Irene and Us: a Success Story from Lynde Point

by Stanford Brainerd

Tropical Storm Irene on August 28, 2011 was a spoiler for the final days of the summer season. Trees and the waterfront suffered, but Fenwick houses were spared. The community had ample warning and prepared for the worst, so luckily there was very little damage compared with the 1938 hurricane when extensive destruction was suffered in Fenwick and, in particular, by shore communities to the east.

The familiar and often repeated photographs and stories of the Hepburn house describe the 1938 storm for Fenwick although many other houses were also severely damaged. Little information survives concerning effects on the Lynde Point coastline itself.

1938 was the first major hurricane to hit New England since 1815 and was a defining event, both in human suffering, economic loss, hundreds of beach community houses destroyed and millions of trees felled, and also in transforming the landscape. A dramatic example was at Napatree Point in the Stonington/Watch Hill area, where a peninsula with 39 houses was transformed into a barren island.

In 2011, warnings and early preparation, including moving boats and boarding up houses, contrasted with the surprise arrival of the 1938 storm. The weather cleared promptly after Tropical Storm Irene. Plywood was removed from windows and debris cleared amidst a sigh of relief. Other than the seawall on Long Island Sound, damage to the Fenwick shoreline was mostly out of sight and received little notice.

A major change in the shoreline environment since 1938 has been an increase in population and in the number of structures, as well as escalated value of houses and property. It has also meant fewer uninhabited or open coastal spaces and the precious scarcity of conserved land such as that under stewardship of Lynde Point Land Trust. We are fortunate the 2011 storm was relatively tame.

Two areas of recent Land Trust focus were significantly affected. The first was the area along Sequassen Avenue north of the lighthouse where extensive planting to create a riparian buffer took place in spring 2011. The planting plan was conceived and directed by the Sea Grant College Program at the University of Connecticut, using a $2,000 U.S. Fish & Wildlife Service grant providing plant materials. The portion of the funds spent on plant materials in 2011 was intended to be the first phase with the expectation, depending on results, of expanding the buffer area with additional planting later. Volunteers from the Land Trust and Sea Grant did the planting, which appeared to have a healthy start, until August 28.

On that day seawater surged over Sequassen Avenue and deposited sand and flotsam including large tree trunks on the new plants. This is visible in the washout of the road itself. While salt kill affected plants in this area as well as elsewhere in Fenwick, the salt-tolerant herbaceous plants and shrubs installed on this project will likely survive, although those buried under sand and flotsam are problematic. Extent of the damage and plans for further planting cannot really be fully considered until spring. It is sobering to note that salt spray in 1938 killed trees as far as twenty miles inland.

A second area of particular interest is the 3+ acre property owned by the Land Trust immediately east of the former Hepburn house, acquired by gift from the Hepburn Estate in 2005. The beach area was impacted by storm surge, but we are encouraged that the dune restoration work conducted by the Land Trust a few years ago was successful even though part of this fragile dune was disturbed.

Sand dunes on Long Island Sound are relatively small due to the moderating influence of Long Island, and upon acquisition in 2005 the Hepburn dunes were flat.

continued on next page

The “Hepburn Dune” (named for its proximity to the late famous actress’s former home) on Fenwick, showing the dune ridge and tidal marsh behind it.
The plan for enhancing the dunes entailed five large mesh tubes called “Filtrexx Filter Soxx®” which were filled with sand, dredge material and mulch, layered over the 750-foot length of the dunes and anchored to the ground. Then, the tubes were covered with sand and the area planted with thousands of beach grass plugs by volunteers over a four-day period in early 2008. (see Wrack Lines Spring/Summer 2008).

Since that date the beach grass had taken hold successfully. American Beach Grass, planted on the ocean side of the tubes, is tolerant of salt spray, grows to two to three feet high, and traps windblown sand. The spreading rhizomes of this species form an extensive network which helps control erosion.

Because of these efforts and relatively benign weather since 2008, a dune ridge about three feet high was present in August. During the storm there was a washover, but the new dune ridge was not breached. The tubes were partially emptied by the storm energy but allowed for accumulation of a large volume of sand while migrating landward. The Filtrexx Soxx were successful in preventing a breach, and actually contributed to sand accumulation from the storm of an additional foot or more. A more severe storm might have breached the dune, opening Crab Creek, which is only a short distance behind the dune, to Long Island Sound.

What’s next? The beach grass on the dune has disappeared, but some growth may recover from the rhizomes. Looking ahead, the next step for the Land Trust is probably some repair work on the “Soxx” and replacing beach grass. The work will go forward.

Juliana Barrett, a coastal habitat extension educator with Connecticut Sea Grant at the University of Connecticut, guided both the riparian buffer planting and the dune restoration from the beginning.

“The Lynde Point Land Trust members are a highly motivated group who care deeply about the environment,” said Barrett. “They are willing to take on numerous projects with a goal toward restoring and managing natural systems, regardless of what Mother Nature throws at them.”

**About the Author:**

Stanford Brainerd is President of the Lynde Point Land Trust, in Old Saybrook, Connecticut. This article has been modified from one that originally appeared in the Land Trust’s newsletter.

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**Damage in Connecticut from Tropical Storm Irene**

- Total number of Connecticut homes lost or severely damaged: 1,142 (94 destroyed homes and 254 major damages) by 9/5/11
- Most highly impacted counties: Fairfield, Middlesex, and New Haven
- At least 17 bridges destroyed. Numerous rock slides blocked other roads
- Approximately 1-2% of the State’s trees downed. A major hurricane could down up to 70-80% of Connecticut’s trees
- About 50,000 acres of shellfish beds closed, causing economic hardship for growers, during and after the storm
- Homes and businesses affected by power outages: 800,000— in many cases for more than a week. Many people also lost access to clean water, heat, or communication.
- Gasoline shortages in some counties
- Hard to find: oxygen supplies and other supplies for the disabled, such as electric wheelchair batteries
- Fatalities: At least two deemed to be directly caused by Irene. An 89-year-old woman from Prospect died after fallen power lines set a house on fire. A 46-year-old man died in Bristol after his canoe capsized on a flooded street. The toll rises to 8 if persons killed or harmed by carbon monoxide poisoning from improper generator use or setup in the aftermath are included
- Response: During Tropical Storm Irene a Commodities unit set up by the State at Rentschler Field passed out 237,000 Meals Ready to Eat (MRE), 907,000 bottles of water, 17 pallets of ice, generators and numerous infant food cases to 87 towns