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Department of Marine Sciences
Presents a Seminar By

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Build a wall; the wrong solution to a number of problems including the survival of horseshoe crabs in our urban estuaries

The American and Asian Horseshoe crab species obtain food resources, spawn and have nursery habitats in our urban coastal seas. Urbanized estuaries and coasts are dominated by human activity and characterized by armored shorelines, high nutrient loads, large fluctuations in algal and bacteria populations, increased levels of pollutants (e.g. heavy metals and pesticides), hypoxia and relatively low pH. The Long Island Sound (LIS) watershed harbors more than 9 million people and this urban sea has been significantly modified by human use. We have found that the horseshoe crab population in LIS is reproducing well below its maximum rate with the recruitment of newly molted adults ranging from 5.6 to 12% of the spawning population on sampled beaches. One to three year old juvenile horseshoe crabs have low population densities, with a patchy distribution and are absent from more than half of estuarine habitats surveyed ($n = 10$). The probable causes are due to overharvest of adults (both legal and illegal) and poor quality nursery habitat (polluted and hypoxic estuaries). Possible solutions include multi-habitat restoration (e.g. upland dune stabilization, marsh grass planting, and oyster reef installation) of coastal areas for wave abatement, allowing for sediment deposition, capping of heavy metals and increased biodiversity. Also, the establishment of Marine Protected Areas to stop the harvest of all sea life in defined areas could allow marine biodiversity and horseshoe crab population recovery.

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Host: Evan Ward

Time & Date: 11:00 am, Friday, December 2, 2016

Place: Marine Sciences Building, Seminar Room 103

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