

# watermark

Published by Laudholm Trust in support of Wells National Estuarine Research Reserve



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## Restoring Habitat for Migratory Fish in Shoreys Brook

**On** a classic October morning, a research team heads to the Eliot–South Berwick line, where a private landowner has opened his property for a Wells Reserve study of fish and fish habitat. Parking the pickup at the end of a long hayfield, the five gather up gear and step into a middle-aged pine-oak forest, then head downslope past ferns and toppled trees till the trail goes wet underfoot, the canopy breaks, and they stand at the edge of Shoreys Brook. This is headquarters for the next few hours. It is one of eight sites along the brook's 4.3 miles being surveyed for resident and migratory fish, and their habitat, in advance of a planned dam removal downstream.

Near its source, Shoreys Brook is narrow enough to step across. Banks of thick grass and small shrubs rise to woodlands north and south, while to the east a secluded patch of marsh grass is rich with the yellows and reds of early autumn.

The research crew is lucky today. It's a beautiful morning with bright sun, a light breeze, cool air, and no flies or mosquitoes to speak of. Spring and summer were often a different story, so a collective appreciation floats in the air.

Everyone pulls on chest waders and sorts through their equipment and supplies. Emily Thornton, who will collect the

habitat data, grabs a tape measure and wire flags to mark the brook segment to be studied.

Kate Reichert joins her, working through the prickles to measure 200 feet upstream and downstream while setting markers at specific intervals along the way.

### *A Different Way of Fishing*

When Emily and Kate finish marking, they settle into habitat work while the fish team gets started. Fishing's a three-person job: shocker, netter, and bucket carrier.

Jacob Aman is today's shocker. Jake hoists an electrofishing generator onto his back, tosses a 10-foot wire braid into the water, and wields a white pole with a halo at the bottom end. When he presses a switch on the wand, a high-pitched beeping warns that a current is flowing between the halo and the braid, electrifying the water just enough to stun small aquatic animals.

*continued on page 6*

*Kate Reichert, Jacob Aman, and Jeremy Miller survey fish in a freshwater marsh near the origin of Shoreys Brook, a tributary of the Salmon Falls River.*

# watermark

A newsletter for members of  
Laudholm Trust and supporters of  
the Wells National Estuarine  
Research Reserve

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# upfront

## Entry Drive Enhanced with New Trees

Through the Maine Forest Service's Project Canopy, we received a donation of 12 trees from a nursery. They are planted along the entry road, where they create a wind break and visual buffer.

## New Interpretive Signs Focus on Habitat

Six new interpretive trail signs were installed in late June. Topics include the inhabitants of shrublands, meadows, and vernal pools, plus information on salt marsh restoration and the recently discovered house foundation.

## "Changing Landscapes" Exhibits Open

The new Visitor Center exhibits were dedicated on June 25 after 2½ years of effort. Public reaction has been overwhelmingly positive. The education team is already planning several complementary resources (scavenger hunts, teacher tips, and so on) for visiting groups to use both in the exhibits and on the trails.

## KEEP Assessments Complete

The education program completed a market analysis and needs assessment to determine who offers environmental education programs in Maine, what they are doing, and what gaps we might fill. It's part of a system-wide initiative called K-12 Estuarine Education Program. This planning is a first step toward launching the national effort.

## Forest Ecology Management Plan

A draft natural resource habitat plan for the reserve's forests is now under review. The plan will help the reserve to manage its lands effectively and educate the public about best management practices in forest settings.

## Scholarships for Wild Friends in

### Wild Places

Thanks to a generous grant from the Horizon Foundation, we are able to offer several sessions of Wild Friends in Wild Places to elementary classes this winter at no cost to schools. Please ask interested teachers to contact Suzanne Kahn Eder for information.

## Reserve Director Earns National Honor

At the annual meeting of the National Estuarine Research Reserve System, Director Paul Dest received the NERRS/NERRA Award for exemplary leadership, sustained commitment, and enduring dedication to the goals of the system.

## AmeriCorps Team Pitches In

Six AmeriCorps volunteers from around the country spent six weeks this fall on our site and working with our partners. They were involved with trail work, access road improvements, painting, planting trees and shrubs, and events.

## Facility Improvements

Over the past few months, we have scraped and painted around the Visitor Center entrance and another section of the farmhouse, torn down a decrepit shed on the Life Estate, and replaced a failing oil furnace in the post-doc house with an energy-efficient propane unit.

## TOTE Succeeds in Second Season

In July, 15 middle and high school teachers — from California, Florida, Kentucky, Massachusetts, Rhode Island, New York, and Maine — came to the reserve for four days of field- and research-based workshops on estuaries and coastal habitats. All the teachers have committed to implementing stewardship projects with their students during this school year.



