

GREENWAYS

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Delaware & Raritan Greenway, Inc.
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In Perpetuity

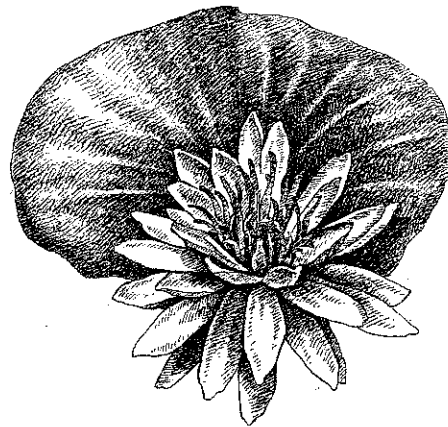
Wildness at Work: The Hamilton Marsh

BY DAVID LAMOTTE

In an aerial photograph of Trenton, the Delaware River bulges eastward in a sweeping curve, its last meander before it leaves the coastal plain, climbs over the Trenton Falls, and becomes a freshwater river cutting through the Piedmont. Most of the photograph is filled with the gridwork of urban streets and suburban tract housing, but just below the bulge, on the east bank of the river, south of the city, a crescent-shaped darkness clings to the river like a cocoon on a stem.

This cocoon-shaped area is the Hamilton Marsh, 1250 acres of cattails and reeds, meandering streams, lily-covered ponds, and islands of shrub and forest. It is the northernmost tidal marsh on the Delaware River. It covers an area larger than the Tinicum Wildlife Refuge near Philadelphia, and it supports an extraordinary diversity of plant and animal life, including such rare or endangered species as Osprey, Pied-billed Grebe, Bog Turtle, and several types of bur-marigold. While the Hamilton Marsh (also known as the Trenton Marsh) does not yet enjoy the protected status of a wildlife refuge, it is recognized by the New Jersey State Natural Heritage program as a "rare natural community."

The human history of Hamilton Marsh is as rich and surprising as its natural history. Most of the marsh lies within the Abbot Farm Historic District, an archaeological site that has yielded pottery and



Fragrant Water Lily (*Nymphaea odorata*)

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Upcoming Events at the Hamilton Marsh

Canoeing Crosswicks Creek

Saturday, August 21st

Spent the morning canoeing in the Hamilton Marsh. This will be a leisurely trip as we begin at high tide and let the moon do most of the work! From Yardville to Bordentown, the trip will last about 4 hours. Our guide will be Tom Wilkins, an experienced paddler and Canal Watch board member. Fee: \$15 per person, or \$5 transport fee per canoe if you bring your own.

The Archeology of Abbott Farm

Saturday, September 25th

The Hamilton Marsh is home to one of the most significant Native American sites on the East Coast. Archeologists know the area as the Abbott Farm National Historic Landmark, and there has been intense research conducted there since the late 19th century when C.C. Abbott first discovered artifacts near his home. Dr. John Cavallo of Rutgers University's Center for Public Archeology has worked at the site, and he will talk about the people who lived in the marsh and show us some items they left behind. No charge, but reservations are required as attendance is limited.

Marsh Ecology

Sunday, October 10th

Our most popular walk! Join botanist Mary Leck (of Rider College) and Rutgers ornithologist Charles Leck, on a stroll through the marsh and along its bluffs. This is a great opportunity to take photos while learning about the wild plants and animals which thrive in the marsh's rich environment. Free, but reservations are required.

Marsh events are sponsored in part by a grant from the Delaware Estuary Program.

From the Director

MAUDE BACKES SNYDER
Executive Director

Weeks of rain in the midwest and the resultant 46.9 foot crest of the Mississippi has led to a rehashing of an old question: How can humans best protect their properties from being devastated by river and stream flooding?

The lands surrounding waterways are called *floodplains*, and their nutrient-rich soils make them preferred agricultural lands. Usually flat, they are easy to build upon, and can provide idyllic settings for new homes.

