



EMAIL (elizabeth@reedhilderbrand.com)

Ms. Elizabeth Randall Reed Hilderbrand LLC Landscape Architecture 130 Bishop Allen Drive Cambridge, MA 02139

Re: **Natural Resources Inventory**

> Former Cape Cod Sea Camps Properties Bay Parcel - 3057 Main Street (Map 101, Lot 45)

Brewster, Massachusetts

Dear Ms. Randall:

As requested, LEC Environmental Consultants, Inc., (LEC) has prepared this Natural Resources Inventory (NRI) Report for the 55± acre former Cape Cod Sea Camp Property located at 3057 Main Street (Route 6A), affording frontage on Cape Cod Bay in Brewster (the "Bay Parcel"). LEC conducted site evaluations on November 21, 2022 and November 22, 2022, and delineated/GPS survey-located Wetland Resource Area boundaries on January 11, 2023 and January 12, 2023. This NRI Report documents existing site conditions, habitat cover types, topography, hydrology, and soil characteristics to ascertain potential wildlife species utilization, complementing direct wildlife observations, in addition to providing a wetland regulatory assessment. Representative drone and on-the-ground photographs are included within Attachment K.

Existing Conditions

The 55± acre Property affords frontage along Main Street (Route 6A) to the south and Cape Cod Bay to the north (Attachment A and B). Scattered residential development abuts to the east and west, and south, across Main Street (Route 6A). Minimal undeveloped land immediately surrounds the residential development. The 24± acre town-owned Spruce Hill Conservation Area is located immediately to the east, opposite a dirt/gravel driveway that provides access to a single-family residential property located at 3137 Main Street. A 0.35± acre Brewster Conservation Trust property is present immediately south of Main Street. No other Open Space parcels are immediately adjacent; however, some exist within the vicinity of the Property, as depicted on the Open Space Map (Attachment C), including the expansive Nickerson State Park located to the southeast.

The Property itself contains various former camp facilities, including 80+ buildings (cabins, administrative building, etc.) and an assortment of amenities (e.g., swimming pool, playing fields,

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tennis and basketball courts, arts center, boathouse, archery/rifle ranges, etc.). The Bay Parcel is primarily accessed via a southwesterly paved (gated entrance) driveway that loops throughout the campus connecting buildings and amenities. A secondary (gated) gravel driveway is present within the southeasterly portion of the site.

An 8± acre open field exists within the southwesterly portion of the site, abutting Main Street (Route 6A), and contains playing fields (baseball, football, soccer). Smaller playing fields and/or grassed areas are also more present on-site further to the north. A variety of buildings are distributed throughout the Property, often amongst small patches of Forested Upland and/or standing, isolated mature trees. Scattered fragments Forested Upland are present throughout the Property at varying sizes, more established within the eastern portion of the Property. Fringing Forested Upland occurs along the westerly Property line. The Property lacks any substantive tracts of contiguous Forested Upland.

Coastal Beach and Coastal Dune occupy the northern portion of the Property abutting Cape Cod Bay. The easterly on-site Coastal Dune also qualifies as a Barrier Beach. Tidal flats are associated with the Coastal Beach. Beach access is currently provided via two paths located within the northwesterly and north-central portion of the Property. Walking paths meander through portions of the Coastal Dune. Sand drift fencing is present at the toe of the Coastal Dune, on the Coastal Beach.

A $1.4\pm$ acre Pond and associated Bordering Vegetated Wetlands (BVW) are located within the northeasterly portion of the Property. A dock is present within the southwesterly portion of the Pond. Walking paths and at-grade boardwalks also extend through portions of the BVW, proximate to the Pond. An Isolated Vegetated Wetland (IVW) exists immediately south/southwest of the BVW.

A paved parking lot for public beach access was recently constructed in 2022 within the northerly portion of the site, replacing five (5) tennis courts. Two tennis courts remain immediately north of the parking lot. Considering that the proposed redevelopment occurred within the 100-foot Buffer Zone to protectable Coastal Resource Areas, the project received an Order of Conditions (DEP File #SE9-1924) from the Brewster Conservation Commission on April 27, 2022, specifically approving the *milling*, repairing, and installing overlay pavement for an existing area of asphalt pavement, adjusting and paving an existing gravel access roadway, constructing an access driveway from an existing roadway, installing two stormwater management systems, and managing an access path to the beach. The project includes areas on and within 50 and 100 feet of coastal wetlands. The boundaries to Coastal Beach, Coastal Dune, and Land Subject to Coastal Storm Flowage were not confirmed under the Order. The public beach is now named First Light Beach.

Soils and Topography

According to the NRCS Web Soil Survey (**Attachment D**), the upland portions of the Property are mapped as Plymouth loamy coarse sands, Carver coarse sands, and Carver-Hinesburg loamy coarse sands. The Plymouth soil series are excessively drained sandy soils formed in glaciofluvial or deltaic deposits derived largely from siliceous rocks. The Carver soil series are excessively drained and formed

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in glaciofluvial deposits of coarse and very coarse sands. Carver-Hinesburg loamy coarse sands are hilly and steep, very deep, excessively drained soils, on side slopes, ridges, and hills in areas of ice-contact deposits. The upland soils are not identified as Prime Farmland Soils by MassGIS.