# president's notebook

Diana Joyner



This issue highlights a number of Wells Reserve projects and initiatives under way or completed over the summer. We hope the articles give you some insight into the range of Reserve research, stewardship, and education efforts and the breadth of their impact. A dedicated staff, the right community partners, and sufficient funding were the critical success factors in achieving impressive project goals.

As you know, Laudholm Trust is a vital Reserve partner. Our primary role is to raise funds for Reserve programs and initiatives (including preservation of Laudholm's historic buildings). Each year, we focus on identifying new sources of income and on sustaining our successful ones.

We are pleased with 2011 revenue generating efforts, which included 13 weddings and major site rentals, successful events, and many new business sponsorships. We also formed several new relationships that have helped us significantly expand our outreach and audiences. *Maine Magazine* became a primary media sponsor, WMPGA a Punkiniddle radio sponsor, Kittery Trading Post a new outdoor activity partner, Duffy's Tavern & Grill our beverage partner, and The Landing Store our primary food vendor for events.

Of course, none of our efforts would have been possible without the incredible support of our private donors, our members, our volunteers, and the Laudholm board of trustees. We are

grateful for the generosity and commitment of so many people!

We did seize the opportunity to single out a certain few donors at the Reserve's anniversary celebration in August. Each has provided very generous support to Laudholm Trust for more than 25 years.

George and Eleanor Ford have made the greatest contribution to research. Through their support of the Maine Coastal Ecology Center, special research projects, and an endowed post-doctoral fellowship, they have created an impressive research legacy.

Rebecca Richardson's contributions to education have made possible the new Visitor Center exhibits, a popular walking trail, the Forest Learning Shelter, the Discovery Program, and an endowment that will provide for new education projects long into the future.

Just as George, Eleanor, and Becky are inspired by the Wells Reserve at Laudholm, so are we all. While not all of us have the wherewithal to be lead program sponsors, we do share a vision and collaborative spirit.

As 2012 approaches and we busy ourselves with event planning and network building, we welcome your involvement as friends, donors, and ambassadors in your communities. So when you come to walk or snowshoe this winter, drop in for a chat. We love seeing and hearing from you!

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Partners in research, education, stewardship, and preservation



The Wells Reserve is one of 28 National Estuarine Research Reserve sites throughout the country. All reserves require local funding to match federal grants from the National Oceanic and Atmospheric Administration. The Wells Reserve is the only reserve that receives its match from a 501(c)(3) nonprofit organization. Each year, Laudholm Trust contributes private funds and in-kind services to support Wells Reserve operations and capital improvements.

*What's happening at the Wells Reserve at Laudholm? Sign up for Monthly Updates sent by email, Like us on Facebook, follow us on Twitter, and subscribe to our blog. Laudholm members can expect Watermark twice a year, in spring and fall, and other occasional "snail" mailings.*

## Forest Notebook – The Straight Story

Eileen Willard



*Seven yellow birches growing in a straight line along the Laird-Norton Trail piqued the curiosity of “tree nut” and active volunteer Eileen Willard.*

A first step in solving nature’s mysteries is learning to look. By slowing down, taking your time, you often discover things you have walked right past before.

I frequently visit the wetland forest along the Laird-Norton Trail. After leaves fall from the trees, my eyes are drawn to the structural aspects of this forest. For one thing, there’s more sunlight pouring into the stark scene and I’m not distracted by lush greenery. I can observe the shapes of trees more easily.

On one stroll down the Laird-Norton boardwalk, I noticed a very straight line of yellow birches. The sunlight bounced off their yellow-silvery bark and their wispy, curlycue peelings created wonderful contrasts of reflective color and shadows. I counted seven trees close together in a row.

Straight rows of anything usually betray the touch of human hands. We like to line things up! Out here next to the salt marsh these trees had not been planted by anyone. Yet seven yellow birches formed a remarkably straight line for about 17 feet. The mystery? How did this come to be?

In *An Eclectic Guide to Trees*, Glen Blouin writes, “Yellow birch roots are shallow and wide-spreading. On thin or wet soils they may not anchor a large tree firmly, rendering it susceptible to strong winds.”

This describes accurately the thin, moist layer of soil at this swampy location (hence the boardwalk). If tree roots attempt to grow deeply here, they will find themselves in conditions too wet to allow the proper uptake of oxygen. To avoid drowning, the trees grow a shallow, horizontal root system. Unfortunately, this may not be enough to stop them from toppling over in extremely wet and windy conditions.

