Great Bay National Estuarine Research Reserve

YOUR PASSPORT TO GREAT BAY

Punch your way around Great Bay!

Visit the Geocache coordinates on each passport page and discover what makes Great Bay so great! In each cache box you will find a punch that coordinates with the symbol on the upper right hand corner of your page. Punch at least 10 pages, bring your pages to the Great Bay Discovery Center and get a Great Bay Passport mug. (For more details on geocaching, visit ***www.geocaching.com***.)

If you do not Geocache, you can visit 10 properties and write down something special you saw at each site. Bring your filled-in pages back to the Discovery Center to get your mug.

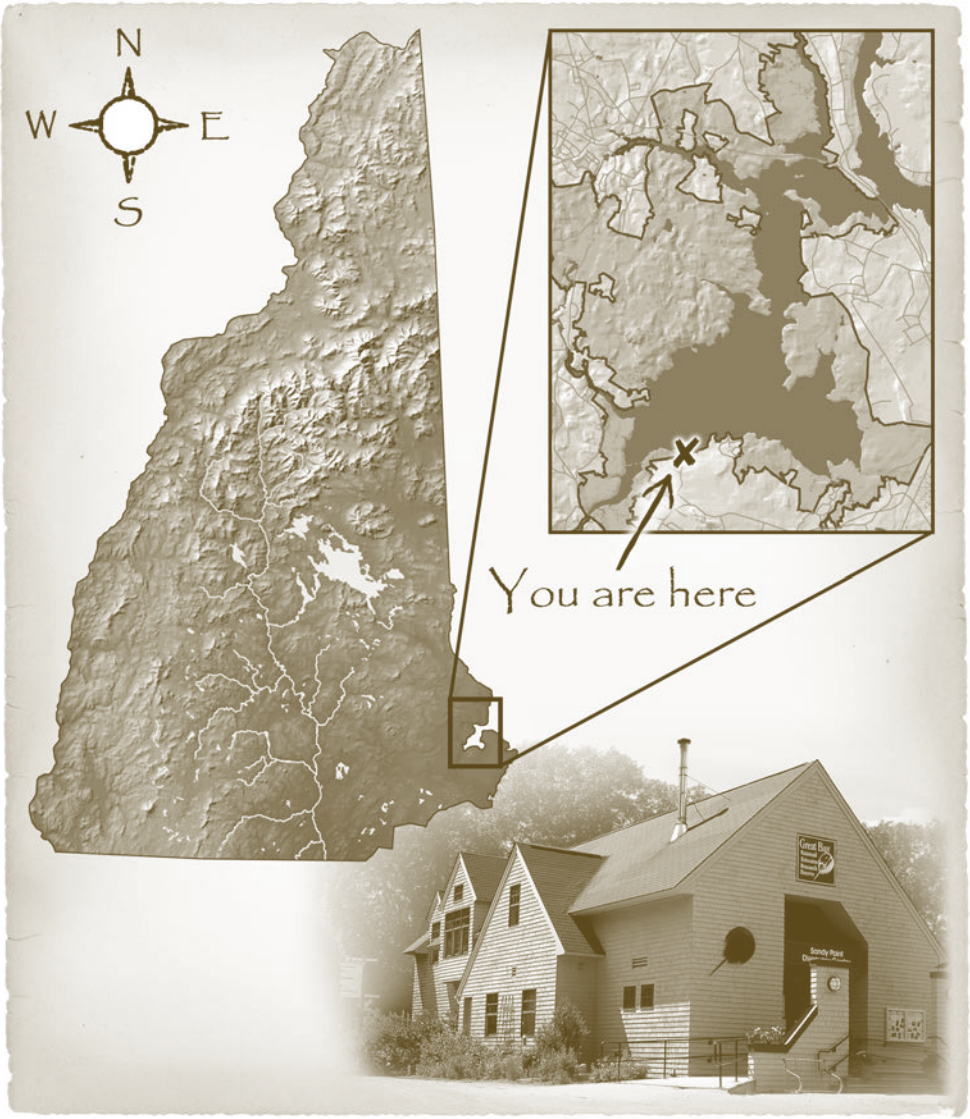
Be Prepared

Your journey around Great Bay is about to begin. Before you go, there are a few things you should know to stay safe and get the most out of your adventure.

- **Protect yourself.** Poison ivy, briars, ticks and mosquitoes abound in the woods and waters around Great Bay. Wear long-sleeved shirts and pants and apply commercial insect repellant to protect yourself while you're out exploring.
- **Be visible.** The properties you're about to visit are open to hunting and fishing. Consult the N.H. Fish and Game Hunting Digest or go to ***www.HuntNH.com*** for season dates. During hunting season, wear an article of blaze orange clothing.
- **Be aware of tides.** Although Great Bay is over 15 miles from the Gulf of Maine, it still has tides. At low tide, hundreds of feet of mudflat extend from shore out into the bay. Walking in this sticky mud is nearly impossible and can be dangerous. Consult the N.H. Saltwater Fishing Digest, available at ***www.FishNH.com***, for tide information, or go to ***www.maineharbors.com***.
- **Step carefully.** Avoid exploring the edge of Great Bay in the salt marsh during the growing season (spring and summer), because new shoots and delicate salt marsh grasses are easily damaged at that time.
- **Follow the map.** Passport pages feature accurate maps of the property to help guide you. Properties are marked with Great Bay National Estuarine Research Reserve boundary signs.

- **Carry in, carry out.** Picnicking around Great Bay is a wonderful way to spend the day. Remember to carry out what you have carried in!

Enjoy your visit!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You are here

The Natural Wonder of Great Bay Estuary

You are about to embark on a journey that began over 15,000 years ago, when the last glacier retreated, leaving behind a flooded valley that became Great Bay. This remarkable estuary, with fresh water from seven rivers and numerous creeks, creates a watershed that drains one-quarter of New Hampshire (930 square miles), before it meets up with tidal waters and empties into the Gulf of Maine. Once surrounded by vast forests, the landscape has been re-shaped by human industry and development. Much of its natural beauty remains – acres of salt marsh and mud flats, freshwater wetlands and second growth forests. These are home to many species of wildlife, making Great Bay one of the most productive estuaries along the East Coast.

As you visit the different properties, try to imagine the changes this area has undergone and how those changes have affected the wildlife and human inhabitants. Now one of the most populated areas in New Hampshire, the Great Bay Estuary has been home to Native American tribes, early Colonists, loggers, farmers, industrialists and tourists. Look for reminders of these early inhabitants: shell middens, stone walls, cellar holes, graveyards, quarries and more. Picture the gundalows working the tides as they carried the loads of lumber, bricks and granite up and down the rivers; the oystermen out in their open boats; and the sailing ships and merchant vessels coming down the rivers, all going to Portsmouth and beyond.

With this Passport to Great Bay, you can explore the natural wonders of the estuary, from upland forests and granite outcrops, to ponds, vernal pools and extensive fresh- and saltwater marshes and mudflats. These valuable natural resources have drawn people to the Great Bay Estuary over the years, and today make us realize that this special place must be protected for future generations.

