

# Protected Areas in Enclosed Sea Management

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An essential aspect of environmental management of coastal seas is the establishment of protected areas for the joint goals of sustainable use and protection of living resources and the natural environment. Protected areas represent patches of land and seascape that have been designated to preserve some natural aspect of the environment. They generally represent the least altered most natural remnant of the original system. They have legal authority to carry out a legislative or private mandate and they may have limited funds to carry out the charge. As patches in the landscape, their future may be threatened by events from outside of their boundaries that are causing degradation of the resources within those boundaries.

Each protected area could benefit from collective experience and information transfer, but more importantly in the context of the entire estuarine system a network of protected areas may help monitor the general health of the enclosed sea's system by relating the observed effects at the local scale of the protected area up the ecosystem hierarchy to the entire estuary and even to the regional, coastal zone system. Better representation of protected areas in this system framework would improve regional monitoring, better guide management decisions, and encourage public support and understanding.

The Chesapeake Bay forms the basis for this discussion. Within its coastal system there are many local, state, federal, and private protected areas that fall under many separate authorities and mandates. These areas have been created independently, but could form the basis for a network potential of research and monitoring of the Bay's ecosystem and its valuable resources. Our objective is to present a concept about the role of protected areas by describing how individual areas and their collective activities could advance conservation and management of a coastal sea system such as the Chesapeake Bay. Our brief overview will describe the major characteristics of the Chesapeake Bay system, place protected areas within the context of this natural system, relate them generally to patterns of land and seascape diversity and processes at appropriate scales, and suggest an approach for developing a system-wide network.