



Testimony of:
Save the Sound
a program of Connecticut Fund for the Environment



In Support of Raised Bill No. 5128

**AAC CERTAIN REVISIONS TO THE
COASTAL ZONE MANAGEMENT STATUTES**

Before the Environment Committee

February 22, 2012

Submitted by Leah Schmalz, Dir. of Legislative and Legal Affairs

Save the Sound is a regional program dedicated to the restoration and protection of Long Island Sound; together with its parent organization, Connecticut Fund for the Environment (“CFE”), a statewide non-profit environmental advocacy organization, it represents over 6,500 members. Since 1978, CFE has used law, science and education to improve Connecticut’s environment.

Dear Sen. Meyer, Representative Roy, and members of the Environment Committee:

Save the Sound, a program of Connecticut Fund for the Environment submits this testimony in general *support* of Raised Bill 5128, with potential changes to section 4 (e).¹ If passed, this legislation would assist shoreline communities in considering and implementing climate change adaptation measures to help protect property, residents and wildlife.

Coastal habitats are the transition between land and sea, providing food and refuge for birds, fish, crabs and many other animals. Many of these habitats also act as buffers, preventing erosion and flooding and providing a storm-effect dampening service for coastal areas. These areas also tend to be densely populated, and contain vital infrastructure like roads, sewer and septic systems, and drinking water supplies. And, as storm Irene demonstrated, those same areas are exceedingly vulnerable—particularly in light of the effects of climate change.

Climate change impacts are not just a future guess, they are happening now. And they are happening in Long Island Sound. We have seen an emerging trend decreasing cold water species and increasing warm water species due to warming waters. Over the past few decades, local scientists have noted that there is marsh submergence in some areas, and that emergent marsh (particularly low marsh) is converting to tidal flats along many of the tidal rivers draining to the

¹ Please see testimony from The Nature Conservancy for proposed language adjustments to section 4(e) of Raised Bill 5128.

Sound.² Additionally, studies show that the submergence and erosion of marsh islands as a result of sea level rise are already affecting bird species that depend on these areas for protection from predators.³

The amount of sea level rise varies depending on local conditions, such as subsidence and uplift. Complicating matters here, present-day Connecticut was slightly uplifted after the retreat of the glaciers and it is subsiding at a rate of approximately 0.03 - 0.035 inches/year (0.76 - 0.89 mm/yr). According to tidal gauge data which measures relative sea level change for New London, CT, the average rate of sea level rise has been approximately 0.08 inches/year (2.13 mm/yr). In Bridgeport, CT (the relative sea level rise has been 0.10 inches/year (2.54 mm/yr).

Unfortunately the problem is worsening. In New England, sea level rise has accelerated from 1.0 mm/yr (1300 to 1850) to 2.4 mm/year in the 20th century.⁴ The Intergovernmental Panel on Climate Change (IPCC) predicts that the rate of sea level rise may climb as high as 5.9 mm/year this century, which is more than double today's rate. Other scientists predict even more extreme rates of sea level rise, up to 16.3 mm/yr.⁵ In fact our own Two Storm Panel noted that "meteorological information presented to the Panel indicated that sea levels are anticipated to rise approximately 1.5 feet by mid-century, and from three to five feet by century's end."⁶

While climate change is global in scale, the magnitude and type of expected changes vary regionally and sea-level rise could be more rapid and pronounced along regional coastlines in the Northeast.⁷ It should be noted that strong storm events exacerbate the threat of sea level rise.⁸ For

² Ron Rozsa, unpublished observations page 39 http://longislandsoundstudy.net/wp-content/uploads/2011/04/LIS_SMstrategy_v1.pdf

³ Erwin, R.M., G.M. Sanders, D.J. Prosser, and D.R. Cahoon. 2006. High tides and rising seas: potential effects on estuarine waterbirds. In: *Terrestrial Vertebrates in Tidal Marshes: Evolution, Ecology, and Conservation*. [Greenberg, R. (ed.)]. Studies in avian biology number 32. Cooper Ornithological Society, Camarillo, CA, pp. 214-228. (as referenced on p. 39 of *Sentinel Monitoring for Climate Change in the Long Island Sound Estuarine and Coastal Ecosystems of New York and Connecticut Volume 1 (2011)* http://longislandsoundstudy.net/wp-content/uploads/2011/04/LIS_SMstrategy_v1.pdf)

