Promoting research, education and stewardship throughout the Great Bay Estuary
GET TO KNOW GREAT BAY

A Closer Look at the GLENN COVE PROPERTY on Great Bay

Glenn Cove was actively farmed

1900s THROUGH 1960s

1900-1932
advertised the farms of Glenn Cove as summer homes for wealthy urbanites

2018
NEW HAMPSHIRE FISH AND GAME ASSUMES MANAGEMENT

2019
AmeriCorps crew volunteer 2,000 hours for cleaning out the Glenn Cove property

PAWTUCKAWAY STATE PARK
Visible from Glenn Cove front lawn

SMELT
This property is an historic ice fishing location on Great Bay
If you read Great Bay Matters, chances are you feel a connection to the coast, to the woods, and to nature. How did this happen? Can you remember the time or place when it began? Maybe it was not a dramatic spark, but a slow build over weeks or months or years and across many experiences outside. How do you sustain this connection? Do you make time to visit your favorite trails and beaches and parks? Do you volunteer or work to protect the water, wildlife, and birds? If you are like me, this connection has become an important element of who you are and you need experiences to keep this part of yourself whole.

As a National Estuarine Research Reserve, we are the place for people to come to study, appreciate, and learn about the seacoast. Each Reserve around the country connects people to the mud, brine and beauty of estuaries through their lands, visitor centers, and labs. At our Reserve, we are in the midst of an exciting opportunity to transform a property into a new place for people to ignite their passion for Great Bay. As you read about the history and future of “Glenn Cove,” I hope you can imagine how this property can help you stay bonded to the bay and how it can help us open up the minds and hearts of so many future stewards of our shores.

Cory Riley, Reserve Manager, GBNERR
Looking Back
A COASTAL FARM

ASSESSING THE HISTORIC VALUE OF GLENN COVE

Our cultural history and natural history are interdependent, whether we are reflecting on Native American summer encampments on our shores, colonial trading aboard the Gundalow, the industrial mills our rivers powered, or the current debates about the impacts of development. It is always a thrill to link specific historic activities and trends to the lands that we now steward and to be given an opportunity to interpret both the natural resources and the history of Great Bay. The new Glenn Cove project at the Great Bay National Estuarine Research Reserve is no exception. Before any federal funds can be spent to move, tear down, or renovate buildings, the state needs to assess the historic values of a site’s landscape, buildings, and archaeology. To do this, the New Hampshire Fish and Game Department worked with the Division of Historical Resources, Independent Archaeological Consulting, and the Preservation Company to research the history of this farm.

Archaeological evidence at the property indicates that there were very early settlers using this as a home site. This area in Greenland has been farmed at least since the 1700s, with a house and barn in about the same place they stand today. The structure built in the 1700s burned down in 1915, and the Pray family rebuilt the farmhouse in the Colonial Revival style. But the Pray family did not stay long in farming, and this was a common trend. In the early 1900s, the growth of industry, western competition, costs, and poor soil caused some New Hampshire farmers to quit farming. In 1900, there were nearly 1,500 vacant farms statewide. New Hampshire’s post–Civil War decline in farming and population led the state to initiate a program aimed at selling its abandoned farms. The state legislature passed an act to encourage immigration into the deserted farms, and the state board of agriculture advertised the farms as summer homes for wealthy urbanites through a series of publications from 1900–1932.

The Kennard family purchased the farm from the Pray family, and planted orchards and started a poultry business in addition to dairy farming. In 1934, the Kennard family sold the farm to the Emery family. The Emerys were from Boston and purchased the farm in order to live off the land. Over time, they found several ways to expand their income on
the farm: raising chickens and dairy cows; operating an ice fishing access, bait, and storage area; and ultimately as landlords as the area became popular first as a vacation area and then as a bedroom community. From the 1920s–1940s, cottages along Great Bay were popular summer vacation destinations. Families would come to fish, swim, and hunt. The Emery family built three seasonal and weekly rental cottages on the property in the 1930s and 40s for summer use. By the mid-1940s, the construction of Pease Air Force Base and the GI bill had created a housing boom in the area, and the cottages were converted to year-round rentals. In the 1950s, the family converted a turkey coop into five small apartments. Farming on the property was discontinued by the 1960s, and the family lived on the farm and rented housing units there until New Hampshire Fish and Game took over management in 2018.