The BVW is generally identified on the soil maps as Deerfield loamy fine sands that are very deep, moderately well drained soils formed in glaciofluvial deposits. The Coastal Dune area is generally represented by the Hooksan-Dune land complex (soil series).

Topography on-site gradually ascends northward from Main Street/Route 6A towards the central portion of the site before descending to the north and northwest, generally towards the Wetland Resource Areas. The centrally located topographic high point of the Property is at/around El. 60, which generally continues off-site to the east.

Habitat Cover Types

As mentioned above, the majority of the Property is occupied by developed conditions with fringing or patchy Forested Upland. Open Field conditions dominate the southerly portion of the Property. Bordering Vegetated Wetlands (BVW) extend off the Pond and a small Isolated Vegetated Wetland (IVW) is present immediately southwest of the Pond. The Coastal Dune and Coastal Beach within the northerly portion of the site is also described further below. Habitat cover types are depicted on the *Habitat Cover Type Map* (**Attachment E**).

Open Field

Approximately half of the 8± acre open field within the southwesterly portion of the site, abutting Main Street, is comprised of playing fields (baseball, football, and soccer). Surrounding field conditions resemble a Cultural Grassland; however, native grasses may be dominant. The entirety of the Open Field is actively mowed and the shorn grasses were not identifiable at the time of the site evaluations. Scattered trees, primarily eastern red cedar (*Juniperus virginiana*), and shrubs occur intermittently.

Forested Upland

PLYMOUTH, MA

WAKEFIELD, MA

The fringing and patchy Forested Upland conditions vary across the Property. The Forested Upland present is relatively typical of pine-oak communities found across Cape Cod; however, invasive vegetation is prevalent within select areas, as described below. Forested Upland conditions within the northerly portion of the site, abutting the Coastal Dune may be best characterized as a Maritime Forest.

Within the southerly portion of the site, the fringing Forested Upland along the westerly Property line and abutting the paved entrance roadway is primarily occupied by invasive black locust (*Robinia pseudoacacia*) trees with bush honeysuckle (*Lonicera* sp.), privet (*Ligustrum* sp.), and multiflora rose (*Rosa multiflora*) shrubs, and Asiatic bittersweet (*Celastrus orbiculata*) and Japanese honeysuckle (*Lonicera japonica*) entanglements dominating the understory. Similar invasive vegetation is also found within the southeasterly portion of the site abutting the secondary (gated) gravel access road and buildings, in addition to scattered invasive tree-of-heaven (*Ailanthus altissima*) and native black oak

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(Quercus velutina), white oak (Quercus alba), black cherry (Prunus serotina), and pitch pine (Pinus rigida) trees. Poison ivy (Toxicodendron radicans) occupies portions of the groundcover along with seedlings and English ivy (Hedera helix) that also encases trees with Asiatic bittersweet. Invasive winged euonymus (Euonymus alatus) is prevalent along the westerly edge of the playing fields.

Northeast of the playing fields, the patchy Forested Upland transitions to more of a partially to moderately open canopy of native oaks and pitch pine trees nestled amongst cabins. The understory appears to have been historically actively managed with small patches and individuals of saplings, bayberry (*Myrica pensylvanica*), and poison ivy remaining.

Larger stands of Forested Upland are present within the northeasterly portion of the site, north of the swimming pool area; however, bisected by various trails and roads. The northeasterly Forested Upland is largely dominated by oaks and pitch pine with the understory and groundcover composed of variable black huckleberry (*Gaylussacia baccata*), bayberry, bush honeysuckle, nannyberry (*Viburnum lentago*), arrowwood (*Viburnum dentatum*), lowbush blueberry (*Vaccinium angustifolium*), common greenbrier (*Smilax rotundifolia*), and poison ivy. Similar Forested Upland habitat conditions fringe along the northwesterly Property line.

Maritime Forest habitat is present east/northeast of the recently constructed beach parking lot, abutting the Coastal Dune and BVW, in addition to immediately west of the First Light Beach access. The Maritime Forest contains tupelo (*Nyssa sylvatica*) stands amongst various oak, black cherry, and sassafras (*Sassafras albidum*) trees and saplings. The understory is intermittently occupied by bush honeysuckle, privet, and arrowwood. Pitch pine and eastern red cedar trees and/or saplings sporadically are present along the edge of adjacent developed conditions along with invasive species consisting of autumn olive (*Elaeagnus umbellata*), winged euonymus, and Asiatic bittersweet.

As noted above, standing, isolated mature trees are scattered throughout the interior of the campus amongst buildings. The majority of the standing trees are black oak at 12-36± inch dbh with intermittent white oak, pitch pine, spruce (*Picea* sp.), black cherry, and black locust.

