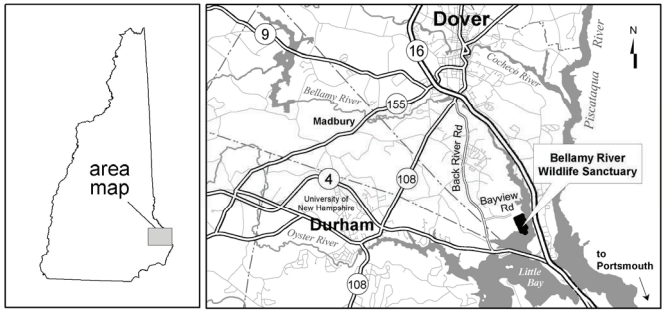
DIRECTIONS

From the junction of Rte. 4 and Rte. 108 in Durham, go 2.5 miles east on Rte. 4. Turn north (left) at the stop light (just west of the bridge) onto Back River Rd. Go 0.8 miles and turn right onto Bayview Rd. Half a mile down Bayview Rd, bear left at a junction onto a dirt road and continue a quarter of a mile across the field to the small dirt parking area on the right. There is space here for several vehicles.



PROPERTY USE GUIDELINES

Please, for the protection of the area and its inhabitants, and for everyone's safety and enjoyment:

- Foot travel only
- Stay on the marked trails
- No pets, horses, bicycles, or motor vehicles allowed
- Motor boats are prohibited
- Do not collect or disturb plants or animals
- No hunting, firearms, camping, fires, swimming, or smoking
- Please respect private property
- Carry out all trash and litter
- Be prepared for country walking - trails may be wet

ABOUT NEW HAMPSHIRE AUDUBON

New Hampshire Audubon is an independent statewide membership organization whose mission is to protect New Hampshire's natural environment for wildlife and for people. It operates nature centers throughout the state that provide educational programs for children and adults. It is also involved in research projects, protects thousands of acres of wildlife habitat, and advocates for sound public policy on conservation issues. For information on New Hampshire Audubon, including membership, volunteering, programs, and publications, call (603) 224-9909 or go to their website at www.nhaudubon.org.

ESTUARINE NATURAL COMMUNITIES

This site is on the western bank of the Bellamy River, near its confluence with Little Bay. The river is tidally flooded twice daily here (5-6 foot tides), and several estuarine marsh natural communities occur along its banks.

High and Low Salt Marshes

The ***high salt marsh*** occurs above the mean high water line. Beyond the reach of most tides but within the reach of spring and storm tides, this natural community is typically dominated by *Spartina patens* (salt-meadow cordgrass). ***Low salt marsh*** occurs seaward of the high salt marsh and is flooded and exposed by the tide twice a day. It is dominated by a much taller species, *Spartina alterniflora* (smooth cordgrass) ("low" refers to the height of the land, not of the vegetation). ***Salt pannes and pools*** occur as microhabitats within the salt marshes, and sparsely vegetated ***saline/ brackish intertidal flats*** (mudflats) are exposed at low tides.

Brackish Marshes

Brackish marshes occasionally occur along the upper margins of ***high salt marshes*** and ***high brackish tidal riverbank marshes*** where sufficient fresh water runoff or groundwater discharge flows onto the marsh surface. They are tidally flooded by salt water only during spring tides and storm surges. This hydrologic regime supports species most often found in fresh or salt marshes but that are also tolerant of brackish conditions and are able to successfully compete in this environment. These species include *Eleocharis halophila* (salt-loving spike-rush), *Scirpus robustus* (stout bulrush), *Carex paleacea* (chaffy salt sedge), *Solidago sempervirens* (seaside goldenrod), and *Typha angustifolia* (narrow-leaved cattail) among others.

This brochure was created by the New Hampshire Natural Heritage Bureau as part of a series designed to educate the public about the state's special plants and natural communities. For more brochures, visit: http://nh.gov/dred/divisions/forestandlands/bureaus/naturalheritage/guides.htm

New Hampshire Natural Heritage Bureau

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NH Natural Heritage Bureau

Visiting New Hampshire's Biodiversity

Marshes at the Bellamy River Wildlife Sanctuary

a property owned and managed by

New Hampshire Audubon

N.H. AUDUBON

This brochure was paid for with funds from the NH Conservation License Plate
www.mooseplate.com

TRAIL DESCRIPTION: The trail network here is about 1.5 miles long and takes about two hours to complete at a very leisurely pace. The terrain is mostly flat, but the footing can occasionally be rough as the trails pass over tree roots and seasonally-wet areas.