As we plan for the future of this site, we are working closely with the Division of Historical Resources to make sure we preserve historic features in the farmhouse, and that the placement and design of other buildings is aligned with the agricultural history of the site. A big part of our mission is education, so we will use what we have learned about this farm and farming in southeastern New Hampshire in interpretive programs, kiosks, or exhibits. It is a privilege to be given the opportunity to connect New Hampshire citizens to the estuary and to our local history, and we cannot wait to continue at Glenn Cove.

Cory Riley, Manager, GBNERR

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**Estuary Almanac**

**Canada Geese (Branta canadensis)**

Imagine it is a crisp winter morning with fog rising off the Great Bay Estuary when you hear a cacophony of honking in the distance. Scanning along the fringe of salt marsh grasses you spot a flock of large-bodied birds with long, slender black necks and black heads sporting a signature white chinstrap and white cheeks. You recognize them as geese, but are they Canada geese or Canadian geese? And, why haven’t they flown south for the winter?

There is often confusion surrounding the nomenclature of this large honking water bird. A female may be known as a goose or a dame, a male bird is referred to as a gander, and the young are known as goslings. A group of birds on land is a gaggle, but a group flying in the v-formation is called a skein. The plural form of goose is a gaggle, but a group flying in the v-formation is called a skein. The plural term “Canadian” to describe a gaggle of geese. Since the scientific name for this species is *Branta canadensis* and the common name is Canada goose, the accurate reference for a gaggle is Canada goose.

The Great Bay Estuary is part of the Atlantic Flyway migratory bird corridor, which was developed in 1951 to better manage migratory populations, and an important refuge for wintering Canada geese. There are seven recognized subspecies of Canada goose, and it is difficult to identify them to the subspecies level. In New Hampshire, there are three sub-populations of Canada geese: two migrant populations, the Maritime (North Atlantic) (NAP) and the Atlantic populations (AP), and a resident population. The Maritime population spends its summers breeding in the eastern Canadian provinces of Labrador and Newfoundland. They then fly along coastal waters to winter in the Great Bay Estuary and locations south to New Jersey. The other migratory species, the Atlantic population, will nest farther north on the Ungava Bay and pass-through New Hampshire’s Connecticut River Valley en route to their final winter destination in the Chesapeake Bay. The resident geese are the flocks hatching their young near open-water habitats in early June, and are primarily spotted inland during the winter here in New Hampshire.

The Great Bay Estuary offers wintering geese a variety of habitats, such as eelgrass meadows, tidal flats, salt marshes, and a rich selection of nutrient-dense foods. These water birds are primarily year-round herbivores, preferring grasses, sedges, nuts, and berries. Their winter diet will fluctuate, however, depending on the severity of snow and ice, and they can dabble underwater to eat fish if necessary. Canada geese are a monomorphic species, meaning the male and females look alike, with similar plumage. Pairs will mate for life and are together year round. The male within a given pair is usually slightly larger than the female, and during the breeding season the female is responsible for constructing the nest and incubating the eggs while the male will hover nearby guarding the nest. A typical clutch is 2–8 eggs with an incubation period lasting 25–28 days.

Canada geese benefit from the bounty of resources offered by the Great Bay Estuary. As you continue your chilly morning walk, you can ponder if the flock of geese are from the resident population or perhaps a mixture of both, but please do not refer to them as Canadian geese! As the chorus of honks begins to fade, the Canada geese continue to forage, seemingly unscathed by the cold of winter.