Properties of Great Bay National Estuarine Research Reserve

- ❑ Sandy Point
- ❑ Spartina Point
- ❑ Pickering Creek
- ❑ Goat Island
- ❑ Bunker Creek
- ❑ Longe Marsh
- ❑ Denbow's Brook
- ❑ Ellison Brook
- ❑ Crommet Creek
- ❑ Turtle Quarry
- ❑ Adam's Point
- ❑ Chapman's Landing

Great Bay National Estuarine Research Reserve

Sandy Point

Transportation

Punch your way around Great Bay

Welcome to the Great Bay Discovery Center, education headquarters of the Reserve. Come visit this land, where the past meets the present. Walk in the footsteps of the Native People and European settlers who made these shores their home while living off the bounty of the Bay. While visiting today, know you are just one of many who have been fortunate enough to benefit from Great Bay's abundant natural resources. The self-guided 1,700-foot boardwalk trail begins and ends in the upland forest. Stop at benches along the way to look for birds, berries and new buds in the changing habitats. Access the shore at the boat ramp to see Great Bay up close; hold a mud-snail in the palm of your hand, listen to the wing beats of a passing flock of geese and imagine the journies of the old Great Bay gundalow captains.

Exploration Logistics

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Directions: By road: From the Stratham traffic circle, traveling east on Route 33, turn left onto Depot Road. Continue to the stop sign, and then turn left. Road will end in a parking lot. By water: Small-boat access is possible at high tide (otherwise beware of mud); go to *www.maineharbors.com* for tide charts.

Trail Rating: Level, easy terrain that is universally accessible.

Exploration Time: Boardwalk is 1,700 feet (allow at least 30 minutes).

Navigating The Landscape

With its abundant natural resources, Great Bay and its surrounding land was an appealing year-round dwelling place for many Western Abenaki to hunt and fish. European visitors were in Great Bay as early as 1603, with two of the first permanent settlements located on the shores of Sandy Point. Captain Thomas Wiggin built his house here in 1659. All of the rivers

Sandy Point

© NHFG / VICTOR YOUNG PHOTO

coming into the Bay were quickly put to work; the first sawmill on the Winnicut River was built in 1656. Logs were drawn from 40 miles away and brought by river to these mills, where they were turned into planking, clapboards, shingles, shakes and barrel staves. Many were then brought to Portsmouth by way of gundalow to be shipped and sold. In 1650, The Gilman Mill in Exeter alone produced 80,000 boards and planks. Great Bay was a very busy place, indeed! Stand on the shore, still a public boat launch today, and you will be standing where countless others have stood before you. From birch bark canoes to gundalows and kayaks, this site has always been a landing. Locals from all over the area gathered here for business, to trade or sell their wares, catch a ride to Portsmouth, collect their mail or just exchange the latest gossip.

While you are here:

- Come in June and see nesting horseshoe crabs on the shore.
- Look for witch hazel, rosehips and sassafras trees.
- Bring a picnic lunch to enjoy by the ornamental waterfall.

Geocache:

Row Row Row your Boat!

Coordinates:

N43° 03 21.3111 W70° 53 48.0422

What I saw:

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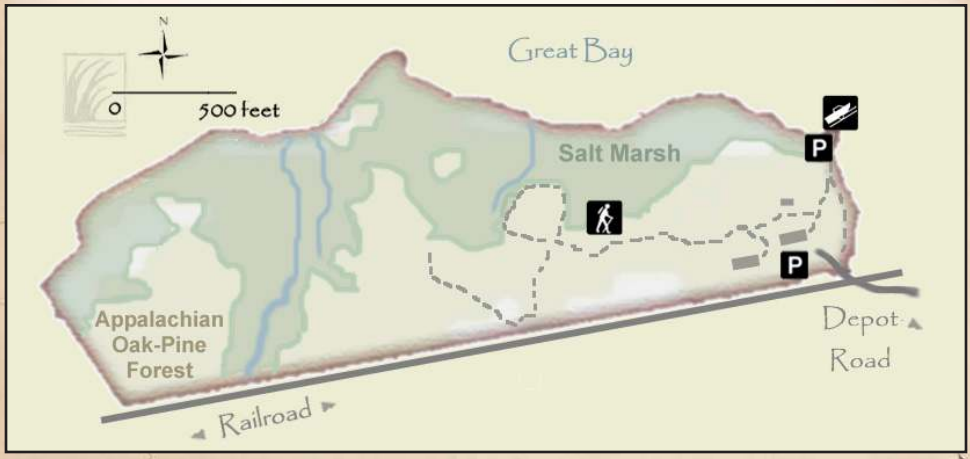


Great Bay National Estuarine Research Reserve

Spartina Point

Salt Marsh Hay

Punch your way around Great Bay

Welcome to a special patch of land on the shore of Great Bay. First used by Native People living around the Bay, this tract of land was part of a larger property that was quickly made into a homestead during the Colonial era. The land includes a diversity of habitats, such as an oak-hickory forest, salt marsh, tidal creeks and a natural forest edge, all of which make excellent homes for wildlife such as deer, turkey, waterfowl, fish and wading birds. The trail straight ahead from the parking lot will take you through the forest and out to the Bay. To your left lies the Weeks Family Homestead, a private residence. Taste the salt in the air as you stroll around this property. Listen to the water trickle through the creeks and the wind whisper though the grasses.

Exploration Logistics

Directions: By road: Heading east on Route 33, turn left onto Bayside Road in Greenland. Drive .7 miles and look for a Great Bay Wildlife Management Area sign on the right-hand side to access a small parking area. By water, use only kayak, canoe or other shallow draft boat; go to *www.maineharbors.com* for information about tides.

Terrain: Fairly level, easy terrain out to Great Bay. Uneven terrain to homestead view.

Exploration Time: Allow at least an hour.

Navigating the Landscape

Oak trees form a high, leafy canopy over the path leading to where the Winnicut River empties into Great Bay. To your left is a salt marsh with small tidal channels and salt pannes, a perfect place for waterfowl and shorebirds to feed and rest. Salt marshes are habitats that are as functional as they are beautiful; serving as nursery grounds for fish and shellfish, providing the fuel for estuarine food webs, recycling and exporting vital nutrients,

sea lavender

© NHFG / VICTOR YOUNG PHOTO

protecting shorelines and acting as water purifiers. Scan the marsh in front of you and try to detect the different zones of vegetation. Because of the daily and seasonal fluctuations in salinity, temperature and available oxygen, salt marshes are extreme places to live. The tall plants you see growing closest to the water's edge are smooth cordgrass (*Spartina alterniflora*). Just behind them grows salt marsh hay (*Spartina patens*), waving in the wind like a rolling meadow. It was once commonly cultivated and harvested by European settlers to feed their livestock. In fact, as you walk this property, keep an eye out for old fence posts that delineated each farmer's plot of marsh, reminders of a past era. Both *Spartinas* provide important nesting and feeding areas for a variety of birds, especially Nelson's sharp-tailed sparrow, northern harrier and salt marsh sharp-tailed sparrows. Exercise extreme caution on this salt marsh some areas have deep ditches or pools of water.