Invasive vegetation, listed as "Invasive" plants by the Massachusetts Invasive Species Plant Advisory Group (MIPAG), across the Property is more common along the edges of developed conditions, most notably abutting areas where vegetative debris has been stored or stockpiled. Small concentrations of invasive weeping lovegrass (*Eragrostis curvula*) and cypress spurge (*Euphorbia cyparissias*) (likely-invasive) were also observed proximate to Building #40 within the northeasterly portion of the Property. Additional herbaceous invasive species (e.g., garlic mustard) may also be present on-site; however, were not detectable at the time of the site evaluations due to the seasonality of their vegetative stages.

Vegetated Wetlands

The site contains Bordering Vegetated Wetlands (BVW) associated with an unnamed Pond and intermittent stream/drainage ditch, and an Isolated Vegetated Wetland (IVW). LEC demarcated the wetland boundaries on January 11, 2023, in accordance with the *Massachusetts Wetlands Protection Act*

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(M.G.L. c. 131 ss. 40) and its implementing *Regulations* (310 C.M.R. 10.00), and Town of Brewster *Wetlands Protection Bylaw* (Chapter 172) and *Wetlands Regulations* (1.01 -5.01). The wetland boundaries were based on the observations of the existing plant communities, using the "fifty percent criteria" to determine dominance of wetland/upland vegetation, the interpretation of soil characteristics, and other indicators of hydrology, in accordance with the following: *Delineating Bordering Vegetated Wetlands under the Massachusetts Wetlands Protection Act* (March 1995), prepared by MassDEP; *Field Indicators for Identifying Hydric Soils in New England-Version 4, June 2018* and *A Field Companion to Field Indicators for Identifying Hydric Soils in New England Version 4, dated May 2017*; *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Northcentral and Northeast Region* (January 2012); and local *Bylaw/Regulations*.

Wetland flags A1-A40 (BVW), and B1-B6 (IVW) are depicted on the *Wetland Map* (**Attachment F**). The wetland flags were GPS-located by LEC utilizing a Trimble Handheld GEO XH-7000 Global Positioning System (GPS) unit with a post-processing accuracy ranging from 1-100 cm. The GPS data is intended for planning purposes only. Should a project proceed forward with permitting, a professional land surveyor or registered engineer will need to survey-locate the flags and plot them on a stamped survey plan.

Bordering Vegetated Wetlands

Flag numbers A1-40 generally represent Forested Wetland (BVW) extending west off the Pond. The Forested Wetland is dominated by tupelo with a variable understory of sweet pepperbush (*Clethra alnifolia*), highbush blueberry (*Vaccinium corymbosum*), swamp azalea (*Rhododendron viscosum*), bayberry, and common greenbrier within the understory. Sphagnum moss (*Sphagnum* sp.), cinnamon fern (*Osmunda cinnamomea*), and seedlings occupy portions of the groundcover. Leatherleaf (*Chamaedaphne calyculata*) and swamp loosestrife (*Decodon verticillatus*) occur at the southwesterly and westerly edges of the Pond. The northeasterly edge of the Pond and abutting BVW is dominated by a dense, monoculture stand of invasive common reed (*Phragmites australis*). An elevated boardwalk crosses the easterly edge of the Pond, extending parallel to the Property line.

A drainage ditch/intermittent stream is located within the northeasterly portion of the Pond, extending northward towards the Coastal Beach. Bank/BVW associated with the ditch is defined by flags A29-A36. A small boardwalk crosses the ditch just north of flags A29 and A36. The 1-3± foot wide ditch tapers to the north before terminating at accumulated wind-blown sand deposits associated with the Coastal Dune. The ditch is defined by sandy embankments and overhanging oak saplings, poison ivy, seaside rose (*Rosa rugosa*). *Phragmites* dominates the ditch closer to the Pond. The ditch appears to have been manmade to drain the Pond towards Cape Cod Bay during high water periods; however, salt water from the Bay may enter the Pond during extreme storm events. The ditch does not experience daily tidal inundation. The stream is depicted on the USGS Topographic Map (Attachment A), but is clearly intermittent and does not flow through the year under normal (non-drought) conditions (i.e., perennial). The stream only

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experiences periodic flow during high water conditions or storm events. The intermittent stream does not have a 200-foot Riverfront Area.

Based on the dominance of freshwater vegetation around the water body and apparent infrequent salt water intrusion and limited salt spray influence, the Pond appears to be primarily freshwater. Excluding the *Phragmites* within the northerly/northeasterly portion of the Pond, the remaining species (see above) consist of freshwater vegetation that generally do not tolerate saline conditions. The Pond does not have any apparent fluvial surficial freshwater inputs (i.e., tributaries discharging to), and therefore is likely influenced by groundwater (spring-fed) with minimal surficial runoff from the surrounding microwatershed area. LEC is unaware of any salinity testing within the water body.

Should the Pond be saline, it would qualify as a Salt Pond under the WPA Regulations at 310 CMR 10.33 and *Bylaw Regulations* at Section 2.07 similarly defined as *a shallow enclosed or semi-enclosed body of saline water that may be partially or totally restricted by barrier beach formation.*

Isolated Vegetated Wetlands

The IVW located southwest of the Pond occurs within a shallow, oval-shaped depression occupied by winterberry (*Ilex verticillata*) and elderberry (*Sambucus canadensis*) shrubs and dense Asiatic bittersweet and common greenbrier entanglements.