I saw nearby roots ripped and exposed above ground while some still remained underground. Were they some-

how connected to the trees in a line?

Here’s what I think happened. Years ago, during a soaking rainstorm with high winds, this tree partially uprooted and fell to the forest floor. The intact underground roots took on the difficult task of keeping the tree alive. With time, the leafy branches still above ground started growing toward the sunlight that poured through the new canopy opening. This kept the tree supplied with enough energy for photosynthesis. Eventually these upright branches took on the appearance of single trees in a straight line.

Substances in the bark of some birches act as “anti-rot” protection; this kept the downed tree viable in spite of its fallen position. Each year more leaves fell to the forest floor to form a duff layer of composting vegetation. Eventually the new soil and leaves obscured the original “wind thrown” tree trunk.

With a little searching I saw exposed portions of a secondary root system. Buttressing roots visible at the foot of each of the seven trees helped to “prop up” each of them. Should the original fallen tree trunk finally rot away, each “new tree” might succeed on its own.

Yellow birches demonstrate the adaptability and plasticity of some species after disturbance. In the botanical world, asexual reproduction (like vegetative spouting from roots or branches) occurs under the right circumstances. Is this tree considered still one tree or many? Each upright tree is genetically the same and for now, they continue to partially share a common root system. In effect, they are clones.

As time goes on, their natural history will become more and more obscure. Unless, that is, the observer stands directly at the base of the fallen tree and sees the straight line. A few steps to the right or left and that “line” of trees blends discreetly into the background.

preservation / cultural heritage

**HISTORIC LAUDHOLM FARM**

**Farmhouse**  
Who has stayed in the big house on the hill?

Clark Family  
The Clark house was the largest and most prominent building on the property. It was built in 1879 and has been the home of several generations of the Clark family. The house was built for the Clark family by the architect and contractor of the Clark family, George Charles Clark. The house was built on the hillside overlooking the farm and the sea. The house was built for the Clark family by the architect and contractor of the Clark family, George Charles Clark. The house was built on the hillside overlooking the farm and the sea.

Clark Family  
George Charles Clark inherited the house from his father, George Charles Clark. The house was built for the Clark family by the architect and contractor of the Clark family, George Charles Clark. The house was built on the hillside overlooking the farm and the sea.

**By the NUMBERS**

- 1700 Built by George Charles Clark
- 1900 Clark family owned
- 14 Rooms
- 1882 Historic Landmark
- 2400 Square feet
- 10 Acres
- 4 Bedrooms
- 1922 Year last inhabited
- 1975 Historic Landmark

**HISTORIC LAUDHOLM FARM**

**Water Tower**  
How can water flow uphill?

The water tower was built in 1905 and was used to supply water to the farm buildings. The tower was built on a hillside and was used to supply water to the farm buildings. The tower was built on a hillside and was used to supply water to the farm buildings. The tower was built on a hillside and was used to supply water to the farm buildings.

**By the NUMBERS**

- c.1904 Construction started
- c.1904 Year built
- 15 Gallons per minute
- 2,200 Gallons capacity
- 50' Height
- 2500 Square feet of concrete

**HISTORIC LAUDHOLM FARM**

**Ice House**  
Keeping food cold without electricity

The ice house was built in 1879 and was used to store ice. The house was built on a hillside and was used to store ice. The house was built on a hillside and was used to store ice. The house was built on a hillside and was used to store ice.

**By the NUMBERS**

- 800 Estimated capacity of ice house, in tons
- 12 Months ice could be stored without melting
- 1916 Year last used

**HISTORIC LAUDHOLM FARM**

**Hay and Horse Barn**  
A grand barn for a model farm

The hay and horse barn was built in 1879 and was used to store hay and horses. The barn was built on a hillside and was used to store hay and horses. The barn was built on a hillside and was used to store hay and horses. The barn was built on a hillside and was used to store hay and horses.

**By the NUMBERS**

- 1879 Construction started
- 1879 Year built
- 1000 Square feet
- 10 Acres
- 4 Bedrooms
- 1922 Year last inhabited
- 1975 Historic Landmark

**HISTORIC LAUDHOLM FARM**

**Cow Barn**  
A Prize-winning herd with British Roots

The cow barn was built in 1879 and was used to house cows. The barn was built on a hillside and was used to house cows. The barn was built on a hillside and was used to house cows. The barn was built on a hillside and was used to house cows.