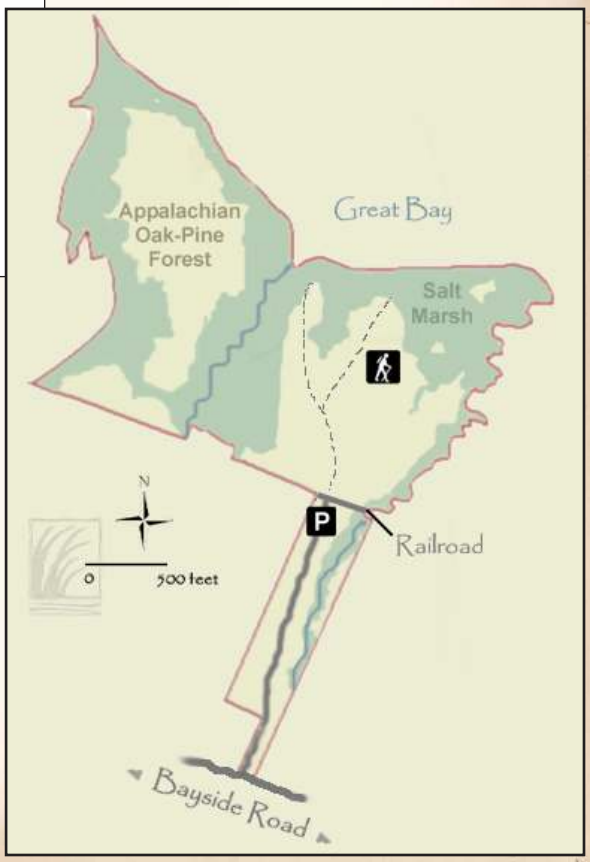
While you are here:

- Discover the "shaggy" hickory trees.
- Bring your bird book and binoculars and spot a Nelson's sharp-tailed sparrow.
- Listen for the call of the American toad on a hot spring day.

Geocache: Hay you!

Coordinates:

N43° O2 46.486 W70° 50 49.8111



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Great Bay National Estuarine Research Reserve

Pickering Creek

Living Off the Land

Punch your way to Great Bay

Come explore a side of Great Bay that is steeped in history. These properties were among the first established homesteads in the area, put here to take advantage of the vast resources in and around the Bay. Well known for its premier ice fishing and waterfowl hunting spots, you can see evidence of other current uses – corn fields and a lumber yard. A footpath winds its way through the upland and past the salt marsh and a tidal creek, to come out at Great Bay's edge. The rest of the land can be investigated by following the posted Reserve boundary signs. Come and meander through the fields, put your toes in the Bay and enjoy exploring.

Navigation Logistics

Directions: By road: East on Route 33, take a left onto Portsmouth Avenue where it intersects with Route 151. Take first left onto Newington Road, just after the Portsmouth Country Club, and continue .9 miles to an unofficial pullout on right just before guardrail. To access the trail, walk across the road to the right-hand end of opposite guardrail. By water, small boat access is possible at high tide (otherwise beware of mud!). Go to *www.maineharbors.com* for tide charts.

Terrain: Easy but uneven terrain on footpath; rest of properties may also be accessed with snowshoes or skis. Please respect agricultural crops during growing season.

Exploration Time: Allow at least an hour.

Navigating The Landscape

The trail begins on a slight uphill and quickly levels off. Look for a massive beech tree and notice a small peninsula jutting out into the salt marsh. Step out to the end to get a nice view of the tidal creek and listen for the call of the red-winged blackbird. Continue on to where the trail opens up to an expansive view of the southern end of Great Bay. Moving ahead on the narrow boardwalk that crosses the marsh, you'll soon find yourself going past a beautiful stand of white birch. As you get closer to the bay, you'll begin to

monarch butterfly caterpillar

© NHFG / VICTOR YOUNG PHOTO

notice evidence of past activities, perhaps a channel remaining from an old sawmill? This area had one of the first mills on the bay, established around 1623; clear evidence of the mill could still be seen on these shores until the 1930s. Close your eyes for a moment and imagine the whine of a saw blade as it cuts through a giant log. When you're ready to head back, walk along the edge of the cornfield that was to your right as you walked in. The privately owned homestead in front of you is known as the John Stone Pickering House, built in 1725. This home is so locally famous, in fact, that up until the 1940s, the ice fishing spot here was referred to as "John Stone's."

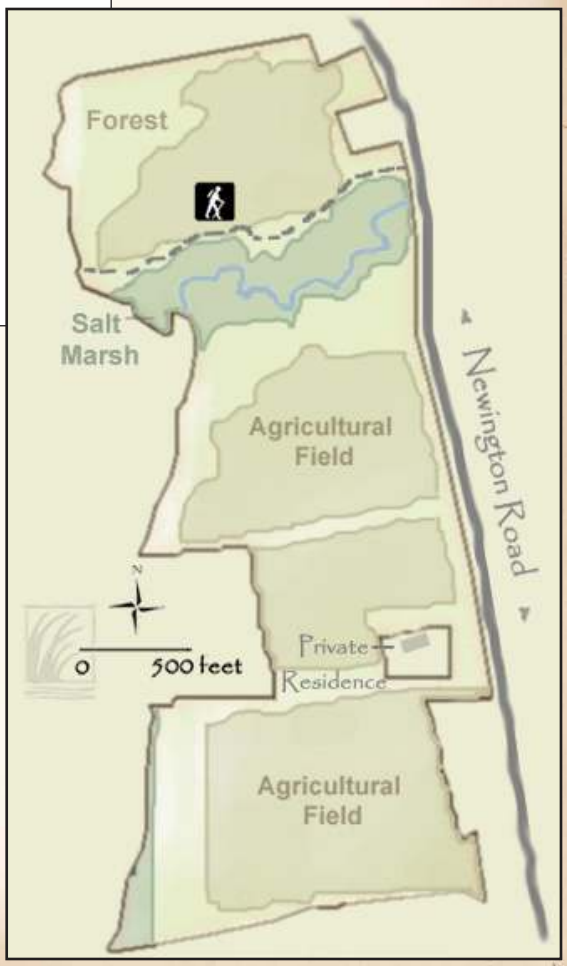
While you are here:

- Find the milkweed and spot a munching monarch.
- Explore the mudflats and look for horseshoe crab molts or ribbed mussels.
- Listen for the sound of a black duck calling.
- In the winter, count the number of icefishing bobhouses you see.

Geocache: Timber!