In addition to high groundwater contributions, the IVW appears to receive surficial runoff from the upgradient paved driveway adjacent to Buildings 38 and 40. Runoff appears to flow overland from the paved surface, across the gravel/sandy path, and then towards the IVW. The IVW does not appear to hold significant standing water based on visible water marks, but does become saturated at the surface as evidenced by the presence of water-stained leaves. The IVW does not appear to provide vernal pool habitat characteristics. Although not jurisdictional under the WPA, the IVW qualifies as a protectable Vegetated Wetland under the Brewster Wetlands Protection Bylaw & Regulations.

Coastal Resource Areas

Coastal Dune

PLYMOUTH, MA

WAKEFIELD, MA

The rolling Coastal Dune is vegetated by a multitude of plants, including, but not limited to black oak, black cherry, pitch pine, beach plum (*Prunus maritima*), bayberry, seaside rose, poison ivy, false heather (*Hudsonia tomentosa*), and American beachgrass (*Ammophila breviligulata*). As stated above, walking paths meander throughout the Coastal Dune, in addition to two (open) beach access paths. The Coastal Dune is relatively well vegetated, excluding the paths and a denuded area within the central portion of the dune where a swimming pool was previously located. Invasive vegetation was observed within portions of the Coastal Dune, though in lower densities. Invasive species include autumn olive, bush honeysuckle, Asiatic bittersweet, and Japanese honeysuckle.

The seaward face of the Coastal Dune is composed of a mosaic of rolling vegetated surfaces, sloughing vegetation, and unvegetated, steep vertical cuts/embankments due to erosion from winds and storms.

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The landward Coastal Dune boundary is defined by flags CD 1-24 and BVW flags A20-A44, where the Coastal Dune abuts the BVW north of the Pond as depicted the *Wetland Map* (**Attachment F**).

Coastal Beach

Coastal Beach with expansive tidal flats extending into Cape Cod Bay occurs landward of the Coastal Dune scarp (beach/dune interface). The Coastal Beach is mostly composed of fine sand with pockets of cobble and small rocks. Sand drift fencing is present on the Coastal Beach, at the toe of the Coastal Dune.

Shoreline Change

Shorelines change constantly in response to wind, waves, tides, sea level fluctuation, seasonal and climatic variation, human alteration, and other factors that influence the movement of sand and other material within a shoreline system.

The MA Coastal Zone Management (CZM) Shoreline Change Project/Massachusetts Ocean Resource Information System (MORIS) provides shoreline change data for long-term trends (1840s-2014) and short-term trends (1970-2014). Using historical and modern sources, transects are established at 50-meter (164 feet) intervals along the shoreline, providing data on net distances of shoreline movement, change rates, and uncertainty values.

Along the site's frontage on Cape Cod Bay and immediate vicinity, the long-term rates generally vary between -0.3 to -0.7 feet/year (erosion); however, one transect yielded no statistical change. The short-term trends are classified as no statistical change, but vary between -0.9 to 0.4 feet/year.

As evident by the accumulation of wind-blown sand within the northerly remaining tennis courts, continued landward migration of the Coastal Dune is expected in the short-term.

FEMA Mapping

PLYMOUTH, MA

According to the July 16, 2014 FEMA Flood Insurance Rate Map (FIRM) for Barnstable County (*Map Number 25001C0418J*), the northerly portion of the Property within the Coastal Dune and Coastal Beach is located within a Flood Zone VE (El. 15), *Special Flood Hazard Areas (SFHAs) Subject to Inundation by the 1% Annual Chance Flood—Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.* Remaining portions of the Property are located within Zone X, *Areas determined to be outside the 0.2% annual chance floodplain* (**Attachment G**).

Natural Heritage and Endangered Species Program Designation

According to the 15th Edition of the *Massachusetts Natural Heritage Atlas* (effective August 1, 2021) published by the Massachusetts Natural Heritage and Endangered Species Program (NHESP), upland portions of the Property are not located within a *Priority Habitat of Rare Species* and *Estimated Habitat of Rare Species* (**Attachment H**). Priority Habitat 474 (PH 474) minimally extends onto the northeasterly corner of the Property and is confined to a narrow section of the Coastal Beach along the intertidal zone. PH 474 extends for approximately 700± linear feet, continuing off-site to the northeast,

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and is presumably associated with foraging habitat for two rare birds: piping plover (*Charadrius melodus*) and/or common tern (*Sterna hirundo*). PH 892 occurs 660± linear feet northeast of the Property and includes Coastal Beach and Coastal Dune areas proximate to Linnell Landing Beach where shorebirds are known to nest.

Off-shore portions of Cape Cod Bay are also located within a Priority Habitat (PH 892), presumably for state-listed marine species.

No Certified or Potential Vernal Pools as mapped by MassGIS are located within or in the immediate vicinity of the Property.