**By the NUMBERS**

- 1879 Construction started
- 1879 Year built
- 1000 Square feet
- 10 Acres
- 4 Bedrooms
- 1922 Year last inhabited
- 1975 Historic Landmark

**HISTORIC LAUDHOLM FARM**

**Milking Parlour**  
State-of-the-art cleanliness and comfort

The milking parlour was built in 1918 and was used to milk cows. The parlour was built on a hillside and was used to milk cows. The parlour was built on a hillside and was used to milk cows. The parlour was built on a hillside and was used to milk cows.

**By the NUMBERS**

- 1918 Constructed
- 608 Pounds of butterfat from Guernsey "Laudholm Delight" in 1920
- 3.4 Percentage butterfat in typical Milkton milk
- 4.8 Percentage butterfat in typical Creamery milk
- 24,000 Pounds of milk produced annually by a typical Milkton
- 16,000 Pounds of milk produced annually by a typical Creamery
- 18 Hours from milking to delivery of Laudholm Farms milk to Boston customers

**HISTORIC LAUDHOLM FARM**

**Creamery**  
Where Quality Counts

The creamery was used for bottling and canning milk, making cheese, and churning cream into butter. The original creamery was attached to the Maine Coastal Ecology Center in 2000.

Neighbors who stopped by to pick up their milk would mark off their name on a billing chart. Summer customers staying on nearby Drakes Island had milk delivered to their doorsteps.

In the 1920s, people debated whether city dwellers should drink fresh, clean milk from healthy cows or pasteurized milk. Laudholm Farms chose to sell fresh, unpasteurized milk that had been tested for harmful bacteria. The creamery was built so milk could be processed away from the cows.

**By the NUMBERS**

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By the NUMBERS

Each of the seven Historic Laudholm Farm signs features several numerical facts. Here are some examples...

**Creamery**

Pounds of butterfat from Guernsey "Laudholm Delight" in 1920 ..... 608  
Pounds of milk produced annually by typical Guernsey ..... 16,000  
Hours from milking to delivery of Laudholm Farms milk to Boston customers. .... 18

**Cow Barn**

Number of milk cows housed ..... 29  
Centuries since Guernsey recorded as distinct breed ..... 3  
Years Guerneys held on farm. .... 60

**Farmhouse**

Oldest part of house built ..... 1720  
Clark Family members at Thanksgiving dinner in 1879 ..... 14  
Year last inhabited year-round ..... 1922

**Hay and Horse Barn**

Single horse stalls ..... 9  
Last year used for livestock ..... 1970  
Pounds of hay a draft horse eats daily in winter ..... 40

**Ice House**

Estimated capacity of ice house, in tons ... 80  
Months ice could be stored without melting ..... 12  
Last year used ..... 1916

**Milking Parlor**

Number of stanchions ..... 30  
Selling price in dollars of Guernsey "Fair Maid" in 1916 ..... 19,000  
Average daily milking volume per cow, in gallons ..... 6

**Water Tower**

Family farms in Wells with their own water tower in 1905 ..... 1  
Capacity in gallons ..... 2,200  
When last used ..... 1914

**New Signs for Historic Site**

As an extension of the new Changing Landscapes exhibits in the Visitor Center, a series of seven interpretive signs will be installed on historic Laudholm Farm buildings by the end of the year. These preliminary designs reveal what is in store for each structure—

- Hay and Horse Barn**
- Milking Parlor**
- Water Tower**
- Farmhouse**
- Ice House**
- Creamery**
- Cow Barn**





*ABOVE: Jacob Aman operates a backpack electrofisher and Kate Reichert readies herself with a dip net while Jeremy Miller observes. BELOW: Emily Thornton marks a sampling spot on her measuring tape as she inspects grain size in a handful of mud from the Shores Brook bottom.*

*continued from page 1*

The netter, Jeremy Miller, stands by with a long-handled dip net suspended in the water just downstream of Jake. The electric current will affect fish only briefly, so he will need to act fast or the target will escape.

Timothy Dubay stands by with a bucket half filled with brook water. That will be the temporary hold for any fish caught today.

The electrofisher's reach is only a few feet, so the team works its way upstream just a few steps at a time. At each stop, everyone gets into position and focuses full attention on the water. Jake switches the current on and glides the halo below the surface. Each attempt lasts a few seconds and most are uneventful.

When someone blurts "There's an eel!" Jeremy proficiently scoops a narcoleptic *Anguilla* into the net and hastily moves the pencil-thin fish to Tim's bucket. Already the eel is recovering, but it is trapped in the hold for now.

So it goes: Steady, methodical progress upstream interrupted by momentary bursts of activity. A couple more eels go into the bucket and an occasional frog or salamander is caught and released ("If it has legs it's

not a fish," Jeremy quips). Now and then a gangly water scorpion finds its way into the net, giving some crew members the willies. One burly guy shivers at the sight of a giant water bug that looks as big as a rubber coin purse.