Culverts, tunnels and levies are common methods of protecting floodplain properties. But as seen in the midwest, these structures can fail—with dangerous, costly, and far-reaching consequences. During severe flooding the volume of water swells within the confines of these

structures, increasing in velocity with a resulting force that can tear through levies, destroy roads and bridges, and flood the surrounding area.

Greenways are a natural and constructive response to the flooding phenomena. According to a recent *New York Times* article, greenways are gaining more mainstream attention, including recognition by the Army Corps of Engineers. The Corps purchased 8,500 acres of wetlands along Boston's Charles River basin, protecting a floodplain which "performed effectively" during major floods in 1979 and 1982.

Closer to home, regular flooding of the Passaic River has sparked heated debate over a controversial plan to tunnel the river into Newark Bay. Central New Jersey is also prone to flash flooding; Piedmont streams,

in particular, because of the poor water storage capacity of the rock types characteristic of this geologic region.

Communities and individuals *can* protect their properties, and preserve productive natural resources, by restricting development of the flood plain. D&R Greenway advocates that no building take place from the stream bank outward at least 100 feet beyond the 100-year flood line.

While 100 feet may seem minimal, this added distance has many benefits. It helps to slow runoff and to provide more opportunity for absorption before the runoff reaches floodwater. It helps to filter pollutants in runoff in times of flooding. And at times of very severe flooding it provides more ground to diffuse floodwaters.

If your community has not adopted a greenway plan, and you would like information about how to begin the process of creating one, we will be happy to direct you to the appropriate resources. ■

Conservation Techniques

Green Trust Loans & Grants

Preserving land requires creativity, initiative, perseverance, and money. Many communities and individuals may be rich in the first three, but lack the funding needed to purchase land, especially in a competitive market.

Since 1961, however, a New Jersey Green Acres program has provided financial assistance for purchase of conservation and recreational lands. October 31st, 1993 is the date by which towns and counties must submit applications to Green Acres for Green Trust low interest loans or loan/grant packages. *Green Trust funds must be requested by a local or county government agency.*

If the project is consistent with a local preservation plan, private individuals can successfully seek protection of their lands by way of this program. Projects which include donations by landowners may be eligible for a loan/grant through the Environmental Incentive/Private Donation category. This usually takes the form of a loan for 75% of the project cost and a 25% grant for the remainder.

Property owners might consider assuming full or partial repayment responsibility for the local government's Green Trust loan. This would provide additional incentive for the government agency to sponsor your project.

If you think your property would qualify for funding as part of a community-initiated application, and if your land is in a Delaware & Raritan Greenway project area, we'll be happy to help direct your inquiries. To contact Green Acres directly, call (609) 588-3450. ■



Nodding Bur Marigold (*Bidens cernua*)

Wildness at Work

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other artifacts dating back more than 6,000 years. In particular, the Abbot Farm district contains one of the largest village sites in the Mid-Atlantic States dating from what archaeologists call the Middle Woodland period (ca. 500 B.C. to 500 A.D.). In the early 19th century, Joseph Bonaparte, brother of the exiled Napoleon, built an estate along the Bordentown edge of the marsh.

These are only the highlights of an extraordinary history—hundreds, perhaps even thousands of years, during which human activity has been a part of the ecology of the Hamilton Marsh. The Middle Woodland Indians hunted game in the marsh, fished its waters, and made pottery from the rich clay deposits they found there. In colonial times, parts of the marsh were diked, drained, and used for agriculture, though these meadows have long since become wetlands again.