Elizabeth Carroll, Naturalist, GBNERR
Throughout the pandemic, people sought out outdoor places and experiences at an astonishing rate, and that shows little sign of waning. At the Great Bay Discovery Center, we see grandparents and grandchildren picnicking at the pavilion, artists enjoying plein-air painting, cancer patients meditating on the boardwalk, and local families taking strolls after dinner. As a place with no admission fee and a focus on access for all, the Center has become a location for populations often challenged by the cost of recreation and leisure, or physical access to experience the beauty of Great Bay. We need more places like the Discovery Center, and we are in the midst of creating another special site for people and nature.

In 2000, a 26.3-acre property in Greenland, NH, now known as Glenn Cove, was purchased from the Emery family by the New Hampshire Chapter of the Nature Conservancy (TNC) under the Great Bay Resource Protection Partnership. Soon afterward, the parcel was transferred to the New Hampshire Fish and Game Department (NHFG). The waterfront portion of the land (11.58 acres) and the seven associated buildings were put into a life estate until the passing of the family representative that sold the land. In the spring of 2019, that family member passed away and the management of the 11.58 acres and the collection of buildings on the land were transferred to NHFG. In 2020 and 2022, NHFG received federal and state funding to restore and repurpose this area for use by the Great Bay National Estuarine Research Reserve.

The funds raised through the Reserve and Great Bay Stewards, the friends group of the Reserve, will allow the complete vision for the property to be realized: creating visiting researcher housing, building a picnic and education pavilion with bathrooms, developing and installing historical exhibits, building a garage, and doing the site work necessary to make a welcoming and safe environment for the public. Detailed plans have been developed, and groundbreaking on this exciting project is scheduled for the spring of 2023.

Public Access for All

Great Bay, a recessed estuary located 16 miles inland from the Atlantic coast, has always been popular with local hunters, anglers, and kayakers. As suburban development boomed in the area in the 1980s and 90s, however, many traditional access points on local farms and fields were lost. Despite having more than 2,000 acres of land around Great Bay, the Reserve and NHFG do not have many public sites that are appropriate for water access and passive recreation opportunities that connect people to the Bay. The Great Bay Stewards recognize that the Glenn Cove project is an outstanding opportunity to connect
more people to the estuary. The parcel adds to a collection of four NHFG-owned parcels that protect approximately 130 acres of land and 4,000 feet of frontage on Great Bay. The property has unparalleled views of the estuary, is a short distance from the most populated parts of the New Hampshire Seacoast, and has a long history of traditional recreational uses, such as waterfowl hunting and ice fishing. The orientation of the land and the open fields provide unimpeded views of the estuary and beyond—all the way to the headwaters of the watershed in the Pawtuckaway Mountain range.

Research, Education, and Outreach

The new site will also enhance the programmatic goals of the Reserve. This includes a new location for the many education programs offered by the Reserve, including field trips for elementary school children, Teachers on the Estuary training for middle and high school educators, and summer and vacation-week camps. Adult public programming could include birding, kayak fishing, tree identification, invasive species removal, and gardening for wildlife.

The research program of the Reserve will be bolstered by the ability to bring and house visiting scientists, such as the National Estuarine Research Reserve System’s Margaret A. Davidson Fellows, Hollings Fellows, and Coastal Management Fellows. Glenn Cove itself already serves as the site of numerous research projects, including long-term monitoring of our saltmarshes and weather conditions. We believe that the increased public and programmatic use of this site will lead to an increase in people who appreciate, understand, and are willing to act on behalf of Great Bay.

Cory Riley, Manager, GBNERR

Glenn Cove is already being used by volunteers, staff and researchers. Left: the view looking west. Above: farm house to be renovated. Below: the view looking north to Great Bay Wildlife Refuge.
HOSTING AN INAUGURAL RESEARCH SYMPOSIUM FOR GREAT BAY

In October, with the help of fantastic partners, the Reserve hosted an inaugural Great Bay Research Symposium to foster more management relevant research about Great Bay. The event ‘sold out’ with 60 people joining the day-long event, including researchers and students from 4 universities and staff from 10 management agencies and nonprofits. Presentations were given by GBNERR staff and fellows, as well as local researchers/managers, centering on salt marshes, seagrasses, and oysters. Talks and interactive exercises were designed to share the latest science, spark ideas for future work, facilitate networking, and promote the Reserve as a “living laboratory.” At the end of the symposium, the group identified and prioritized ideas for future research, which included interest in studying the synergistic interactions between oysters and eelgrass and in creating a forum for research and restoration professionals to come together more often.