Today's a training session, too, so Jeremy hands the net to Tim for a spell. Catching eels isn't as easy as the experienced hand had made it look. On his first try, Tim's too slow. On his second, the net jams against a submerged stick and an eel escapes. Next time, though, Tim slides the net under the eel and lifts it out of the water. It's a little one, just a few inches long, and Jake's urgent "Get your hand under it!" comes just as the eel slides through the net's weave and plops lightly back into the brook.

Tim doesn't let discouragement show and he gets solid support from Jake. "Don't worry about it. It's not easy. We've all lost fish. Slippery as an eel is not just a saying."

(Get your hand **over it** is the imperative if eels are a bit bigger, because they'll slither right over the edge of the net if given half a chance.)

Before the fishing team finishes, Kate steps in to test her aim and reaction time with the net while Tim goes back downstream to wrap up the habitat work with Emily.

### **Describing Habitat**

If fishing was a painstaking process, characterizing habitat is more so. Emily evaluates a daunting set of habitat details at stop after stop, reporting her metrics and judgments to her streamside scribe.

Maintaining balance on an uncertain bottom, she measures the width of the brook, its depth, and the length of each riffle, run, and pool. She labels streambank condition, classifies pool types, and plunges a bare hand into the muck at the bottom, pulling up a gob of substrate to ascertain its texture — "No sand in there... it's all fines," she reports.

Her assistants, first Kate and now Tim,

use handheld probes to take the brook's temperature and test its salinity, dissolved oxygen, conductivity, and pH. Their double-sided data sheets fill with numbers, wrinkle with water droplets, and now and then host a resting dragonfly.

The work appears to be a blend of tedium and fascination, monotony and discovery. It is the beauty of nature inspected up close and the pain of a wild rose reaching out to snag an unsuspecting forearm. The pair achieves a practiced rhythm as the hours pass, the transect lengthening behind them. After wrapping up at one pool, Emily squints ahead to the next and announces, "I see the flag. The end is in sight."

### Restoring Migratory Passage

A day earlier and a couple of miles downstream, Tin Smith described the reason behind this fish monitoring to a dozen people gathered at the Raymond and Simone Savage Wildlife Preserve during a Coastal Training Program workshop.

"This dam has likely been in place in some form or other since the middle of the 17<sup>th</sup> century," Tin explained. "It was probably constructed for milling lumber and grain."

Over the years, the dam was broadened and bolstered as needed. The old mill pond

was a popular swimming hole during the first part of the 20<sup>th</sup> century, then the property became a private residence for six decades. In 2008, the 27-acre site was bequeathed to Great Works Regional Land Trust by its owner, Simone Savage. It was not long before the land trust began to eye the dam with thoughts of removing it to restore habitat.

The dam had partially breached in 1998 and the water level behind it had dropped enough to cause erosion at an upstream culvert under Route 101. To stabilize the busy highway, the Maine Department of Transportation has decided to install a new strut and culvert, a task that complements the dam removal project beautifully.

Using Shoreys Brook as an example, Tin encouraged his group, saying "Big projects *can* be done by small organizations." In this case, an enormous advantage came from the fact that the dam and adjacent land were held by a single landowner, Great Works Regional Land Trust. Tin said he and many others involved with the restoration project were "amazed that it has happened so quickly," a testament to the foresight and collaboration of project partners and their key supporters.

*continued on next page*

## Returning Migratory Fish to Shoreys Brook

### Project Partners

- Great Works Regional Land Trust
- Wells National Estuarine Research Reserve
- Maine Department of Transportation

### Project Supporters

- American Rivers
- Atlantic Coastal Fish Habitat Partnership
- Coastal Conservation Association — New Hampshire
- Conservation Law Foundation
- Corporate Wetlands Restoration Partnership
- Great Bay Trout Unlimited
- Piscataqua Region Estuaries Partnership
- Maine Outdoor Heritage Fund
- NOAA Community Restoration Program



*At an October Coastal Training Program workshop, Wells Reserve Stewardship Coordinator Tin Smith explains how dam removal and habitat restoration will improve conditions for migratory fish throughout Shoreys Brook.*



Once restored, Shoreys Brook will be *the only unobstructed tributary* available to migrating fish in the Salmon Falls River system



*The Salmon Falls River watershed drains 322 square miles in Maine and New Hampshire. The river is the water source for the Berwick and Somersworth water districts and receives outflow from wastewater treatment plants in Berwick, South Berwick, Somersworth, and Rollinsford.*