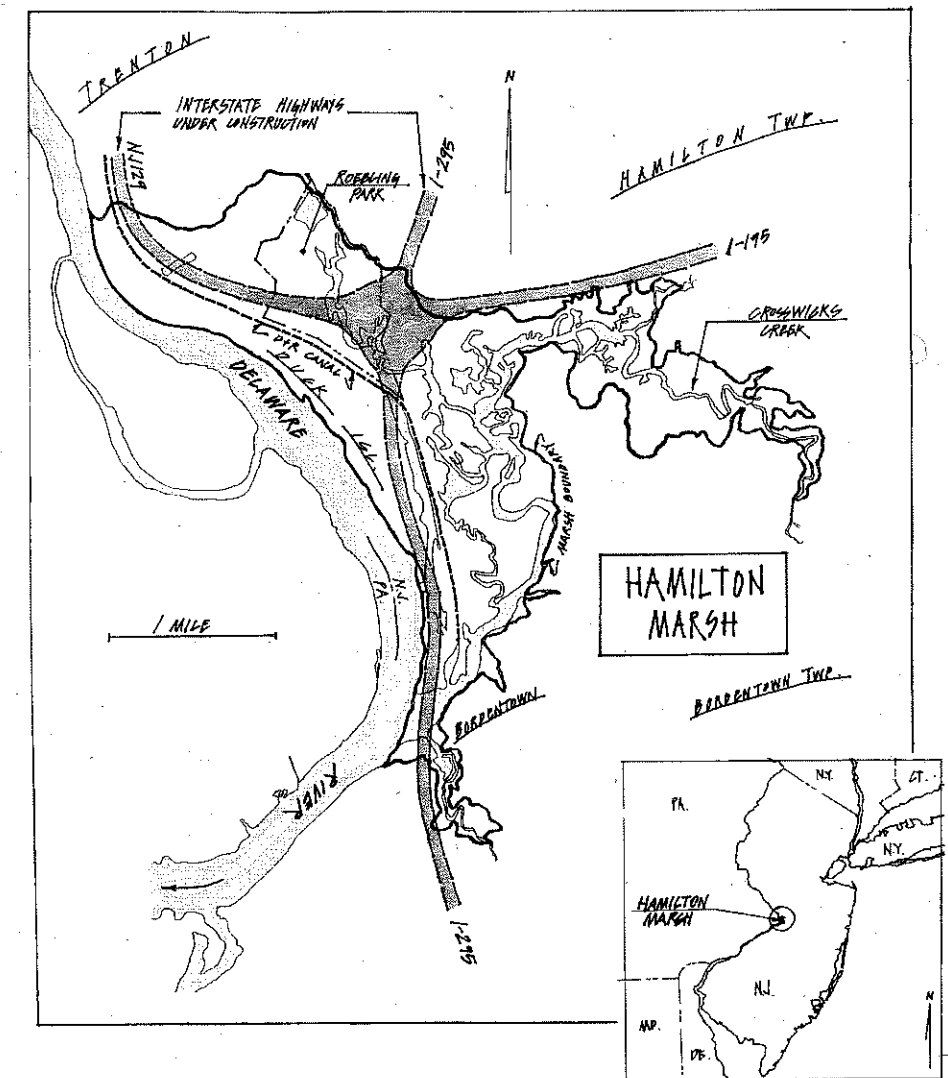
In the early 19th century, construction of the Delaware and Raritan Canal, as well as an adjacent railroad, altered the flow of water, creating new ponds in the marsh and reclaiming a stretch of dry land between the canal and the river that became known as Duck Island. From the bluffs in Bordentown, you can still see the beginning of the canal, at the mouth of Crosswicks Creek, where barges laden with Pennsylvania coal began their journey northward to the Raritan and on to New York City. A brick factory was built adjacent to the canal, its great kilns fueled by the coal coming up the canal, and the clay deposits that had been used to

make Indian pottery became the basis of a thriving brick-making industry.

Today, this first stretch of the D&R Canal is buried again in marsh; the brick factory is in ruins. Duck Island, along the river, is now occupied by oil storage terminals and by PSE&G's Mercer Generating Station, a coal-burning power plant whose tall stack dominates the skyline. Some of the marsh has been given over to a sludge treatment plant, and there are plans to construct a waste incinerator and resource recovery facility that will destroy some 50 acres of habitat, including 15 acres of tidal wetlands.