EVELYN BROWNE CONSERVATION AWARD

The Evelyn Browne Conservation Award was established in 1996 to honor the memory of a remarkable woman who dedicated her life to protecting the Great Bay Estuary. The award is presented annually by the Great Bay National Estuarine Research Reserve to an individual who has made a significant contribution toward the protection and conservation of the Great Bay Estuary. The Reserve is pleased to announce that this year’s award goes to Boyd Allen of Exeter, NH.

Boyd only began volunteering for the Reserve in 2020, but the depth and breadth of his involvement in every sector of the Reserve is the reason he was chosen. In his volunteer application, Boyd answered the question, “Why do you want to volunteer at Great Bay NERR?” with “To help safeguard a wonderful natural resource, share my love of science and sense of environmental stewardship with others.” In the short time Boyd has been with the Reserve, he has done that and then some!

Beginning as an educator with the school field trips, Boyd quickly graduated to becoming an exhibit room volunteer and a member of a crew of dedicated facilities volunteers. His strong science background gained as a math, history, and science teacher, as well as his professional career as a hydrologist and state regulator for Mass DEP, meant that he quickly gravitated toward the Reserve’s Research, Stewardship, and Coastal Training Programs.

Boyd has assisted in saltmarsh monitoring, environmental DNA work, stewardship events, and Coastal Training Program workshops and the research symposium held at the Reserve in the fall. He is an extraordinarily valuable volunteer whom the Reserve is lucky to have.
According to the U.S. Fish and Wildlife Service, bird watching has exploded into the number one sport in North America, with over 45 million birders in the U.S. alone. Some might argue that it isn’t a sport, but serious birders will walk miles to see a particular “life bird” for their “life list”, a stealthy competition in its own right. The Great Bay Discovery Center has been counting birds for over twenty years as part of Cornell University’s “Project FeederWatch”. The most species ever recorded in one day at the Center was 24, and 45 since counting began 22 years ago! Identifying and counting winter birds in your backyard is a wonderful way to engage every member of your family. Visit birds.cornell.edu to get started.

**MAKE YOUR OWN BIRDSEED ORNAMENTS**

1. Punch a hole in bottom of a paper cup.
2. Make a loop with the twine and feed two loose ends through hole into the cup so loop is sticking out through bottom of cup.
3. Mix a gelatin packet with ¼ cup boiling water and stir in 1 cup birdseed.
4. Scoop gelatin birdseed mixture into cup and allow to dry completely.
5. Peel off paper cup and hang your ornament for the birds.

- **BLACK-CAPPED CHICKADEE**
  Energetically bounces through tree branches looking for insects, seeds or berries. Chickadees are commonly seen at bird feeders, and favor black-oiled sunflower seeds which they hold in their feet and crack open and eat with their sharp beaks.

- **AMERICAN GOLDFINCH**
  Feeds on the ground, on weed stalks and foliage, eating seeds, insects, and berries. At feeders, goldfinch prefer thistle (niger) and sunflower seeds.

- **NORTHERN CARDINAL**
  Feeds by hopping around on the ground, gleaning food from low shrubbery and trees. Eats insects, spiders, wild fruits and berries, and weed seeds. A colorful regular to back yard feeders where it prefers safflower seed and cracked corn.
Grace McCulloch is a graduate student at the University of New Hampshire who is preparing for a career focused on protecting vulnerable ecological communities. Great Bay NERR is fortunate to welcome her as our new Margaret A. Davidson Fellow. She will be joining us at the Reserve for the next two years and has spent this past summer researching habitat use of the saltmarsh sparrow, a state listed Species of Greatest Conservation Need. Grace’s masters research is focusing on tidal marsh birds across New Hampshire, documenting their distribution and relative abundance, along with the factors that predict this. Next summer, you may see Grace in one of Great Bay’s saltmarshes under her giant multicolored umbrella. Welcome Grace!