*The Salmon Falls Watershed Collaborative is a partnership of Maine and New Hampshire communities, organizations, water districts, and government agencies facilitated by the Wells Reserve Coastal Training Program (CTP). The collaborative works to protect Salmon Falls River drinking water and watershed health. To facilitate the collaborative's efforts, CTP is developing a watershed action plan and hosting workshops and field trips.*

*continued from previous page*

For some 350 years, eight species of migratory fish that once moved with ease into Piscataqua River tributaries — sea lamprey, rainbow smelt, blueback herring, alewife, American eel, American shad, sea-run brook trout, and Atlantic salmon— have been discouraged or prevented from reaching miles of potential spawning habitat along Shoreys Brook. This year's pre-restoration fish surveys have indicated that tenacious eels, famous for their ability to surmount obstacles, can pass in some number upstream, but alewives and other migratory fish are clearly blocked by the dam.

Removing the 170-foot earth-and-concrete dam and repairing the perched culvert under Route 101 are expected to restore migratory fish, improve water quality, and ensure sediments are supplied downstream. A small amount of stream bed reconstruction is planned, but mainly the brook will be allowed to find its own course. The restoration focus instead will be on creating a gentle slope alongside the brook so a flood plain and salt marsh can be encouraged to form. The head of tide is expected to move a couple of hundred feet upstream, as well. In the end, the tidal portion of Shoreys Brook is meant to resemble what it looked like prior to European settlement.

## York River “Wild and Scenic” Update

Over the past decade, the Wells Reserve has been active along the York River, studying fish and fish habitat, identifying pollution sources, educating residents about riverine and estuarine ecology, and helping protect land in the watershed. Since 2009, we have been among the Friends of the York River, a group exploring whether the National Park Service's Partnership Wild and Scenic Rivers Program would be appropriate for the river and the communities through which it flows.

Our effort received a boost this summer when U.S. Representative Chellie Pingree submitted a Wild and Scenic Study Bill in Congress. On September 15, a public hearing on the bill was held by the Subcommittee on National Parks, Forests, and Public Lands.

If the study bill passes both the House and Senate, a comprehensive feasibility study would be done, including assessments of history and archaeology, ecology and biodiversity, fisheries, water quality, land use, and other topics.

The York River runs more than 11 miles through Eliot, York, and Kittery from York Pond to York Harbor. The river is used by boaters, anglers, wildlife watchers, and sightseers, but the river is also a place where people make a living. Working farms are found in the watershed and the river has vital working waterfront infrastructure plus facilities that support recreation and tourism.



*Tim Dubay takes several water quality measurements as part of the habitat evaluation along Shoreys Brook.*

Having established a 2011 baseline, the Wells Reserve science team intends, funds permitting, to return for followup fish surveys in years to come. Their deep-seated hope is to find river herring, smelt, and other long-lost species living and reproducing again in the quiet backwaters of Shoreys Brook.



## Team completes assessment of Maine wetlands



*Over the summer, research staff assisted the Maine Natural Areas Program with statewide soil and water sampling at 16 Maine sites — from York County to Aroostook and Washington counties (and points between) — as part of the first National Wetland Condition Assessment. This project was directed by the U.S. Environmental Protection Agency and coordinated among numerous state agencies using a complex, standardized wetland evaluation protocol.*

## Merriland River grant moves parcel toward protection

The Wells Reserve recently received a \$287,000 federal grant to assist with the permanent protection of a 130-acre parcel with high conservation value along the Merriland River in Wells.

The Wells Reserve and the Wells Conservation Commission collaborated in requesting the grant, which was awarded by the National Oceanic and Atmospheric Administration's Coastal and Estuarine Land Conservation Program.

"Protecting land along the rivers that flow into our estuaries is a high conservation priority for the Wells Reserve," said director Paul Dest. "This grant will greatly

assist the Town of Wells in acquiring an ecologically significant parcel that will protect water quality and provide public access for low-impact recreation."

The Merriland River purchase will protect, through fee simple acquisition by the Town of Wells, 130 acres of uplands and forested wetlands including 5,250 feet of river frontage. The parcel will connect with 410 acres of adjacent Town-owned land to create a 540-acre conserved area.

This is the second such grant received by the Wells Reserve. The first helped protect over 400 acres of land in Kittery, York, and South Berwick in 2005.

### American Brook Lamprey

Shoreys Brook fish surveyors had an inkling the lampreys they were catching were not the expected Sea Lamprey, but wanted to be sure. DNA analysis by conservation geneticist Dr. Margaret

Docker at the University of Manitoba confirmed they were American Brook Lamprey, perhaps the first documented in Maine.