The most dramatic human alteration of the Hamilton Marsh began in early 1992: the construction of a highway interchange that will link the north-south flow of Route 295 to Route 195 coming west and Route 129 coming east from Trenton.

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Wildness at Work

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Most New Jerseyans, if they know the Hamilton Marsh at all, probably know it as that green blur off to the right, where Route 295 narrows down to a single lane and meets Routes 195 and 206, between Hamilton and Bordentown. During the past year and a half, travelers along this route have watched the stub end of Route 295 begin to bud: machines crawling over mountains of raw earth, concrete pilings thrusting up a trellis of steel girders, tall cranes leaning solicitously over the commotion, all of it blossoming into what will be a huge cloverleaf growing out of the marsh.

In view of the threats posed to the marsh by this road construction and by the incinerator to be built on Duck Island, D&R Greenway, Inc., and other conservation groups have proposed the development of a coordinated plan to preserve the Hamilton Marsh and to promote awareness of its historical and ecological significance. It might seem ironic that the work of preservation should be undertaken only now when the cranes and earthmovers are already reaching across the marsh's interior. As one long-time resident of Hamilton said of this preservation effort, "It's wonderful; I only wish it had begun ten or twenty years ago."

The answer is, of course, that there is no time like the present: there are still, and will be even after the roads and incinerator are built, hundreds of acres of healthy marsh, supporting wildlife, filtering pollutants, absorbing floodwaters, feeding migrant birds, and attracting fishermen, birdwatchers, and other outdoor enthusiasts.

But the preservation of Hamilton Marsh speaks also to our national heritage and our sense of identity. Since



Fringed Loosestrife (*Lysimachia ciliata*)

Europeans first inhabited America's wild places, celebration has always grown out of destruction—as if we had to work backwards from a place's usefulness to its inherent value. The plowshare turns to light the pottery of former inhabitants. The coal-bearing canal becomes a greenway. And in a few years, travelers speeding along the interstate will be unaccountably refreshed by the reed grass waving in the breeze, a heron perched in a treetop, the sun glinting off the river to the west.

Perhaps some of those travelers will be prompted to stop and explore the history and ecology of the marsh and its surroundings. Certainly, for the nearly 200,000 inhabitants of Trenton, Hamilton, and Bordentown, the Hamilton Marsh offers wonderful opportunities for environmental education and passive recreation.

One of the best ways to get to know the Hamilton Marsh is to visit the John A. Roebling Memorial Park, which can be entered from Sewell Avenue, just off Broad Street (Route 206) in Hamilton. Widely renowned as a birding area, Roebling Park covers 300 acres of tidal wetlands, fresh water ponds, and densely wooded bluffs along the northern edge of the marsh.

On the eastern edge of the Hamilton Marsh, in Bordentown, steep bluffs overlooking Crosswicks Creek provide some of the most dramatic views of the marsh. In many places, these bluffs are covered with graceful stands of oak, mountain laurel, and rhododendron. You can reach these bluffs by turning right at a number of places along Route 206 and Park Avenue as you are heading south into Bordentown.

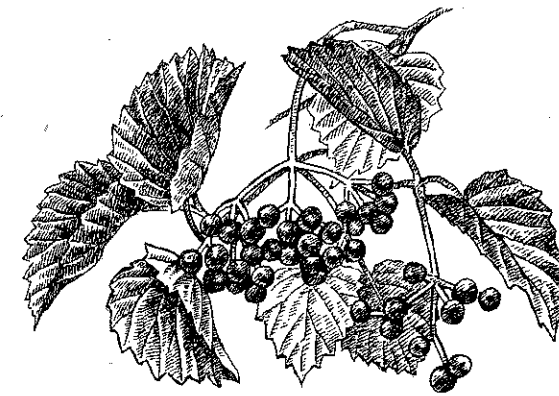
But perhaps the most interesting way to approach the marsh is to visit Duck Island. From Tren-

