



Harpswell Heritage Land Trust

"preserving and protecting Harpswell's natural open spaces, islands, shoreline and cultural heritage for current and future generations"

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The Long Marsh: A Natural Treasure of Harpswell

One of Harpswell's greatest natural treasures is the Long Marsh on Great Island. It extends for about 2.3 miles north from the Trust's Long Reach Preserve, paralleling the Harpswell Islands Road, to Doughty Cove near the Gurnet. At its south end, it is a shrub-scrub freshwater wetland. Going north, the marsh transitions to an emergent freshwater wetland; a tidal creek and emergent coastal wetland; mudflats; and open salt water at Doughty Cove. Coastal marshes are perhaps the most productive ecosystems in the world. They are vital to protecting marine water quality, initiating the marine food chain, and providing habitat for a variety of animals, birds, fish and plants. Over 70% of commercial fish species utilize coastal marshes at some point in their life cycles.

The Long Marsh—due to its size—is the only coastal wetland in Harpswell considered to be of state-wide significance.

Recently, Ecologists Kristin Puryear and Don Cameron from the Maine Natural Areas Program surveyed Long Marsh. The purpose of their survey was to:

1. identify any additional wetlands not mapped by NWI,
2. conduct a functions and values assessment of the wetlands on the property,
3. determine whether there are any restoration opportunities connected with the parcel, and
4. conduct a general natural resource survey of the property.

Their site visit summary report follows.



Long Marsh — Harpswell

Site Visit Summary Maine Natural Areas Program, July 2010

The Long Marsh is a long, narrow spartina (cordgrass) salt-marsh that drains north into Doughty Cove on the northwest side of Great Island. The marsh is about 75 acres in size, and is the largest salt-marsh in Harpswell. The substrate is saturated peat. The marsh surface is typical (except for unusual raised areas, which are discussed below), with some hummocks and tussocks, especially in areas that are nearest the tidal channel.

Where Long Reach Lane crosses the unnamed tidal channel associated with the marsh, there is an undersized, perched culvert that has created a tidal restriction. This tidal restriction causes water to back up in the upstream section at low tide; this water exits the downstream side of the culvert as a cascade down into the downstream channel. The spartina saltmarsh extends southward from the outlet for about $\frac{3}{4}$ mile to a narrowed point in the drainage.

Upstream of the road crossing there is an increase in brackish and freshwater species such as cattail and non-native purple loosestrife, suggesting that tidal fluctuations are no longer reaching their natural maximum with reduced the saline levels along the marsh edge. Channel scour, churning sediment, and some embankment erosion are evident on the downstream side.

Coastal Wetlands

The saltmarsh upstream (south) of Long Reach Lane is dominated by cordgrasses with a low density of herbs and other grasses. It has typical saltmarsh zonation, but shows signs of freshwater influence at the upland border. The saltmarsh downstream of Long Reach Lane has a larger "low marsh" zone dominated by smooth cordgrass. South of Long Reach Lane (upstream) there are some pools and pannes in the marsh surface,

See SITE VISIT page 2

Site Visit from page 1

some of which have fish and/or widgeon-grass. In some areas of the high marsh, there are “islands” of higher elevation, where upland plants are growing, such as common juniper, raspberries, asters, and goldenrod. We speculate that these raised areas are the result of human activity. Dominant species within the marsh include smoothgrass, saltmeadow cordgrass, blackgrass, seaside goldenrod, seaside arrowgrass, and goose tongue. The edges of the saltmarsh support prairie cordgrass and threesquare sedge. Where the marsh narrows, the community transitions to a brackish tidal

marsh. A large stand of the invasive species phragmites was noted to the south of the narrows.

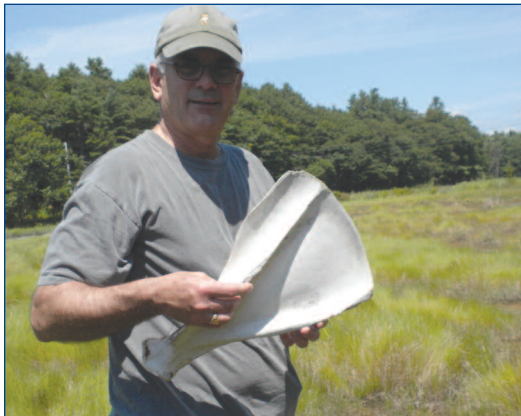
The saltmarsh is excellent wildlife habitat. We heard or saw deer, a moose skeleton, numerous insects, song sparrow, dark-eyed junco, ducks, snowy egret, great blue heron, broad-winged hawk, tufted titmouse, common yellowthroat, and kingfisher.

