



Institute of Environmental Stewardship, LLC
Dedicated to the Principles of Sound Environmental Policy and Management

Monday, March 07, 2011

Co-Chairmen Meyer and Roy
Environment Committee
Room 3200, Legislative Office Building
Hartford, CT 06106

Members of the Environment Committee, for the record my name is Robert S. De Santo, Ph.D. I live in Waterford and this is my testimony concerning H.B. No 1114 before your Committee, *AN ACT REVISING THE DEFINITION OF TIDAL WETLANDS AND THE HIGH TIDE LINE*.

I am the owner of, and Principal Scientist at, the Institute of Environmental Stewardship, LLC, and, as an avocation, I serve as President of the East Lyme Public Trust Foundation, Inc. While Chief Scientist for the Parsons Corporation between 1977 and 2004, I served several years there as a Vice President and Chief Scientist specializing in coastal zone ecology and matters pertaining to coastal zone management. In 1989, I formed the Institute and became its Principal Scientist where I continue to dedicated much of my time to projects in Connecticut that hinge on determination of the extreme high tide line at various locations in the state. Most recently, I spent many days arguing this issued to no avail before a DEP Adjudication Hearing in 2007 in which I challenged the state's present arbitrary, unscientific definition, and its misunderstood perception of tide variability and coastal ecology. That case pertained to a residential site in Stamford.

Proposed Bill 1114 is now clearly tied to the tidal source data documented in the 2001 tidal epoch approved by the National Oceanic and Atmospheric Administration, as it should be and as I argued for it in 2007. The proposed Bill 1114 is far better than the present one with one major caveat -- the specification of "**one foot above local extreme high water**" [Sec. 2. Subsection (a)] remains arbitrary and unscientific and should be changed. If the state wishes to extend its jurisdiction by some distance above the local extreme high water for ecological reasons, it should do so by specifying a "buffer" based on a **percentage of the local tidal range**, which could then be added to the local extreme high tide elevation as derived from the NOAA predicted tide tables at: http://tidesandcurrents.noaa.gov/tide_predictions.shtml?gid=57. The ecological basis for my position is that empirically determined tidal ranges (i.e. actual and true tidal ranges) vary according to the submarine topography of the coastal zone that defines the continental shelf and the morphology (i.e. the shape) of the coastline. This explains the difference between the 40 foot tidal range in Newfoundland as compared with the three foot tidal range in New London. In light of that scientifically definable variable (i.e. the site specific tidal range), it makes no ecological sense to argue that adding an arbitrary one foot buffer to the landward extent of a tide in Newfoundland is logical or appropriate. It is equally inappropriate and unscientific to apply a one foot buffer in New London. The Canadian buffer is 2.5% of the tidal range there while the New London buffer is 33% of the tidal range there. The fundamental science of tidal wetland ecology tells us that the dominant factor determining coastal ecology is the tide -- regular inundation by salt water. Therefore, protecting natural tidal resources by buffering them, mandates use of a proportional margin or buffer based on the tidal range, not an arbitrary measurement, such as one foot. One size does not fit all.

Therefore, when the state seeks to protect its coastal tidally supported ecological resources, including tidal wetlands, it must recognize that going above the local extreme high water, extends its jurisdiction into resources outside it tidal wetlands jurisdiction and that doing so must reflect a REASONABLE and appropriate conservatism. Therefore, in my expert opinion, the state should adopt a 10% buffer, which is reasonable and appropriate to protect the coastal zone ecology at stake. A 2.5% buffer is too small. A 33% buffer is too large. Arbitrarily picking a buffer, such as the "one foot" proposed in Raised Bill 1114, invites confusion and legal challenge in the same manner as does the present arbitrary, unscientific existing definition used by the state, which has cost all parties drawn into its debate much money, effort, and frustration over the years.

Sincerely yours,

Robert S. De Santo, Ph.D.
Director and Principal Investigator