ton, you drive down along the riverfront on Lambertson Avenue. As you approach the sludge treatment facility, power plant, and oil terminals of Duck Island, you enter the quintessential landscape of our 20th century consumer culture—a landscape devoted to the delivery of cheap energy and the removal of burgeoning waste. And yet all around you, just beyond the fenced perimeters of the terminals and plants, along every inch of Lambertson Avenue that humans have abandoned or left untouched, are the green workings of an even more efficient system of energy production and waste removal: the marsh.

Late on a mid-summer afternoon, I park my car just beyond the Mercer Generating Station and follow an abandoned rail-line a hundred yards east, through a wall of trees that opens suddenly on a sea of reed grass and cattails. The near shore of this sea is a railroad track. Originally the Camden and Amboy Railroad, which ran alongside the D&R Canal, this track is now operated by Conrail, and the canal is nowhere to be seen among the rushes and reeds. Along the railroad embankment, tall feathery spikes of wild rice fringe the green expanse of the marsh. An oddly graceful arc of unfinished highway hovers out over the marsh, an uncurling leaf of the coming clover.

Southward, the railroad track passes under a partially completed section of Route 295. The machines are silent at this hour; the humans have all gone home. The waters of Duck Creek curl around the cement pilings. Swallows and martins weave through the shadows under the steel girders. Further down the track, a red fox trots into the late sunlight, sits down, and yawns. He lifts his muzzle to the breeze, and the white tip of his tail quivers. His work has just begun.

A belted kingfisher comes slicing and rattling along the creek. A Great Blue Heron meditates in the top of an oak. I catch a glimpse of a Common Egret



Arrowwood (*Viburnum dentatum*)

winging its way sunward toward the river. These gifts should be enough for one summer evening, but I want more. So I drive around to Roebling Park, don my gum boots, and head out the causeway past Spring Lake. I follow a path that skirts the edge of a wooded island and dead-ends in a swampy thicket of red willow and arrowwood. Along the way I startle a bird from the marsh to my left, or the bird

startles me—a grebe, I think, that goes chortling invisibly off through the reeds.

On my way back, I strike off on a second path, thinking it too will lead me eventually to Spring Lake. I wind through thickets, wade through reeds and cattails, and finally emerge, sweating and bewildered, at the foot of Annabelle Avenue in Trenton. I think of that cocoon-shaped darkness in the aerial photograph—how thoroughly and abruptly it cuts off the gridwork. Each of those cut lines is a street like this one, ending in a wall of vegetation, a cement storm drain descending over the edge of the bluff, breaking up into ferns under a hardwood canopy, then reeds standing out of algae-covered water.

At the end of every street is a story. One resident of Deutz Avenue in Trenton told me that she never used to wander further into the marsh than Sturgeon Pond because there was an old man who lived out there and who would shoot you for trespassing in his marsh. In the 'forties and 'fifties, a man named Russell Abrams did live in the marsh, hunting, fishing, and trapping muskrats. I was told I might find the ruins of his cabin out here beyond Spring Lake, but I have only managed to get myself lost.

As I regain the Spring Lake trail and hurry through the gathering dark, the grebe and I startle one another a second time. It is the same bird, or a different one. How quickly a place can grow wild again in the wake of our passing—if we do not destroy it, if we learn to go as lightly as those who went before us. ■

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Delaware & Raritan Greenway, Inc., is a regional, 501(c)(3) nonprofit land conservancy dedicated to the preservation of a continuous open-space network enveloping central New Jersey's waterways and unified by the Delaware and Raritan Canal State Park.

D&R Greenway began in 1987 as an alliance of regional nonprofit groups, and was incorporated in 1989.

Our thanks to . . .

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