Birdsong Wetland Restoration at the Larchmont Library – Norfolk's First "Living Shoreline"

Project Summary: The Birdsong Wetlands was created in 1997 to demonstrate how to replace hardened shorelines with more beneficial alternatives, restore wetlands, reduce erosion, abate runoff pollution, and beautify shorelines. Having survived numerous hurricanes and powerful nor'easters and other storm events with little to no erosion, it persists as a valuable demonstration of the effectiveness, and especially of the durability, of properly designed living shorelines.

Project Name: Birdsong Wetland Restoration Project at the Larchmont Library

Location: Cove bounded by Manchester Avenue and Fairwater Drive, west of Hampton Boulevard, Norfolk, VA

Background: The library's relatively protected shoreline at the dead end of a west-facing creek was lined with a concrete seawall. However, the height of the seawall did not stop periodic tidal flooding and, as a result, the library and neighboring properties supported wetland vegetation. The site also suffered from illegal vehicle abuse and neglect. The site was a former glass bottle disposal site.

In 1994, local advocates, Josh Priest and Sharon Adams proposed restoring wetlands at the Larchmont Library. The term "Living Shorelines" hadn't been popularized yet. The Elizabeth River Project (ERP), a local organization with a broad watershed restoration goal, took on the cause. ERP's report on Loss of Habitat and Biota in the Elizabeth River identified the river's ecosystem as significantly degraded, but characterized the damage as reversible and improvable. ERP championed the project and worked with the City of Norfolk and local residents to get local buy-in and promote long-term stewardship. Increasing wetland acreage was recommended by ERP's Habitat and Living Resources Task Force in their 11/3/95 Watershed Action Plan and the Birdsong Wetland Restoration project was identified in ERP's 4/26/96 Elizabeth River Restoration Watershed Action Plan. They pursued and received $46,000 in EPA funding to build a project that would demonstrate alternatives to traditional shoreline hardening. The project was not entirely a living shoreline demonstration, but included a variety of hard, soft, and semi-soft approaches, including honeycombed, interlocking "seabees" blocks, a geo-grid of fabric cells filled with small, pea-sized gravel, and sections of regraded shoreline where native vegetation was the only stabilization provided (no sills or toe protection was added.

Approximate Cost of the Project: ~$140,000 (This amount includes non-living shoreline project components and the value of supplemental funds and in-kind and private donations)

Resource Challenges Addressed: Unnecessarily-hardened shoreline and deteriorating concrete seawall, recurrent flooding, ponding saltwater that killed vegetation and left areas unstabilized and muddy, diminished land use, concerns from adjoining private property owners, and diminished water quality and wildlife habitat value.

Key Partners (Public and Private): While the project occurred on City land, the driving force behind the project was the Elizabeth River Project. Funding was provided by grants from the EPA, Chesapeake Bay Restoration Fund Advisory Committee, Hampton Roads Sanitation District, and in-kind donations from Jim Gunn (marine contractor), Tarmac and Vulcan Materials Company (stone), The Division of Storm Water Management, PAPCO Oil (fuel) Ducks Unlimited, and numerous private donations. Wetland planting was accomplished by volunteers

Types of Jobs Created: Environmental engineering services, marine contracting, businesses that supply wood stakes, plastic fencing, sand, geotextile fabric, stone, fuel, etc., and specialty wetland plant suppliers.

Results and Accomplishments: Constructed in 1997 and dedicated in memory of Ray S. Birdsong, the project persists as one of the earliest and most long-lasting demonstrations of living shoreline erosion control techniques in South Hampton Roads. The project resulted in the restoration of ~300 linear feet of shoreline (including the interior tidal pond) and 15,105 sq. ft. of wetlands. The project was designed by Walter Priest of the Virginia Institute of Marine Science and it won the Clearwater Award for outstanding citizen initiative in the Waterfront Center's Excellence on the Waterfront competition in 1998.

Website: [public works]

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