Volunteer for Great Bay!

- **Volunteer Educators:** Help us teach students about the natural history of Great Bay. Spend time outside and connect students to the estuary. Training is all day April 13. Lunch is provided. Registration is required.

- **Exhibit Room:** Help visitors learn about Great Bay, hold a horseshoe crab, and more. Training is April 6, 9:00 a.m. - 12:30 p.m.

- **Do you love to get outside?** We have flexible opportunities beginning in March, including phenology, gardening, watering crew, and more.

Contact Melissa at melissa.brogle@wildlife.nh.gov or 603-778-0015 with questions or to be added to our volunteer list.
Last spring the Great Bay National Estuarine Research Reserve asked the Great Bay Stewards to raise matching funds to help secure a large federal grant, and our Board of Trustees answered their call. In order to ensure the long-term success of the “Glenn Cove Project”, the Stewards set a goal of raising $450,000 to meet and exceed the grant’s match requirement. Funds raised will support construction of the pavilion, bathrooms, and a parking area for visitors to Glenn Cove. Additional funds will supply furnishings and finish work on the historic farmhouse, landscape as needed around the property, as well as funding for future repairs and maintenance.

Glenn Cove represents a site of historical importance and beautiful new open lands to better connect people to Great Bay – one of the foremost goals of the Stewards. We’ve been thrilled by the potential of this property as we explored it over the last several years and helped plan its future with the Reserve staff. It is important to note this project will now provide easy access to enjoy the beauty of Great Bay for those with limited mobility.

We cannot wait to welcome you to visit this site - please drop us a line if you’d like a tour of your own. The Stewards are extremely grateful for the businesses, foundations, and individual donors who have already joined us in raising funds for Glenn Cove.

Now we need your help to cross the finish line. Please join us in supporting this incredible project. Follow the QR code or find out more online at greatbaystewards.org.

The Stewards look forward to meeting you at beautiful Glenn Cove in the future – whether birdwatching, picnicking, kayaking, ice fishing, cross country skiing, watching a fabulous sunset, or celebrating at a special event. It’s a great time to make a difference.

Deb Alberts, Chair, Great Bay Stewards

Great Bay 5K

With almost 800 registered runners and a cool but sunny morning, we were thrilled to hold the 24th annual Great Bay 5K Race for a Healthy Estuary this past October. Congratulations to Jake Brown who won the men’s race with a time of 15:04, and Shannon Murdock of Portsmouth, N.H., the top finisher on the women’s side with a time of 17:21.

Participating for the first time, the race team Float Track Club snatched the New England Oyster Cup from past two-time winner Runner’s Alley, coming in as the fastest mixed team.

We are grateful for the sponsorship of Sprague Operating Resources, M&T Bank, Appledore Real Estate, Oyster River Running Company, Northeast Delta Dental, Holy Rosary Credit Union, D.F. Richard, Coca-Cola Bottling Company of New England, Bodywise Physical Therapy & Wellness, Durham-Great Bay Rotary Club, Duke Chiropractic, and First Student. Breweries who participated in providing a beer for runners over the weekend of the race were Deciduous Brewing Company, Liars Bench Beer Co., Sawbelly Brewing, North Country Hard Cider, Stoneface Brewing Co., and Tributary Brewing Co., with The Franklin offering a half dozen oysters to race participants who visited the same weekend.

PLEASE JOIN US!

All interested parties are cordially invited to become Great Bay Stewards. Members receive Great Bay Matters and other pertinent mailings.

Annual dues may be paid by check made payable to the Great Bay Stewards and sent to: GBS Membership Committee, 89 Depot Road, Greenland, NH 03840

☐ Guardian $150 ☐ Protector $75
☐ Steward/Family $35 ☐ Student $20 ☐ Other $__________

name __________________________________________
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