Eastern Prickly Pear (*Opuntia humifusa*) has been documented within the adjacent Spruce Hill property and may be present on-site, potentially within the Coastal Dune proximate to the Pond. Eastern Prickly Pear is a state-listed "Endangered" species protection under the *Massachusetts Endangered Species Act* (MESA) *Regulations*. NHESP protects native Eastern Prickly Pear individuals and populations; however, transplanted (introduced) populations may be treated on a site-specific basis. Further evaluation, including field surveys for Eastern Prickly Pear may be necessary prior to any potential work activities in potential habitat areas and/or coordination with NHESP if documented on-site.

BioMap

MassWildlife and The Nature Conservancy, with support from the Executive Office of Energy and Environmental Affairs, released the newly-updated BioMap tool in November 2022, to guide strategic protection and stewardship of lands and waters that are the most important for conserving biological diversity in Massachusetts. BioMap conservation targets are organized into two main elements: Core Habitat and Critical Natural Landscape (CNL). Core Habitat identifies key areas that are critical for the long-term persistence of rare species, exemplary natural communities, and resilient ecosystems across the Commonwealth. Critical Natural Landscape identifies larger natural landscape blocks that are minimally impacted by development, as well as buffers to core habitats and coastal areas, both of which enhance connectivity and resilience.

According to *BioMap* MassGIS data layers, the Property is not located within a "Critical Natural Landscape." Core Habitat minimally extends onto the northeasterly portion of the Coastal Beach, coincident with the NHESP rare species mapping (**Attachment I**).

Area of Critical Environmental Concern

The project site does not lie within an Area of Critical Environmental Concern (ACEC).

Wildlife

PLYMOUTH, MA

Portions of the Property may provide important food, shelter, breeding, migratory, and overwintering habitat for wildlife species. However, wildlife habitat functions may be limited considering the developed nature of the Property, lack of a substantive and contiguous Forested Upland, and extent of

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invasive species within certain areas, in addition to the surrounding residential development. Significant wildlife habitat is associated with the Coastal Dune, Coastal Beach, BVW, and Pond Resource Areas occupying the northerly portion of the Property that provide a critical link to adjoining habitats along the shoreline to Cape Cod Bay. Northeasterly Forested Upland habitat areas also provide a valuable habitat connection to the easterly abutting 24-acre± town-owned Spruce Hill Conservation Area. While scattered amongst developed conditions, the isolated, standing mature trees on-site do provide important habitat for birds and semi-arboreal mammals.

The following reviews wildlife species that are likely to utilize the Property based on existing habitat conditions, complementing LEC's direct wildlife observations; however, it is important to note that LEC's site evaluations were limited in nature and not conducted during the active season for most species.

Mammals

PLYMOUTH, MA

WAKEFIELD, MA

Mammals likely to utilize the Property, or portions thereof, include but are not limited to white-tailed deer (*Odocoileus virginianus*), eastern coyote (*Canis latrans*), red fox (*Vulpes vulpes*), fisher (*Martes pennanti*), raccoon (*Procyon lotor*), skunk (*Mephitis mephitis*), eastern cottontail (*Sylvilagus floridanus*), gray squirrel (*Sciurus carolinensis*), eastern chipmunk (*Tamias striatus*), deer mice (*Peromyscus* sp.), meadow voles (*Microtus* sp.), and/or common mole (*Scalopus aquaticus*).

The Property may provide limited summer foraging and sheltering habitat for various bats; eight (8) bats have been documented within the nearby Cape Cod National Seashore (CCNS). The most common bat documented within the CCNS is the big brown bat (*Eptesicus fuscus*). The Property could provide habitat for the state and federally listed Northern Long-Eared Bat (NLEB, *Myotis septentrionalis*), currently listed as "Endangered" under the *Massachusetts Endangered Species Act* (MESA) and "Threatened" under the federal *Endangered Species Act* (ESA). Potential habitat for the NLEB is identified statewide by the US Fish and Wildlife Service (USFWS) and subject to a Final 4(d) rule under the ESA, effective February 16, 2016. Projects that result in tree removal activities shall comply with the 4(d) rule under the ESA, which states:

"Incidental take resulting from tree removal is prohibited if 1) Occurs within 0.25 mile radius of known northern long-eared bat hibernacula or 2) cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot radius from the known maternity tree during the pup season (June 1 through July 31)."

According to the online database maintained by MA NHESP, current as of January 2021, (http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-information-and-conservation/rare-mammals/northern-long-eared-bat.html), the Property is not located within 0.25 miles of a known hibernacula or 150 linear feet of a known maternity roost tree. The closest known maternity roost tree has been documented in Eastham, approximately 4.4± miles away. No NLEB hibernacula have been documented on Cape Cod per NHESP's database.

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USFWS has reclassified the NLEB as "Endangered," now effective March 31, 2023, nullifying the current 4(d) Rule. USFWS are in the process of providing guidance and additional review/consultation may be necessary if forested conversion (tree clearing) is proposed in the future.

