once-massive oyster reefs delivered to the Bay a filtering and self-cleaning capacity that went unappreciated until its disappearance. Other human activities—including deforestation, agriculture, animal husbandry, industrial processes, urban development, mining, and modern energy consumption—have combined over time to stress the Bay. All these socially driven forces, in addition to releasing large quantities of toxic contaminants and pathogens, have vastly increased

"leakage" of the natural nutrients nitrogen and phosphorus into the Bay's waters, resulting in overfertilization. The degradation of the Bay's natural resources helped stimulate public awareness and congressional action, including the creation of the U.S. Environmental Protection Agency's Chesapeake Bay Program. Despite many problems, the Bay still yields a significant part of North America's harvests of blue crab (*Callinectes sapidus*), soft clam (*Mya arenaria*), and commercial menhaden (*Brevoortia tyrannus*). Recreational fishing and boating are huge industries, and they produce national economic impacts on the order of billions of dollars annually.

The articles in this issue of THE GEORGE WRIGHT FORUM touch two principal themes: the interaction of nature and culture in the Bay's environment, and the response to the

despoliation of that environment—a response exemplified by the Chesapeake Bay Program. One of my co-editors, John Donahue, begins by offering a perspective from his vantage point as superintendent of a national park unit that combines both natural and cultural elements. In his article, William Matuszeski reflects on the Chesapeake Bay Program's origin and significance to natural resources management. Peter J. Marx then discusses how cultural and natural resource issues combine with the complexity of the legislative—and political—process.

Within the Bay region, there are continual opportunities to work symbiotically with thousands of local communities, as Gary G. Allen and Susan N. Hall point out in their piece. It is on these local firing lines where decision-making in zoning and land use vitally affects the natural landscape. Next, Jack Greer discusses the elements of ecosystem decline, together with the destruction of most of the Bay's submerged aquatic grass meadows. Lowell Bahner's piece details how information about the Bay is managed and delivered to the public. Robert D. Campbell discusses how the Park Service has successfully interwoven its activities with program's management functions. Finally, my co-editor

Charles D. Rafkind considers the elusive objective of making human constructs fit into the natural landscape.

There are natural and cultural elements everywhere along the Bay that can help us to maintain and interpret an appropriate perspective on the role of humans in their ecosystems. Many of these elements touch themes common to national parks throughout America—indeed, to reserves the world over. These protected areas have a tremendous opportunity and responsibility to sensitize the public to environmental damage and remediation.

The authors included here have provided a look at the Chesapeake Bay and its watershed from a diverse set of human and environmental perspectives. We, who have had a role in assembling this issue, are sure you'll find concepts here that will benefit natural resource and public-interest managers wherever they work. All of the individuals who have contributed to the massive efforts at revitalization of the Bay, from everyday volunteers to powerful politicians, should be lauded for their efforts. The Chesapeake Bay Program shows that we *can* correct our mistakes and leave the world a better place than we found it.

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