Coordinates:

N43° 03 40.8934 W70° 50 05.55085



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Great Bay National Estuarine Research Reserve

Goat Island

Island Life

Punch your way around Great Bay

Welcome to Goat Island, a four-acre parcel of land located in Little Bay. Here you will find land steeped in the history of the Piscataqua region. Explore the island where a hermit lived for many years, sustained by the resources he found around him. Discover the remains of a hotel and tavern where George Washington once visited. View the abutments of the Piscataqua Bridge, built in 1794 to connect Durham to Newington, an architectural feat of its day.

Exploration Logistics

- **Directions:** From Route 4 east in Durham, to a N.H. Fish and Game parking lot, located before the Scammel Bridge on left.
- **Terrain Rating:** Fairly level, easy 1,900-foot figure-eight trail
- **Exploration Time:** Allow 1 hour.
- **Boat access only:** Cartop boat (kayak or canoe) access is on north side of Route 4 at a fairly high tide. (Check tides at *www.maineharbors.com*.) Motorboat access from other designated boat launches, such as Hilton Park. Island access is on southern side at narrowest point on beach (keep in mind swift current surrounding island).

Navigating the Landscape

Begin trail at narrowest part of the island on the southern side. Go left and notice the south side bridge abutment that spanned across to Fox Point in Newington. Locate smaller Hen Island across the river to the right of Fox Point. This holds a breeding colony of common terns. Look or listen for these graceful birds. Notice the current in the channel. This is a perfect spot for anglers to catch bluefish or striped bass in the summer months. To the right of the bridge abutment is a cellar hole of an outbuilding to the tavern. Continue on the trail that takes you around the western

kayaking near goat island

© GBNERR PHOTO

edge of the island. Here you get a look up into Little Bay towards Adams Point (the location of the Jackson Estuarine Laboratory in Durham). Continue on the trail to the remains of the tavern built in the late 1700s and hotel built in the early 1800s. These buildings held one of the first public bath houses in the area. Follow the trail to the north bridge abutment, which connected Goat Island to Cedar Point in Durham. As you travel towards the eastern portion, imagine yourself living alone on this island! That is just what one man named Jim Murtaugh did for most of his life. Known as the Hermit of Goat Island, he gained possession of the island in 1903 after having lived on it for 20 years. He made his home in a makeshift shack and visited the mainland once a week to buy supplies and sell what he harvested from the lands and waters around him. As you travel uphill, notice the smooth gray-barked beech trees around you. A stand like this is very uncommon to see on the seacoast. Travel back to the beach area.

While you are here:

- Build a fairy house in honor of the Hermit of Goat Island.
- Tidepool! Search for green crabs under the rockweed, periwinkles on the rocks and hermit crabs in the shallows.
- Look for beechnuts, sweetfern, blueberries and meadow voles (small mouse-like rodents).

Geocache: Gotcha Goat

Coordinates:

N43° 07 30.3954 W70° 51 19.7789

What I saw:

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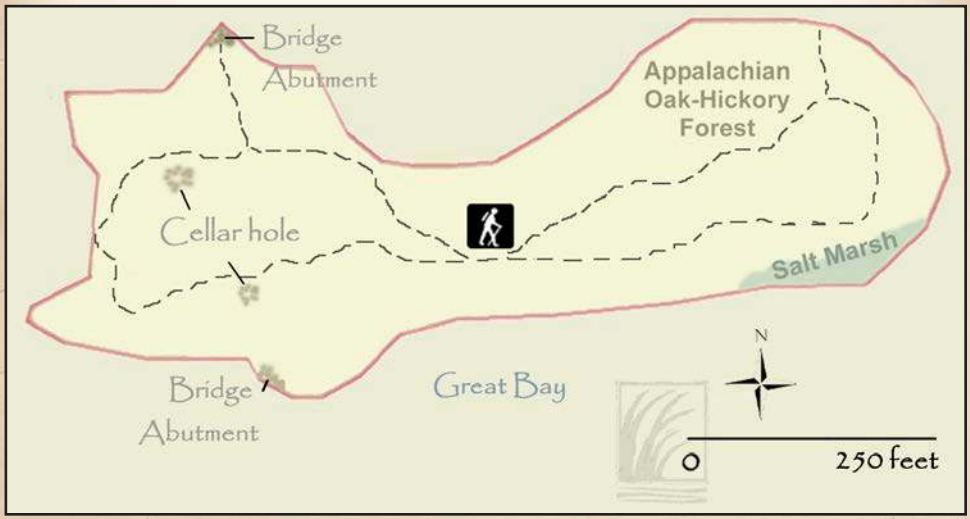


Great Bay National Estuarine Research Reserve

Longe Marsh

Habitat Change

Punch your way around Great Bay

First named in 1663, Longe Marsh is the extensive marsh wetland you may have noticed as you were driving along the final portion of the dirt road to arrive here. Spring and summer are busy times for this marsh. You may see muskrats tending to their dome-shaped weed houses or hear the cacophony of red–winged blackbirds as they duel for the tallest cattail from which to sing. Follow the trail across the power lines, and you'll enter a forest dominated by eastern hemlock and white pine, a perfect place for white-tailed deer to find protection from the elements on a cold winter night.

Exploration Logistics

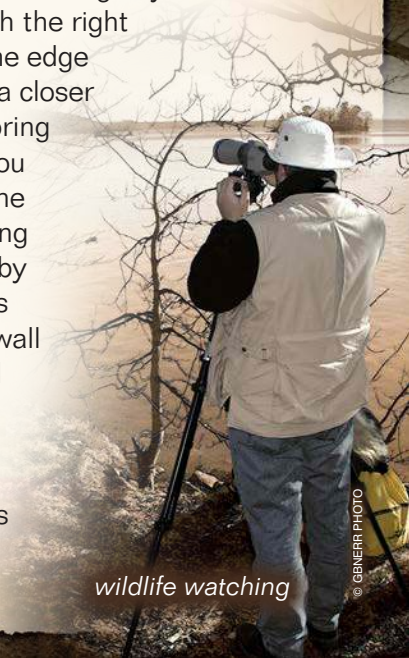
Directions: From Route 108 in Durham, take Longmarsh Road. Travel 1.2 miles to a gated dead end and small turnaround. Find unofficial parking along the road. Trail begins to the left of the turnaround.

Terrain Rating: Fairly level, easy hike

Exploration Time: Allow 1 hour.

Navigating the Landscape

Walk back along the dirt road you drove in on to view the marsh that lines either side. The wetlands are beautiful during any season, so bring along your camera or nature journal. With the right footwear and clothing, you can venture along the edge of the marsh for better photographs or to take a closer look at something that catches your eye. Exploring the rest of this 64-acre property is easiest if you start from the trail at the turnaround. Notice the stone walls and cedar trees, evidence of farming days long ago. In fact, this land is surrounded by a classic New England stone wall that marches over the landscape. Follow yet another stone wall across the power lines and notice how the feel of the habitat changes. The path narrows and darkens under the heavier canopy of pine and hemlock trees overhead. Look and listen for small birds, such as chickadees, brown creepers and kinglets, which prefer this type of habitat.



wildlife watching

© GBNERR PHOTO

Watch for narrow, frequently used deer "runs" or trails, especially during the fall or winter. These runs connect feeding habitat with sleeping or "bedding down" areas. Follow one of these trails if you have time. Move quietly and don't be surprised if you happen upon an unsuspecting deer!