A grassy path heads south from the parking area along the edge of a privately-owned field. At a large pine tree, the trail bears left and enters the woods shortly before an old steel fence post. There is a mailbox here containing NH Audubon's trail guides. The trail (blazed in yellow) then curves right beneath a canopy of white pine trees and passes over a small wooden foot bridge. After this you arrive at the first trail junction.

The Cove Trail (red blazes) leads left and follows the upland edge of a finger of tidal creek out to a small point with views into the salt marsh. At the first opening to the creek on the left, you can see the outer edge of a small patch of exemplary ***brackish marsh***. This natural community occurs where fresh water runoff from the creek meets the more saline water of the estuary. It is dominated by *Agrostis stolonifera* (common creeping bentgrass), *Juncus gerardii* (salt marsh rush), and *Typha latifolia* (common cattail).

Further ahead the trail overlooks mostly ***low salt marsh***. *Spartina alterniflora* (smooth cordgrass) is the dominant species here, with a narrow band of *Spartina patens* (salt-meadow cordgrass) (a species of the ***high salt marsh***) along the upper edge of the marsh.

The Cove Trail curves right and continues down the side of another tributary creek until it joins up again with the main trail. A second patch of ***brackish marsh*** is passed along this section of trail. Here you get a better view of the species comprising this natural community.

Bearing right on the trail at the junction returns you to the parking area; turning left will take you into the southern half of the property on the Clement's Point Trail (yellow blazes). Much of this trail follows along just above the western edge of the Bellamy River, until it cuts back into the woods and follows the western property line back.

Taking the trail clockwise, you pass through a ***mesic Appalachian - oak hickory forest***. This natural community covers most of the upland forest habitat in the Sanctuary and is composed of a broad diversity of trees including oaks, American beech, red maple, black birch, and shagbark hickory. It is a somewhat uncommon natural community in the state, generally restricted to coastal and southern NH. At a point overlooking the mouth of the cove on the Bellamy River, a narrow fringe of ***low salt marsh*** remains, then tapers down to a muddy bluff along the river, forming the upper edge of the ***saline/brackish intertidal flat***.