NLEB habitat restoration, potentially including, but not limited to creating artificial hibernacula and/or roost structures may be beneficial for the species, especially if any mature trees (potential roost trees) are proposed for removal in the future.

Birds

The Property may provide habitat for various year-round, migrant, and breeding avian species, including but not limited to mourning dove (*Zenaida macroura*), gray catbird (*Dumetella carolinensis*), chipping sparrow (*Spizella passerina*), song sparrow (*Melospiza melodia*), black-capped chickadee (*Poecile atricapillus*), tufted titmouse (*Baeolophus bicolor*), house wren (*Troglodytes aedon*), common yellowthroat (*Geothylpis trichas*), blue jay (*Cyanocitta cristata*), northern cardinal (*Cardinalis cardinalis*), tree swallow (*Tachycineta bicolor*), American robin (*Turdus migratorius*), Canada goose (*Branta canadensis*), American crow (*Corvus brachyrhynchos*), red-bellied woodpecker (*Melanerpes carolinus*), downy woodpecker (*Picoides pubescens*), brown creeper (*Certhia americana*), and/or white-breasted nuthatch (*Sitta carolinensis*), and osprey (*Pandion haliaetus*). Yellow-rumped warblers (*Setophaga coronata*), golden-crowned kinglets (*Regulus satrapa*) and red-breasted nuthatches (*Sitta canadensis*) are likely present during the winter months.

The Coastal Beach on the Property is located within the expansive "Brewster -Eastham Flats" Important Bird Area (IBA), as identified by MassAudubon, and includes approximately 9.7 miles of shoreline, over 3,500 acres of tidal flats, and almost 600 acres of Salt Marsh. The IBA hosts a multitude of shorebirds, including, but not limited to piping plover, terns, and brant (*Branta bernicla*). Black-bellied plovers (*Pluvialis squatarola*), sanderlings (*Calidris alba*), and dunlins (*Calidris alpina*) use the area during fall migration and early winter.

Linnell Landing Beach, located to the northeast, has been identified as a Cornell University eBird Hotspot with over ninety-seven (97) species identified (**Attachment J**). Most of the species are likely to utilize the property, or portion thereof.

Reptiles/Amphibians

The Property may provide habitat for the following snakes: eastern garter snake (*Thamnophis sirtalis*), milk snake (*Lampropeltis triangulum*), and northern black racer (*Coluber constrictor*); amphibians: eastern red-backed salamander (*Plethodon cinereus*), and American toad (*Anaxyrus americanus*); and turtles, painted turtles (*Chrysemys picta*) and snapping turtles (*Chelydra serpentina*) primarily associated with the Pond and the BVW.

While the Property is not located within a NHESP-mapped Priority/Estimated Habitat, suitable habitat conditions are present for the state-listed Eastern Box Turtle (*Terrapene carolina*). This species utilizes

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forested uplands similar to the more contiguous stands found on the Property for its foraging, sheltering and over-wintering habitat requirements.

Habitat utilization of the Pond by amphibians and turtles is dependent salinity levels. Should salinity levels be low, painted turtles and snapping turtles may be present, while amphibians (i.e., spring peepers (*Pseudocris crucifer*), wood frogs (*Rana sylvaticus*) or spotted salamanders (*Ambystoma maculatum*) may utilize the edges of the Pond and/or abutting seasonally inundated portions of the BVW/Forested Wetland.

Fish

Fish may be present within the Pond; however, they were not observed during site investigations due to the time of the year. Any fish population would be dependent upon salinity levels. Under existing conditions, the intermittent stream/drainage ditch does not function as an anadromous/catadromous fish run.

Wetland Regulatory Implications

Wetlands, (Isolated) Vegetated Wetlands, Bank, Land Under Water, Coastal Beach, Coastal Dune, Barrier Beach, Land Under the Ocean, and Land Subject to Coastal Storm Flowage (LSCSF). These Wetland Resource Areas are protected under the *Massachusetts Wetlands Protection Act* (WPA, M.G.L. c. 131 ss. 40) and its implementing *Regulations* (310 C.M.R. 10.00), and/or Town of Brewster *Wetlands Protection Bylaw* (Chapter 172) and *Wetlands Regulations* (1.01 -5.01).

Wetland Resource Area boundaries are subject to regulatory review and approval by the Brewster Conservation Commission and/or MassDEP. Wetland Resource Area boundaries can be confirmed via filing an Abbreviated Notice of Resource Area Delineation (ANRAD) Application with the Conservation Commission and MassDEP.

The WPA Regulations and local *Bylaw Regulations* maintain performance standards for work proposed within Resource Areas and/or the 100-foot jurisdictional Buffer Zone. The on-site or immediately adjacent Wetland Resource Areas are likely to be significant to the following interests/values protected under the WPA Regulations or *Bylaw Regulations*: public and private water supply, groundwater supply and quality, water quality, flood control, storm damage prevention, erosion and sedimentation control, prevention of pollution, wildlife or wildlife habitat, fisheries, aesthetics, and historic values.