While you are here:

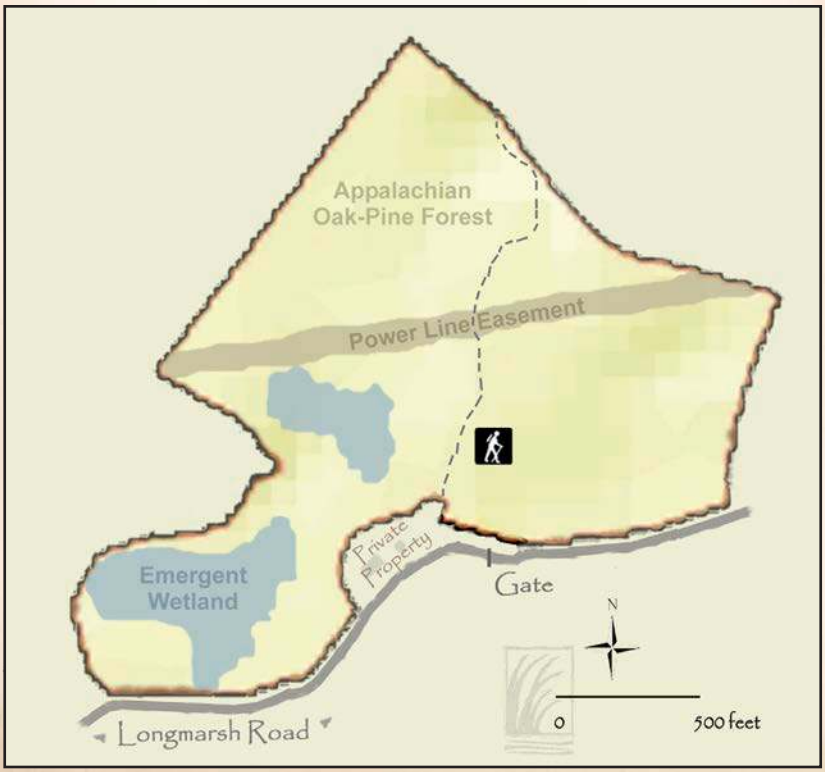
- Count the muskrat houses in the marsh.
- Spot deer scat under the hemlock stand along deer runs.
- Listen for different birdcalls.
- Look for deer antler sheds (dropped antlers).
- Take some nature photographs and enter one in a contest!

Geocache: Bird Cedar

Coordinates:

N43° O7 O3.9740 W70° 54 O4.00722

What I saw:



Great Bay National Estuarine Research Reserve

Denbow's Brook

Alien Invaders

Punch your way around Great Bay

Welcome to a property where evidence of previous inhabitants can still be seen, Denbow's Brook. This is a property to explore at a leisurely pace. Walk around a landscape filled with shagbark hickory trees and towering pines that creak in the wind. Where open fields and a family homestead once stood, today you'll step over stone walls and a variety of shrubs and trees. Scan the landscape as you stroll, looking for signs of its past. Climb on the large granite boulders, enjoy a picnic and watch for signs of the secretive wild turkey.

Exploration Logistics

Directions: From Route 108 in Durham, take Longmarsh Road .5 miles. Either pull off into the unofficial parking on the right, park on Timber Brook Road or look for the beginning of the trail directly across the street.

Terrain: Fairly level, easy

Exploration Time: Allow at least an hour.

Navigating The Landscape

Although you can roam this property freely, if you start on the main trail you will be greeted by a classic New England stone wall to your right. A short distance in on your left, notice the distinct stand of deep-green eastern hemlocks. Walk beneath them and look for owl pellets or signs of deer. Just before the stand, you'll see the remains of an old cellar hole. Since this property was settled in the mid 1600s, many of the plants you'll find have been introduced; some by accident, some intentionally. Species common to the landscape today, such as buckthorn (*Rhamnus frangula*) and honeysuckles (*Lonicera spp*), are

purple loosestrife

© GBNERR PHOTO

beautiful to see, yet a cause for concern. Because these plants are not native and can be quite invasive they tend to grow unchecked, choking out native species. You'll pass a noteworthy example on your way in – the massive stand of purple loosestrife (*Lythrum Salicaria*) marching its way across the wetland next to Route 108. Further ahead on the trail, some giant erratics – boulders deposited after the retreat of the last glacier over 10,000 years ago – stand guard. Continue past where the trail loops to head back, and you'll find a quiet meandering stream to explore.

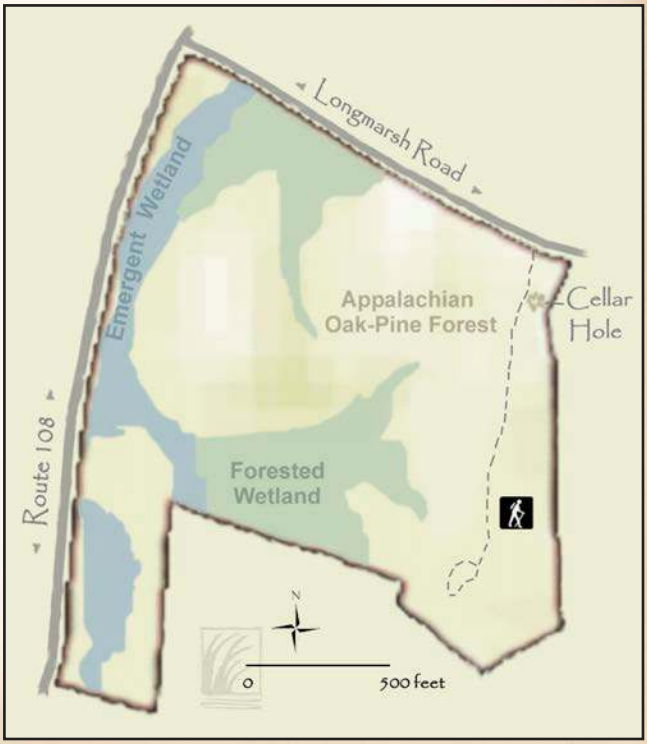
While you are here:

- Search for snakeskins along the many stone walls.
- Discover a "turkey tail" mushroom.
- Listen for the call of the pileated woodpecker.
- Compare your muscles to the rippled limbs of the ironwood tree.

What I saw:

Geocache: There's no place like home!

