

COASTAL RESILIENCE: USING MARINE SPATIAL PLANNING TO SUPPORT MANAGEMENT DECISIONS THAT ADDRESS THE NEEDS OF NATURAL AND HUMAN COMMUNITIES

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Ecosystem-Based Management (E-BM) considers the cumulative impacts of different sectors and is intended to reverse the order of management priorities to start with the ecosystem rather than the species. Although genuine in its approach, demonstrating this concept is complicated and the path to its realization is unclear. However, marine spatial planning offers great opportunity to place information representing multiple management objectives into a flexible decision support framework. Here we intend to present how this framework is utilized at stakeholder meetings in Suffolk County, New York, USA.

The Long Island shores have highly developed lands in the coastal zone. Much of this private property is only inches above sea level, placing millions of dollars in public and private funds at risk. This also puts coastal wetlands and other ecosystems at risk that provide habitat, natural buffers to storms and other services. Despite a growing awareness of global climate change, local decision makers - the primary regulatory authorities on coastal development - still lack the tools to transparently examine different management objectives such as coastal hazards and biodiversity conservation. The Coastal Resilience project was designed to address these issues and provide tools and information to better inform decision-making.

Coastal resilience describes the self-organizing ability of a coast to respond in a sustainable manner to morphological, biological and/or socio-economic pressures. A primary goal of the project is to design, build and discuss alternative future scenarios that address sea level rise, storm surge, community vulnerability and conservation priorities. The Nature Conservancy is leading this effort, working with project partners including the NASA Goddard Institute for Space Studies, the Association of State Floodplain Managers, the Pace Land Use Law Center and NOAA's Coastal Services Center.

We will present our multiple objective, marine spatial planning approach that utilizes geospatial information in support of decisions for conservation action while addressing human needs. The Coastal Resilience project will deliver this information via an internet mapping application that will help local decision makers keep the environment and public safety in mind as sea levels rise and coastal hazards increase.