Should the Pond be saline and qualify as a Salt Pond under the WPA Regulations at 310 CMR 10.33 and *Bylaw Regulations* at Section 2.07, Land Under Salt Ponds would also be present. To reiterate, a Salt Pond is a shallow enclosed or semi-enclosed body of saline water that may be partially or totally restricted by barrier beach formation.

The following reviews the Wetland Resource Areas and performance standards in greater detail.

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PLYMOUTH, MA WAKEFIELD, MA WORCESTER, MA RINDGE, NH EAST PROVIDENCE, RI



Bordering Vegetated Wetlands (BVW)

BVW is defined in 310 CMR 10.55(2) as freshwater wetlands which border on creeks, rivers, streams, ponds and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants.

BVW is also afforded protection under Section 3.02-Vegetated Wetlands of the Bylaw Regulations.

The BVW, demarcated by flags A1-A40, is described above.

The WPA Regulations have specific performance standards for work within BVW. Section 3.02 of the Bylaw Regulations states that no activity, other than the maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of a vegetated wetland, or of land within 50 feet of a vegetated wetland, shall be permitted by the Conservation Commission, except for activity which is allowed under a variance from these regulations granted pursuant to Section 5.01... Any activity which is allowed under a variance granted pursuant to Section 5.01 of these regulations upon or within 50 feet of a vegetated wetland shall not impair in any way the vegetated wetland's ability to perform any of the functions set forth in Section 3.02 (1).

(Isolated) Vegetated Wetlands

PLYMOUTH, MA

WAKEFIELD, MA

According to Section 3.02 of the *Bylaw Regulations*, *Vegetated Wetlands are freshwater wetlands*. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. They are areas where the topography is low and flat, and where the soils are annually saturated. The ground and surface water regime and the vegetational community which occur in each type of freshwater wetland...

The IVW, demarcated by flags B1-B6, is described above and protected under the *Bylaw/Regulations*.

An IVW is also located off-site to the west on Parcel 102-13 (178 Bonnie Doone Cartway), behind Units 17-19, as depicted on the *Habitat Cover Type Map* (**Attachment E**). Based on recent approvals and plans of record, the IVW appears to be located slightly greater than 25 feet from the easterly property line. The IVW does not appear to provide Vernal Pool habitat and is vegetated primarily by tupelo and highbush blueberry. The *Bylaw*-jurisdictional 100-foot Buffer Zone extends partially on-site.

As reviewed above, the *Bylaw Regulations* states that *no activity, other than the maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of a vegetated wetland, or of land within 50 feet of a vegetated wetland, shall be permitted by the Conservation Commission, except for activity which is allowed under a variance from these regulations granted pursuant to Section 5.01... Any activity which is allowed under a variance granted pursuant to Section 5.01 of these regulations upon or within 50 feet of a vegetated wetland shall not impair in any way the vegetated wetland's ability to perform any of the functions set forth in Section 3.02 (1).*

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RINDGE, NH

EAST PROVIDENCE, RI



Bank

Bank is defined at 310 CMR 10.54 and Section 3.01 of the *Bylaw Regulations* as the portion of the land surface which normally abuts and confines a water body. A Bank may be partially or totally vegetated, or it may be comprised of exposed soil, gravel, or stone. The upper boundary of a Bank is the first observable break in the slope of the mean annual flood level, whichever is lower. The lower boundary of a Bank is the mean annual low flow level.

Bank is associated with the Pond and was not separately demarcated. Wetland flags A29-A36 demarcate Bank to the intermittent stream/drainage ditch, as described above.

The WPA Regulations and *Bylaw Regulations* have specific performance standards for proposed work on a Bank. Section 3.01 of the *Bylaw Regulations* also states that *no activity, other than the maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of a bank, on land within 50 feet of any bank, shall be permitted by the Conservation Commission, except for activity which is allowed under a variance from these regulations granted pursuant to Section 5.01. Furthermore, the <i>Bylaw Regulations* require that any proposed work within the 100-foot Buffer Zone shall not impair the functions and values of the Bank, including: 1. the physical stability of the Bank; 2. the water carrying capacity of the existing channel within the Bank; 3. ground water and surface water quality; 4. the capacity of the Bank to provide breeding habitat, escape cover and food for fisheries.

Land Under Water (LUW)

The WPA Regulations at 310 CMR 10.56 and *Bylaw Regulations* at Section 3.03 similarly define Land under Water Bodies and Waterways as the land beneath any creek, river, stream, pond or lake. Said land may be composed of organic muck or peat, fine sediments, rocks or bedrock.

Land Under Water (LUW) is present below the mean annual low water of the intermittent stream/drainage ditch and Pond.

The WPA Regulations have specific performance standards for work within LUW. The *Bylaw* Regulations stipulate that no activity, other than the maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of land under a waterbody shall be permitted by the Conservation Commission, except for activity which is allowed under a variance from these regulation granted pursuant to Section 5.01. The Bylaw Regulations also require that any proposed work within LUW shall not impair the functions and values of the Resource Area, including 1) The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks; 2. Ground and surface quality; and 3. The capacity of said land to provide breeding habitat, escape cover and food for fisheries.