Coordinates: N43° 06 43.4591 W70° 55 13.509



Great Bay National Estuarine Research Reserve

Ellison Brook

Wetlands Restored

Punch your way around Great Bay

Welcome to Ellison Brook. This "hundred acre wood" demonstrates a wetland restoration initiative designed to enhance and restore species such as the American black duck and Blanding's and spotted turtles. A diversity of natural communities can be explored here, including magnificent species of oak, hickory and pine, as well as freshwater wetlands edged by the rare giant bur-reed and narrow-leafed cattail. White-tailed deer, beaver and a variety of songbirds and warblers capitalize on this biologically diverse area.

Exploration Logistics

Directions: There are two ways to access this property. From Long Marsh Road South on Route 108, travel .7 miles, park in front of a gate on the left hand side of road. Or continue an additional 1.1 miles to the Wildcat Transit bus stop and park adjacent to the large open field.

Terrain Rating: Partial trails throughout property; moderate difficulty on rest of property.

Exploration Time: Allow 1 hour.

Navigating the Landscape

Once a working farm, the wetlands on this property were ditched, drained and channeled to Ellison Brook, which eventually flows to the Lamprey River. The recent wetland restoration project created a shallow-water area for managing vegetation for foraging waterfowl, a deep-water area to attract and sustain hibernating turtles and several small grassy hummocks and islands planted with alder, buttonbush and other native shrubs for turtles to bask and feed in. Shore banks with gentle slopes were created for turtles to access sandy nesting areas in the fields. On the southern end of the property, an

white-tailed deer

© USDAFS PHOTO

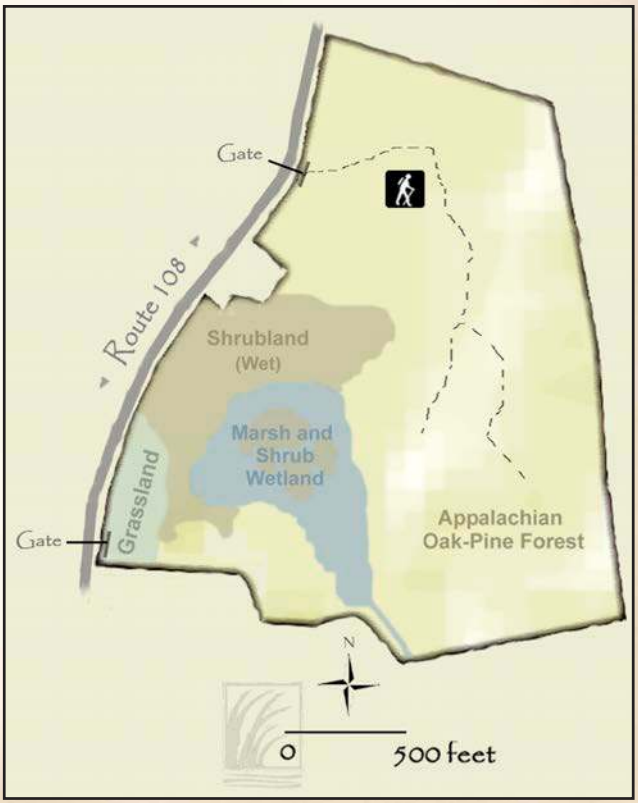
open forest dotted with impressive granite outcroppings affords beautiful views of the marsh. Watch for deer feeding on the edge of the wetland. Edges of vegetation between fields, forests and wetlands provide food and safe corridors for wildlife to travel from one habitat to another. Sit quietly and watch what unfolds in these magical natural roads!

While you are here:

- Watch the edges of the forest for white-tailed deer. Listen for the sound of antlers crashing during the fall rut.
- Look for waterfowl dabbling along the islands and hummocks. What kinds of birds, mammals or amphibians are using the marsh?
- Explore the partial trails along the northern section of the marsh. Look for signs of wildlife using them as well!

Geocache: Quack quack
Coordinates: N43° 05 56.8516 W70° 55 42.4539

What I saw:



Great Bay National Estuarine Research Reserve

Crommet Creek

Nature's Engineers

Punch your way around Great Bay

For centuries, New Hampshire's fields and forests have been evolving. One furry resident that has played an important role in this changing landscape is the beaver (*Castor canadensis*). The beaver is the largest rodent in North America and the only species that actually creates its own habitat! Although the beaver is mainly a nocturnal feeder, you can see evidence everywhere of its presence. This parcel of land is the perfect place to see this in action and explore a landscape that changes almost right before your eyes. Part of the Crommet Creek watershed, it is within the largest unfragmented block of natural vegetation around Great Bay. From the parking lot, follow the short trail to the observation platform. Begin your journey here at the pond, teeming with wildlife year-round. Keep your eyes peeled for nature's most ingenious engineer, the beaver!

Exploration Logistics

Directions: From Route 108 in Newmarket, take Dame Road, 2.0 miles. Park on right in designated lot.

Terrain Rating: Universally accessible trail to viewing platform. Remainder is self-guided exploration on fairly difficult terrain.

Exploration Time: Allow at least 1 hour.

Navigating the Landscape

As you sit on the observation platform, think for a moment what your surroundings may have looked like before the presence of beaver. When a colony of these adaptive creatures first arrived in the 1960s, they began to change the face of the land. Likely a stream bordered by mature trees and undergrowth once dominated the landscape here. The first thing a family of beaver does is to create a dam. Notice the long and carefully constructed dam to your east. Once the dam is in place, beaver begin to build a lodge. Since the beaver is a master of avoiding predation, the lodge

beaver

© ALAN BRIERE PHOTO

always sits deep in the pond and provides water access and escape at all times, even during the winter. Explore the descending waters and look for signs of feeding and claiming of territory. If you go in early morning, you may even be lucky enough to see feeding signs like a freshly cut sapling, dripping with moisture from within. Look for "scent mounds" at the water's edge, politely informing potential transients that this part of the watershed has already been claimed. If you happen upon a busy beaver toward dusk, don't be surprised if you hear a loud "crack" on the water. This is just a beaver's way of telling you to back off. During your exploration here, notice the dramatic boulders, or erratics, left when the last glacier retreated over 10,000 years ago. A closer look in spring will reveal thousands of bullfrog tadpoles jetting about the pond. Listen for the sounds of migrating songbirds or the drumming of the grand pileated woodpecker searching for insects in the dead trees.

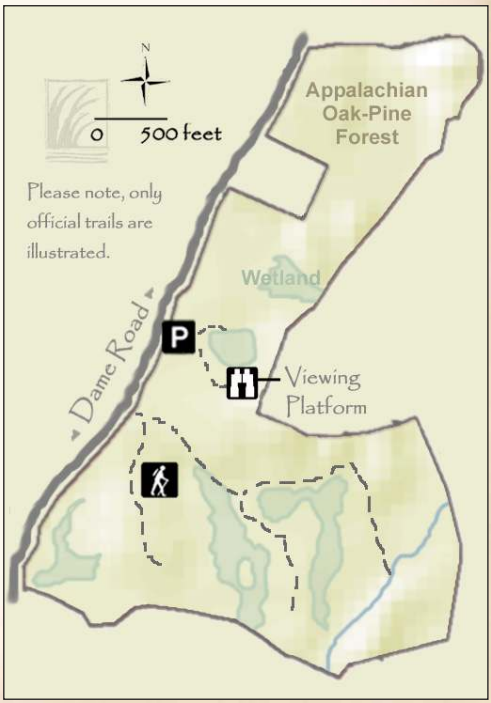
While you are here:

- During a warm spring rain, sit by the pond at dusk and listen for the first peepers of the season.
- Bring a sketchbook and capture the changing light on the water.
- Watch for great blue herons gliding to nest in the lower marsh.