*An American Brook Lamprey rests in a water-filled plastic tub until researchers are ready to take its measurements.*

ENA: E11504110.FU504118.1.Lamprey...  
 partial cds; mitochondrial.  
 AATAGTGGGAACCGCTTTAAGCATCCTAA  
 TACTAGGAGATGACCAGATCTTAAATGTTA  
 TTTATAGTCATACCAATTATAATCGGAGG  
 TAGCGCCCTGATATAGCCCTTCCCACGTA  
 CACTCCCTACTCTTACTTTAGCTTCCGAGG  
 AATACATAAGCTTTGACTGCTCCCACTGGA  
 AGTTGAAGCAGGAGCCGACTGGATGACGAAATTTA



## New Members

Judith Aitchison-Philpott  
Adrienne Angelo  
Gert & Jan Assmus  
Anthony Baldo  
Jeanne Barthelmes  
Darla Bennett  
Catherine Benoit  
Maggie Boker  
Peter Bowman  
Tracy & Eric Bradford  
Amanda Bradish  
Mr. & Mrs. Arthur Brennan  
Mona & Harold Brewer  
James & Patricia Brown  
Ms. Marie-Francoise Calvairac  
Paul Campion  
Cathie Cantara  
Lisa Carignan  
Bonnie Cassidy  
David F. Chandler  
Gerald Clarrage & Dawn Watters  
Robert H. Clifton  
Kathleen & Mark Coen  
Beverly Coffin  
Diane Cohen & Edward Wadlinger  
Craig D. Cole  
Joy Conant  
Steve Cook  
James & Joan Corey  
Geoffrey & Kay Cox  
John, Vesha, Michelle & Nichole Czuber  
Leah D'Amour & Shane Bruce  
Patricia Daunis-Dunning  
Leslie David  
Barbara & Bob Davis  
Kathy & Dan DeEllis  
Kat Dumais  
Jayne Dwyer  
Marilyn Eimon  
Samantha Fenderson  
Richard Flood  
Jacobus & Rosina Fontein  
Margaret & James Foorman  
Richard T. Foote  
Don & Joyce Gagnon  
Jeanne W. Gamage  
Suzan Gannett  
Kelli Gardner  
Patricia Gately  
Chris Gilbert  
Moe & Pris Gonnevillie  
Deborah & Luther Goodie  
Teresa Gould  
Lawrence Greenberg  
Bette Greene  
Jackie Haines  
Christine Peters Hamilton  
Richard & Tara Hanagan  
Jonathan Hardinghan  
John & Ellen Harris  
Gunilla Helms  
Carolyn Hird  
Carla Hoctor  
Judith M. Holden  
Nancy Martin Horner  
Harry Hovey  
Elizabeth Hunter  
Susan Iferd  
Kathleen & William Ivanowski  
Jenifer & Richard Izbicki

Bradley Jackson  
Russ & Nancy Johnson  
Joe Johnson  
Jody Johnstone  
Thomas Klak  
Rick & Nancy Kranes  
Carol Kurwelnz  
Jean LaBossiere  
Janet F. Laughlin  
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David Lentini & Meredith Schmidt  
Shawn & Ann Lester  
Judy Lovdal  
Wendy Lull  
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Linda F. Mackey  
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C. Marcotte  
Terry & David Marotta  
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Valerie McCaffrey  
Kathleen McCormack  
Beth McKinney  
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Tim Messier  
Chelsie Mitch  
Arthur K. Moher  
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Cheryl Monkiewicz  
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Teresa Mowery  
Janet Nannen  
Tim Neill  
Deb Neveux  
Sylvie C. Normand  
Wendilee-Heath O'Brien  
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Laura Ordway  
Lindsay O'Reilly  
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Richard & Patricia Walker  
Chuck & Peg Washer  
Keith & Louise Wasley  
Tyson Weiss  
Robert & Barbara Young  
Alan Zullo

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Beach Pea Bakery  
Cabot Cheese  
Chase Farms  
Crooked Cove  
Giles Apple Orchard  
Jassy and Company  
Maine Magazine  
Millennium Granite Quarry & Stoneworks  
Perfecto's Caffe  
R.H. Reny, Inc.  
Riverside Farms  
Southern ME Spring Water District  
Spectra Energy  
The Frances R. Dewing Foundation

## Memorial Gifts

Charles R. Wilson  
Donald Lloyd  
Donald Somers  
Dr. Paul Sweet  
Edmond Johnson  
Jeannette June Hackett  
Thayer A. McCain

