



Top: Salt Pond Visitor Center, Cape Cod National Seashore

## Age by Age: Integrating climate change mitigation and adaptation into new transportation and land use strategies for Cape Cod's future

By Ben Rasmussen and Lauren McKean

Cape Cod National Seashore has experienced significant shoreline changes through the ages. Now, scientific data shows that the impacts of sea level rise (SLR) must now be strongly considered in planning for the park's future. Since the unit's creation in 1961, visitors and staff have witnessed the ongoing loss of beachfront homes, the relocation of historic lighthouses and other costly actions caused by the lure of people to the edge of the sea. As the sea rises, the shores of Cape Cod National Seashore are less buffered by Georges Bank, an elevated shelf east of Cape Cod. Resulting increases in storm damage, coupled with increased frequency and intensity of storms, it is important that climate change mitigation and adaptation become key goals for the Seashore. One initial approach concerning climate change and the effects on Cape Cod will be a vigorous look at reducing greenhouse gas (GHG) emissions, while considering SLR impacts through future scenario planning beginning at a November 2010 meeting of federal, state and local stakeholders.

The Interagency Climate Change Scenario Planning Cape Cod Pilot Project (the Project) was established to develop a successful and replicable process for integrating climate change mitigation and adaptation measures into a transportation and land use planning strategy. Several preliminary strategies are under development and evaluation to identify different areas suitable for varying levels of growth or preservation based on SLR vulnerability. Project participants will also explore opportunities to implement transportation measures which will reduce GHG emissions built upon sound land use planning, transportation planning, and environmental considerations. The group will also agree upon a shared vision, or preferred scenario, to meet performance indicators based on reduction of GHG emissions and adaptation to anticipated SLR.

Led by the Department of Transportation's

(DOT) Volpe Transportation Center (with selected consultants), the study area for the pilot project includes the 15 towns of Cape Cod. Planning Group members include: Federal Highway Administration (FHWA), the National Park Service (NPS), U.S. Fish and Wildlife Service (FWS), the Environmental Protection Agency (EPA), the National Oceanic and Atmospheric Administration (NOAA), Federal Transit Administration (FTA), Federal Emergency Management Agency (FEMA), the Department of Defense (DOD), and the Cape Cod Commission. Technical experts in local coastal studies, climate change, transportation planning, and land use planning prepared for the workshop for several months. After the workshop, the project team continued to hone the results and to develop action plans that agencies will be responsible for implementing. It is the planning workgroup's collective hope that the pilot project will inspire others.

NPS members have been contributing to a transportation strategies sub-group, while helping to develop a 'vulnerable areas map,' in advance of the scenario planning workshop. Concurrently, park staff has been working on the Climate Friendly Parks (CFP) Action Plan, itemizing energy, transportation, and waste activities to reduce GHG emissions, while implementing educational measures that the park is committed to undertake, meeting or exceeding federal sustainability mandates. The CFP plan is due to be released in 2011, and is expected to be enhanced by and complementary to the pilot project outcomes.

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*"Age by Age, the sea here gives battle to the land: age by age, the earth struggles for her own, calling to her defense her energies and her creations, bidding her plants steal down upon the beach, and holding the frontier sands in a net of grass and roots which the storms wash free".*

*-Henry Beston, 1928*