Geocache: Beavers are us!

Coordinates: N43° O5 58.9055 W70° 54 O9.16902

What I saw:



Great Bay National Estuarine Research Reserve

Turtle Quarry

Tons of Turtles

Punch your way around Great Bay

Welcome to Turtle Quarry, a property within the Crommet Creek Watershed. Here you will find a land rich with a variety of freshwater wetland types. There are shrub/scrub wetlands that attract migrating songbirds; cattail marshes favored by red-winged blackbirds and muskrats; and critical vernal pool habitat for frogs, salamanders and turtles. Take your time to quietly discover the smaller, more secretive animals that live in and around these productive freshwater wetlands.

Exploration Logistics

Directions: From Route 108 in Newmarket, follow Dame Road approximately 1.9 miles, park on right in informal parking area.

Terrain Rating: Fairly level, easy hike

Exploration Time: Allow 1-2 hours.

Navigating the Landscape

The main trail, an old logging road, extends from the small, informal parking area off Dame Road and takes you onto the property. From there, what you explore is up to you. See if you can find "Lab Rock" along the right side of the logging road, not far from the beginning of the trail, aptly nicknamed for its similarity to the shape of a Labrador retriever's head. Look for liverworts (relatives of mosses), a simple flat plant with leathery leaves. These specimens cling to the sides of massive chunks of granite rock where rainwater keeps them moist. Many of these rocks were next to other

lab rock

© GBNERR PHOTO

slabs that were quarried and used to build the mills along the Lamprey River in Newmarket. Search for drill holes, telltale signs of quarry work. This property, with its many acres of freshwater wetland, is also a recognized Blanding's turtle and spotted turtle site. Both of these turtles are considered species of special concern in New Hampshire because of their declining numbers. Vernal pools are necessary habitat for both of these species, and many of these temporary pools are found on the property. Look for shallow bodies of water in depressions in the woods, especially during the spring. These pools normally flood after spring rains and ice melt. They do not support fish populations, and therefore are prime amphibian breeding areas. Spotted turtles often hibernate in vernal pools, and both species of turtles use them as important feeding sites in spring and summer when they feed on the abundance of wriggling tadpoles and salamanders.

While you are here:

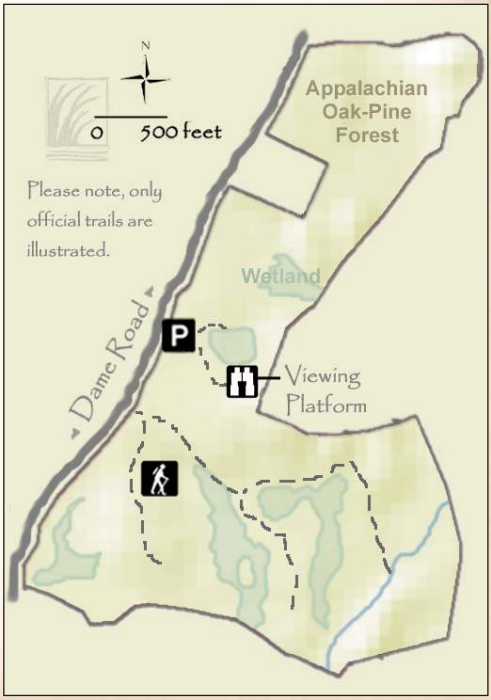
- Discover many species of ferns, such as cinnamon, sensitive or lady.
- Float a handmade leaf-boat over the small waterfalls.
- Picnic overlooking the large wetland.
- Locate giant white oak trees that dot the property.

Geocache: Spotted Up High

Coordinates:

N43° 05 45.2169 W70° 53 58.9167

What I saw:



Great Bay National Estuarine Research Reserve

Adams Point

Habitat Sampler

Punch your way around Great Bay

Welcome to Adams Point, the gateway to Great Bay! For hundreds of years, people have accessed the bounty of the Piscataqua Region from this strategic point of land dividing Great and Little Bay. On this 82-acre peninsula, once an island called Mathes Neck, you will find a variety of upland and estuarine habitats to explore. A well-worn trail through fields, forests, tidal marshes and rocky shores provides spectacular views of the estuary. Named after the famous Adams family, this land carries a rich cultural and natural heritage legacy that will unfold before you.

Exploration Logistics

Directions: From Route 108 in Newmarket, take Bay Road, 3.8 miles to Adams Point Road/Jackson Estuarine Laboratory. Follow Adams Point Road .9 miles to parking area on left. From Route 108 in Durham, take Durham Point Road, 3.6 miles to Adams Point Road/ Jackson Estuarine Laboratory. Follow Adams Point Road .9 miles to parking area on left.

Terrain Rating: Easy to moderate hike. Avoid areas adjacent to steep drop-offs along the western edge of the peninsula.

Exploration Time: Allow one to two hours.

Navigating the Landscape

To experience the full range of habitats on Adams Point, begin your exploration from the parking lot adjacent the New Hampshire Fish and Game boat access site. Follow the paved road up the hill toward the Jackson Estuarine Laboratory and take a left onto the Evelyn Browne Trail. As you approach the shoreline, you will notice a classic "shingle beach" with rocky outcroppings. Strong tides and currents dictate what species of plants and animals can survive here. Loop back onto the road and stop at the kiosk near Jackson Lab. Pick up a copy of the Evelyn Browne Trail brochure to discover a detailed description of Adams Point.

bald eagle

© USDAFS, DAVE HERR PHOTO

Make your way toward Great Bay through open fields edged by sumac and dotted with aging apple trees and shrubs. Furber Strait, the deepest part of the Estuary, divides Great and Little Bay to your left. Anglers on shore or in boats often catch striped bass and bluefish from this 58-foot-deep channel. A trail encircles the perimeter of the point, passing the Footman Islands to your left, and leads to an Appalachian oak/pine forest. Stop at a spectacular vantage point on a rocky outcropping for vistas of Great Bay to the south and Crommet Creek to the north. An expansive salt marsh to your left leads you back to your car. Look for waterfowl, secretive songbirds, bald eagles and ospreys along the way.

While you are here:

- In winter, watch for bald eagles flying and perching on trees that line Furber Strait.
- Look for Native American shell middens tucked into the hillside along the Bay.
- Try your hand at oystering Great Bay (N.H. residents only; license required; season closed July and August. See N.H. Saltwater Digest at *www.FishNH.com*).
- Kayak from the launch around the point and up Crommet Creek.