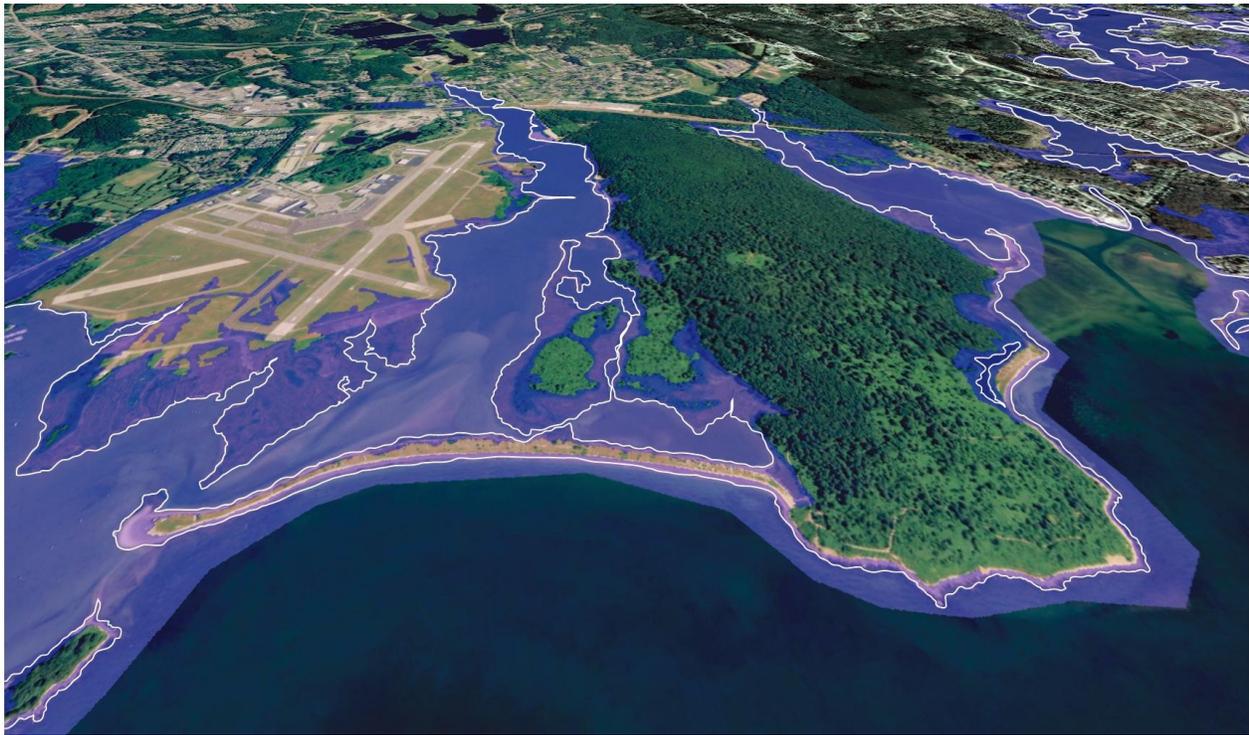
⁴ Keryn B. Gedan, Andrew H. Altieri, Mark D. Bertness 2011. Uncertain future of New England salt marshes., (<http://www.int-res.com/articles/theme/m434p229.pdf>)

⁵ Id.

⁶ Report of the Two Storm Panel, January 2012 http://www.governor.ct.gov/malloy/lib/malloy/two_storm_panel_final_report.pdf Page 12

⁷ Yin, J., Schlesinger, M., and R. Stouffer. 2009. Model projections of rapid sea-level rise on the northeast coast of the United States. *Nature GeoScience* 2:262-266. March 15, 2009. (as referenced in the *Sentinel Monitoring for Climate Change in the Long Island Sound Estuarine and Coastal Ecosystems of New York and Connecticut Volume 1 (2011)* http://longislandsoundstudy.net/wp-content/uploads/2011/04/LIS_SMstrategy_v1.pdf)

example, in 100 years, during 100-year storm events, the maximum sea level at New London, CT could be about 10.2 feet (3.1 m) above base sea level. For comparison, the current maximum sea level height expected at New London during 100-year storm events is about 7.2 feet (2.2 m) above average sea level.⁹



A projection of Bluff Point in Groton Connecticut under a scenario of three feet of sea level rise.

The impacts of sea level rise and exacerbated impacts associated with major storms are critical and relevant to Connecticut, so much so that the recent Governor's Two Storm Panel devoted a chapter to it as part of their final recommendations. According to the findings in that section of that report, "The State Department of Emergency Management and Homeland Security (DEMHS) considers a strong Category 3 hurricane as the most probable, worst-case disaster scenario facing the state."¹⁰ The Panel indicated the need to protect infrastructure along the coast and adjacent rivers, paying particular attention to the potential harm to sewage treatment plants, combined sewer overflow, and

⁸ Kirshen, P., C. Watson, E. Douglas, A. Gontz, J. Lee, and Y. Tian. 2008. Coastal Flooding in the Northeastern United States due to Climate Change. Mitigation and Adaptation Strategies for Global Change V13: 5-6. June 2008. (as referenced in the Sentinel Monitoring for Climate Change in the Long Island Sound Estuarine and Coastal Ecosystems of New York and Connecticut Volume 1 (2011) http://longislandsoundstudy.net/wp-content/uploads/2011/04/LIS_SMstrategy_v1.pdf)

⁹ Id.

¹⁰ Report of the Two Storm Panel, January 2012, pg. 11

septic systems, going one step further it estimated that damage from a Category 3 hurricane similar to the 1938 hurricane could cost the state \$54.2 billion.¹¹

Another related theme of the Two Storm Panel's report is municipal preparedness. While the recommendations focused on the ability of a town or city to cope with the effects of an imminent disaster, it is the decisions made on a day to day basis that will dictate how difficult recovery from that imminent disaster will be. This is where Raised Bill 5128 comes in. By using a minimum yearly sea level rise average and explicitly stating that municipalities are expected to consider sea level rise both in its own plans, and its review of applications for development, the state is assisting communities in addressing the eventuality of major coastal changes and helping limit the amount of loss from inevitable increased sea levels and storm intensities.

Connecticut is a leader on many environmental initiatives, but unlike our New England neighbors Rhode Island and Maine, we do not reference or require sea level rise planning in our Coastal Zone Management laws. It is time to change that. Raised Bill 5128 and the Speaker's new Sea Level Rise Taskforce are critical parts of the solution.

Thank you for your consideration

Sincerely,

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¹¹ Id.