## Celebratory Gifts

From Leila Jahnke  
in honor of her daughter Carol  
Pickering marrying Sean Donahue  
at the Wells Reserve 10 years ago

## In-kind Contributions

Robert Christensen-Lang  
for removing rotted wood and  
rebuilding the gazebo  
Millennium Granite Quarry & Stoneworks  
for installing new granite steps and  
a walkway for the new Visitor Center  
entrance  
Ed and Jane Bellegarde  
for a side-by-side refrigerator, gas  
range, and dishwasher  
Cynthia and Leo Daley  
for a Todd Bezold painting placed  
in the new exhibit area  
Mark Klys  
for a kayak  
Lindsay O'Reilly  
for hay bales and lights  
Glen MacWilliams  
for irrigation hosing used in the  
corn-and-pumpkin patch  
David and Lynn Jourdan  
for a compost bin

donor**recognition**

Gifts received May through October 2011



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**Thank You All!**

## Endangered Species Protection



*This fall, the Wells Reserve received an outstanding service award from Maine Audubon and the Maine Department of Inland Fisheries and Wildlife for our efforts to protect the endangered piping plover and its habitat on Laudholm Beach.*



## Naming Opportunities

Honor someone special or memorialize a loved one through a donation to Laudholm Trust. By making such a gift, you help ensure the continued preservation of our historic site and stability of Wells Reserve programs for research, education, and stewardship. While we welcome and respect every celebratory gift or donation in memoriam, these select naming opportunities are available:

- ❖ Wooden Adirondack Chair with Plaque... \$2,000
- ❖ Wooden Picnic Table with Plaque... \$3,000
- ❖ Wooden Bench with Plaque... \$5,000
- ❖ Hiking Trail... \$25,000

**To learn more, contact Diana Joyner**  
207-646-4521 ext. 144 / [diana@laudholm.org](mailto:diana@laudholm.org)

## Support the Wells Reserve. Join Laudholm Trust.

Membership benefits include **free admission** to the Wells Reserve all year (except some special events), **discounts** on event admission and education program fees, Watermark **newsletter**, and other special mailings. To join, please mail this form and your payment to:

**Laudholm Trust, P.O. Box 1007, Wells ME 04090**

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\$

Phone \_\_\_\_\_

Amount

E-mail \_\_\_\_\_

To charge to a credit card, please call Karen at 207-646-4521 ext 140.

### Levels

Individual	\$25
Household	\$40
Business/Organization	\$50

**Give online at [wellsreserve.org/support](http://wellsreserve.org/support)**

Does your company have a matching gift program? \_\_\_\_\_



*You can get your Wells Reserve and Laudholm Trust news by email or on the web. Help us make the most of your donations: Tell us you'll switch to online updates. Email editor@laudholm.org.*

upcoming**programs**

**Dam Removal Workshop** Maine's first training workshop on managing dam removals, to be held in Augusta on **December 2**, is presented by the Wells Reserve, Maine Rivers, American Rivers, and NOAA Fisheries Service. Reservations were requested by November 23, but if interested check for late openings.

**Annual Meeting. December 7.** Mather Auditorium.

**Studying Whales in the Gulf of Mexico** Enjoy a Lunch 'n' Learn on **December 8** at noon as Bob Kuech, professor of science education at the University of Southern Maine, talks about the weeks he spent collecting whale skin samples in the gulf, part of the effort to determine the effects of a major oil spill on whales.

**Wassailing for Wildlife** Join a festive evening of caroling by moonlight on the wooded trails of the Wells Reserve at Laudholm. It starts at 6 pm on **December 12**.

**Bird, Butterfly, Eel** The third in a pilot series of monthly preschool story hours will be held in the Dorothy Fish Coastal Resource Library on **December 13** at 10:30 am. It's an introduction to animals through a book reading, a short trail walk, and an activity.

**HAPPY HOLIDAYS! SEE YOU IN 2012!**

**Kittery Trading Post X/C & Snowshoe Demo Day** — On January 14, come try out winter sports gear from a variety of manufacturers. Ski and snowshoe raffles. Weather permitting: "No Snow, No Go"

**Winter Wildlife Day** — On February 23, the Center for Wildlife and York County Audubon return for our second joint celebration of wildlife in winter (snow date Feb 24).

**Wells Reserve EcoDay**  
May 19

**Laudholm Nature Crafts Festival**  
September 8 & 9 — 25<sup>th</sup> annual

**Punkinfiddle, A National Estuaries Day Celebration**  
September 22 — 10<sup>th</sup> annual

details  
updates  
additions  
**wellsreserve.org**