What I saw:

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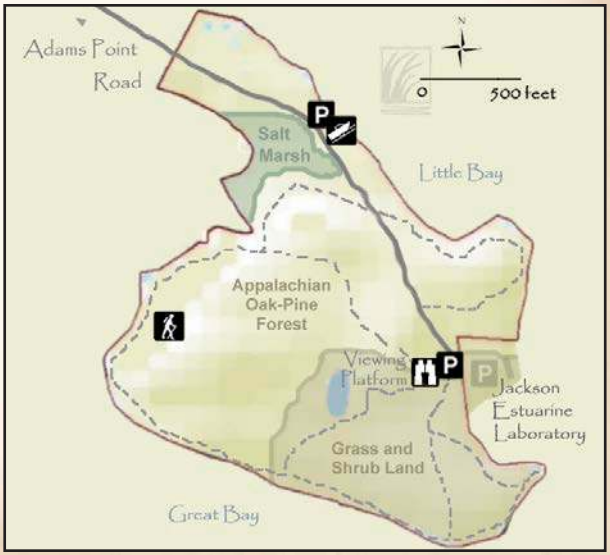
Geocache: Have to Have a Habitat!

Coordinates:

N43° 05 37.3292 W70° 51 51.9553



Great Bay National Estuarine Research Reserve

Chapman's Landing

Backyard Habitat

Punch your way around Great Bay

Welcome to Chapman's Landing! Explore this small, but robust property featuring things you can do to enhance wildlife in your own back yard. A universally accessible boardwalk leads to the property from an ample parking lot at Chapman's Landing, located along Route 108 in Stratham. An accessible viewing platform awaits the visitor, with a fixed scope aimed at an active osprey nest on a utility pole. Between the platform and the nest stretches a diverse and expansive salt marsh bordering the mouth of the Squamscott River, home to an abundance of wildlife.

Exploration Logistics

Directions: From Route 108 in Stratham, park in Champman's Landing Parking lot adjacent to the Squamscott River Bridge. Follow boardwalk to property.

Terrain Rating: Universally accessible boardwalk and viewing platform, easy access

Exploration Time: Allow ½ hour.

Navigating the Landscape

With its close proximity to homes and roads, this plot of land became overrun with exotic and invasive plants such as Japanese knotweed, black swallowwort, buckthorn and honeysuckle. Through the efforts of volunteers, Reserve staff and agencies like the Natural Resources Soil Conservation Service, this tiny piece of land has been transformed into an oasis for wildlife. Native plantings, such as dogwood, beach plums and apple trees, have brought back a variety of birds, mammals and insects to the site. As you enter the boardwalk, notice the buffer of large trees lining the small creek that empties into the salt marsh. In summer, you will experience a noticeable difference in temperature here. Shade from

luna moth

© GBNERR PHOTO

the leaves and needles of these large trees allows water-loving insects and amphibians to live in the limited aquatic habitat. The woody edge between the upland and salt marsh provides feeding and resting habitat for small mammals, and myriad songbirds travel between the marsh and the open field. Watch for rare birds in the marsh, such as Nelson's sharp-tailed sparrows, salt marsh sharp-tailed sparrows or Virginia rails. From April through September, you may see osprey mating, incubating eggs and fledging from the impressive stick nest on the utility pole.

While you are here:

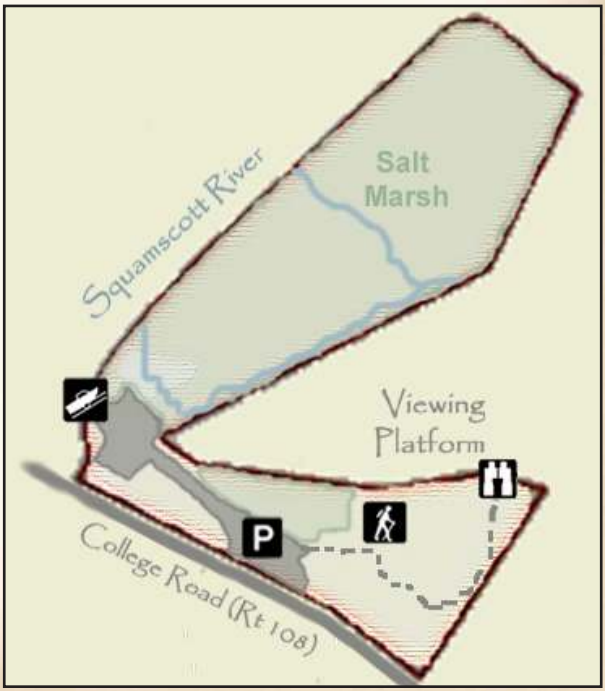
- Pack a lunch and watch for long-legged shorebirds foraging through the salt marsh.
- Observe the native plantings to see what insects are using them.
- Four-masted schooners once traveled the waters before you, on their way to Exeter. Imagine you are a captain, awaiting your cargo to set sail for Boston!

What I saw:

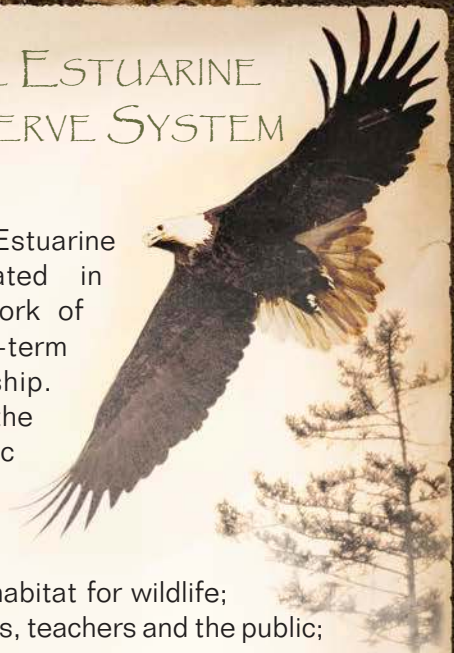
Geocache: Birds and Bees

Coordinates:

N43° O2 21.0989 W70° 55 29.5435



The National Estuarine Research Reserve System



The Great Bay National Estuarine Research Reserve, designated in 1989, is part of a national network of protected areas established for long-term research, education and stewardship. This partnership between the National Oceanic and Atmospheric Administration (NOAA) and the coastal states protects more than one million acres of estuarine land and water, providing essential habitat for wildlife; educational opportunities for students, teachers and the public; and living laboratories for scientists.

The New Hampshire Fish and Game Department manages the Great Bay National Estuarine Research Reserve, with support from NOAA. Fish and Game and the Reserve are also members of the Great Bay Resource Protection Partnership. This group was created in 1994 to protect the land resources of the Great Bay Estuary, with The Nature Conservancy serving as the lead organization. The Partnership is responsible for protecting many of the properties now included within the Great Bay Reserve.

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Copies of this publication are available from the
Great Bay National Estuarine Research Reserve

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