We found no structures in the marsh except for an old, long-abandoned road crossing in the southernmost section. There are some large stones in the channel here, and these are likely causing some restriction in water flow.



Transition from salt to fresh water

invasive species phragmites mixed in with the cat-tail near this transition zone.



Moose skeleton

Freshwater Wetlands

The tidal influence quickly disappears continuing south and upstream from the narrow point. There is a relatively short transitional ~ brackish area terminating the tidal influence. Upstream of the tidal influence there are extensive stands of hybrid cat-tail, which are associated with other freshwater marsh plant species associates including sphagnum moss, royal fern, hardstem bulrush, meadowsweet, and marsh St. Johnswort. There are also some sizeable patches of the

Uplands

The upland buffer is intact and forested. The immediately adjacent forest is an oak/pine forest. The uplands are conserved in several sections. Where Long Reach Lane crosses the marsh, the uplands are conserved by the Baxter State Park Authority as the Austin Cary Lot, which is used for experimental forestry. There are no trails in these parcels, but public access is permitted. The Harpswell Heritage Land Trust holds an easement on the large parcel immediately south of the Austin Cary Lot on the western side of the marsh. The HHLT owns the parcel to the south of this easement, which encompasses the southernmost tip of the marsh/wetland complex.

Functions and values of the coastal wetlands on the Long Reach Marsh

MNAP Natural Community type	Spartina saltmarsh - S3
Ecological Functions / Values	Rationale*
Groundwater Recharge/Discharge	Saltmarsh receives groundwater seepage from adjacent uplands
Floodflow Alteration	Saltmarsh has potential for stormwater and/or flood storage
Fish and Shellfish Habitat	High value – fish and shellfish habitat
Sediment/Toxicant Retention	No sources of sediments or toxicants on site but wetland has capacity to trap sediment and any potential runoff
Nutrient Removal	Capable of trapping nutrients and transforming into other forms or trophic levels, preventing nutrients from entering Doughty Cove.
Production Export	High Value – Vegetation provides habitat for decomposers and multiple levels of consumers.
Sediment/Shoreline Stabilization	Saltmarsh may buffer/stabilize adjacent banks from heavy erosion/undercutting by water.
Wildlife Habitat	High Value – important wildlife habitat for birds, insects, fish, shellfish; tidal wading bird and waterfowl habitat
Recreation	Potential for wildlife observation, clamming
Educational/Scientific Value	Easy to access for educational purposes; multiple educational opportunities exist
Uniqueness/Heritage	High Value – Appears mostly undisturbed, significant opportunities for wildlife observation, supports recreational activities, provides local habitat values
Visual Quality/Aesthetics	High Value – Appears undisturbed, aesthetically pleasing
Endangered Species Habitat	No endangered species were noted.

*Principle functions and values are indicated as “High Value”

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Upstream end of perched culvert under Long Reach Lane, while tide is dropping

Removing the Long Marsh Tidal Restriction

As noted in the MNAP Long Marsh Report, where Long Reach Lane crosses the tidal channel associated with the marsh, there is an undersized, perched culvert that has created a tidal restriction that adversely affects the Long Marsh's health and productivity. This tidal restriction causes water to back up in the upstream section at low tide and exits the downstream side of the culvert as a cascade down into the downstream channel. Channel scour, churning sediment, and some embankment erosion are evident on the downstream side. Because of the restriction, tidal fluctuations above the road are no longer reaching their natural maximum and saline levels along the marsh edge are reduced.

As part of its mitigation for unavoidable damage to wetlands elsewhere, the ME Dept. of Transportation is planning to remove the Long Reach Lane tidal restriction. The Field Service and Mitigation Division of DOT's Environmental Office has been drawing up its plans in consultation with the land owners living beyond the marsh and hopes to replace the existing culvert with several larger culverts in late 2012.



Downstream end of perched culvert under Long Reach Lane, while tide is dropping

HHLT Seeks Community's Views

HHLT is currently conducting a survey of the Harpswell community. As we look ahead to our second 25 years of operation, we want to hear what Harpswell residents and land owners have to say about our activities. We hope to gain broad insights as we plan for our future. The question-

naire is being rolled out to members of the Trust this year and we expect to reach out to others in the community during 2012. Comprised of 18 questions, it takes only a modest amount of time to complete. Responses, feedback and comments will help guide your land trust. We appreciate your participation.