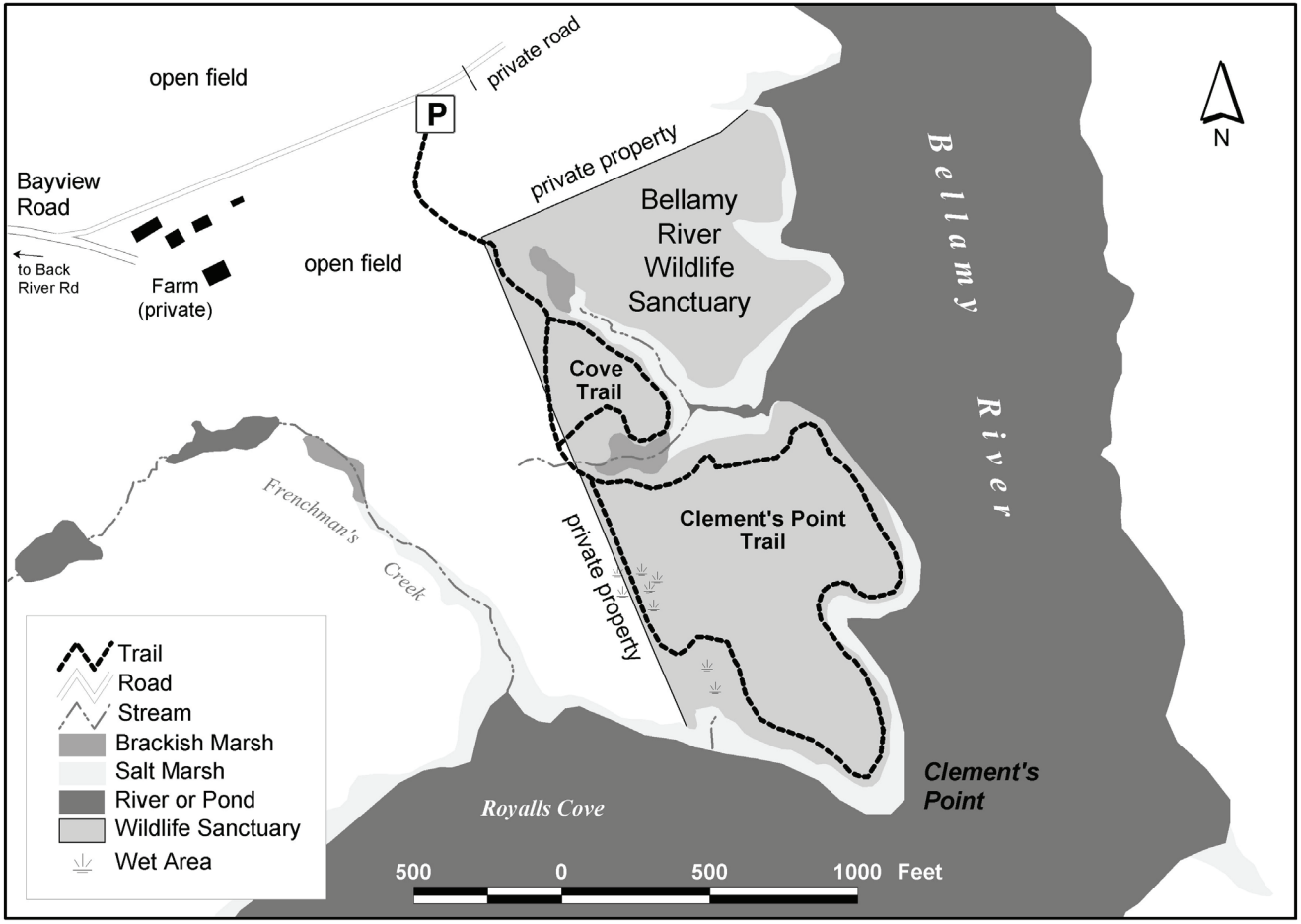
Along the next part of the trail you will pass by several *Nyssa sylvatica* (black gum) trees, also called tupelo, a species at the northern edge of its range in New Hampshire.

Heading further south, a strip of ***high salt marsh*** community starts up again along the riverbank, composed primarily of salt-meadow cordgrass and *Distichlis spicata* (spike grass). A narrow fringe of ***low salt marsh*** also occurs. Species here not commonly found in the other marshes include *Salicornia depressa* (common glasswort), *Limonium carolinianum* (sea lavender), *Schoenoplectus pungens* (three-square rush), and the state threatened *Eleocharis parvula* (small spike-rush). As you pass a minor cove, a small population of *Glaux maritima* (sea milkwort), a state watch species, occurs along the upper edge of the salt marsh.

Rounding the tip of Clement's Point, the salt marsh supports several ***pannes and pools***. These are sparsely vegetated depressions where species composition varies with salinity, substrate, elevation, hydroperiod, and other factors.

Follow the yellow blazes back along the western property boundary to return to the parking area. Be careful as the trail may not be as distinct along this return leg, and part of it passes through a rather low area where you may get your feet a little wet. Shrub and herb species to look for here include *Gaylussacia baccata* (black huckleberry), *Vaccinium angustifolium* (lowbush blueberry), *Gaultheria procumbens* (wintergreen), *Aralia nudicaulis* (wild sarsaparilla), and several species of ferns, fern allies, and graminoids (grasses and sedges), among others. Also be watchful for poison ivy.

This property is primarily a wildlife sanctuary. A variety of mammals utilize the diverse mix of natural communities here. Numerous species of birds can be seen in the woodland and wetland habitats. Look out in the mudflats, especially at low tide, for wading birds such as green and great blue herons. Greater yellowlegs often forage in the pools within the salt marsh. Black ducks and other waterfowl are also commonly seen here during migrations, and others, like kingfisher and osprey, hunt along the shores.



Maps and photo by Ben Kimball, 2005.