Volunteer Thanks

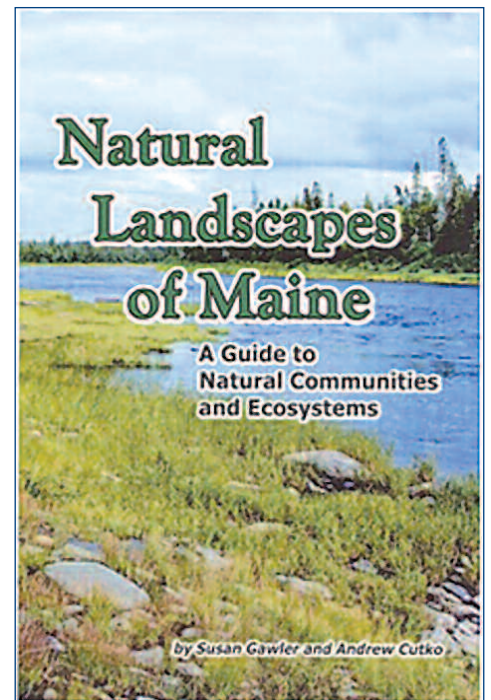
Our thanks to Hannah Dring, David and Patricia Sheaff, and Judith Redwine for their help with our mailings. Our thanks to Alan and Cindy Sawyer, George Patterson, and John Loyd for their tremendous efforts on behalf of our Basin Cove/Curtis Cove Campaign and their service on our Development Committee. Our thanks to Tim Vail and Vail's Tree Service for downing dead trees at our office. Our thanks to Bob Weggel for his dedicated efforts constructing and maintaining our trails. Our thanks to Tim Glidden, John Esquirol, Jose Mas, Georgette Miller, Ned Perry, Cynthia Wood, and Peter and Harriette Griffin for their help monitoring our easements. Our thanks to our summer intern, Alyssa Krag-Arnold, for her help in getting our property records up to date. Our thanks to Peggy Shanler for her help with our Nature Day Camp.

The Maine Natural Areas Program

The Maine Natural Areas Program (MNAP) is a part of the ME Dept. of Conservation. Its mission is to ensure the maintenance of Maine's natural heritage for the benefit of present and future generations. MNAP facilitates informed decision-making in development planning, conservation, and natural resources management.

The MNAP has classified and distinguished 104 different natural community types that collectively cover the state's entire landscape. These include such habitats as floodplain forests, coastal bogs, alpine summits, and many others. Each type is assigned a rarity rank of S1 (rare) through S5 (common) both within Maine and globally. MNAP is particularly interested in any example of a natural community type ranked S1, S2, or S3, and outstanding examples (e.g., large, old growth stands) of S4 and S5 types

The MNAP publishes much of this information on its web site and in a book form: *Natural Landscapes of Maine: A Guide to Natural Communities and Ecosystems*. The book describes the composition, rarity, and distribution of each of the 104 natural community types, as well as the methods used to classify them. It also describes the 24 broader ecosystem types within which these natu-



ral communities typically occur. The book is a valuable tool to recognize, understand, and conserve Maine's special places. The book is available for \$23.61 (including tax and shipping) from Maine Natural Areas Program, 93 State House Station, Augusta, ME 04333-0093 or from the program's web site (<http://www.maine.gov/doc/nrimc/mnap/index.html>).



Do You Want to Help Preserve the Special Places of Harpswell? Please Become a Member of the Harpswell Heritage Land Trust!

HHLT is Harpswell's only land conservation organization, protecting Harpswell's special places since 1984. It costs about \$70,000 per year to operate the Trust — and our obligations are increasing as Harpswell grows and we acquire new easements and preserves. Over 95% of that cost is met through membership contributions from people like you!

If you believe that Harpswell Heritage Land Trust is important in maintaining the character of Harpswell now and for the future, we need your support today! Please clip and mail the membership form below with your contribution, or contribute on line at www.hhltmaine.org. Click on Support HHLT.

Thank you for your support!

Enclosed is my (our) 2011 membership contribution: \$40 \$70 \$100
 \$250 \$500 \$_____ other



Name (s): _____

Address: _____

Phone: _____ Email: _____

Harpswell Address & Phone (*if different from above*): _____

I'd like more information on conserving my land. I'd like to volunteer! Please let me know how.

HHLT is a publicly-supported 501(c) 3 non-profit corporation. Contributions are wholly tax-deductible.

Please make your check payable to HHLT and return this form to: Harpswell Heritage Land Trust, P.O. Box 359, Harpswell, ME 04079



Mary Ann Nainf photo

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