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PLYMOUTH, MA WAKEFIELD, MA



Coastal Beach

Coastal Beach includes Tidal Flats as both are defined under the WPA Regulations (310 CMR 10.27) and *Bylaw Regulations* (Section 2.02):

Coastal Beach means unconsolidated sediment subject to wave, tidal and coastal storm action which forms the gently sloping shore of a body of salt water and includes tidal flats. Coastal beaches extend from the mean low water line landward to the dune line, coastal bankline or the seaward edge of existing human-made structures, when these structures replace one of the above lines, whichever is closest to the ocean.

Tidal Flat means any nearly level part of a coastal beach which usually extends from the mean low water line landward to the more steeply sloping face of the coastal beach or which may be separated from the beach by land under the ocean.

The WPA Regulations stipulate several performance standards to avoid adverse effects when a Coastal Beach is determined to be significant to storm damage prevention, flood control, marine fisheries, or protection of wildlife habitat.

The Bylaw Regulations simply state that no activity, other than maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of coastal beaches or tidal flats, or of any land within 50 feet of any coastal beach or tidal flat, shall be permitted by the Conservation Commission, except for activity which is allowed under a variance from these regulations granted pursuant to Section 5.01.

Coastal Dune

PLYMOUTH, MA

WAKEFIELD, MA

The WPA Regulations (310 CMR 10.28) and *Bylaw Regulations* (Section 2.03) both define Coastal Dune as any natural hill, mound or ridge of sediment landward of a coastal beach deposited by wind action or storm overwash. Coastal dune also means sediment deposited by artificial means and serving the purpose of storm damage prevention or flood control.

Any alteration of the Coastal Dune or lands within 100 feet shall not have an adverse effect on the dune by: a) affecting the ability of waves to remove sand from the dune; b) disturbing the vegetative cover so as to destabilize the dune; c) causing any modification of the dune form that would increase the potential for storm or flood damage; d) interfering with the landward or lateral movement of the dune; e) causing removal of sand from the dune artificially; or f) interfering with mapped or otherwise identified bird nesting habitat.

The WPA Regulations and *Bylaw Regulations* also state that the following projects may be permitted: *a)* pedestrian walkways, designed to minimize the disturbance to the vegetative cover; *b)* fencing and other devices designed to increase dune development; and *c)* plantings compatible with the natural vegetative cover.

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RINDGE, NH

EAST PROVIDENCE, RI



The Bylaw Regulations further state that no activity, other than the maintenance of an already existing structure, which will result in the building within or upon, removing, filling, or altering of a coastal dune or of any land within 50 feet of any coastal dune shall be permitted by the Conservation Commission, except for activity which is allowed under a variance from these regulations granted pursuant to Section 5.01.

It should be noted that a portion of the parking lot redevelopment occurred within 50 feet of the Coastal Dune and delineated by others. The Conservation Commission issued a Variance for the project, in part due to the project details, designed to avoid adverse impacts, the overriding public interest, and proposed mitigation measures, including erosion control measures, improved stormwater management, and native plantings, that contribute to the protection of the resource values (interests) identified in the *Bylaw*. It is LEC's understanding that the mitigation plantings have not yet been installed as part of the open Order of Conditions. The mitigation planting area is represented on the *Wetlands Map* (Attachment F).

Barrier Beach

The WPA Regulations at 310 CMR 10.28 and *Bylaw Regulations* at Section 2.04 similarly define Barrier Beach as a narrow low-lying strip of land generally consisting of coastal beaches and coastal dunes extending roughly parallel to the trend of the coast. It is separated from the mainland by a narrow body of fresh, brackish or saline water or a marsh system. A barrier beach may be joined to the mainland at one or both ends.

The Barrier Beach is specifically located on-site within the Coastal Dune/Coastal Beach between CD flag #1 and BVW flag #40, between the Pond and Cape Cod Bay.

When a Barrier Beach is determined to be significant to storm damage prevention, flood control, marine fisheries or protection of wildlife habitat, performance standards for Coastal Beach (310 CMR 10.27(3) through (6) and *Bylaw Regulations* Section 2.02(3)) and Coastal Dune (10.28(3) through (5) and *Bylaw Regulations* Section 2.04 (3) through (5)) apply; however, no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species.

Land Under the Ocean

PLYMOUTH, MA

The WPA Regulations (310 CMR 10.25) and *Bylaw Regulations* (Section 2.01) both define Land Under the Ocean as the *land extending from the mean low water line seaward to the boundary of the municipality's jurisdiction and includes land under estuaries*.

The WPA Regulations and *Bylaw Regulations* stipulate numerous performance standards to ensure the protection of Land Under the Ocean.

Land Subject to Coastal Storm Flowage (LSCSF)

WAKEFIELD, MA

LSCSF is defined under the WPA Regulations and *Bylaw Regulations* as *land subject to any inundation* caused by coastal storms up to and including that caused by the 100 year storm, surge of record or storm record, whichever is greater.

WORCESTER, MA

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RINDGE, NH



LSCSF/Flood Zone VE (El. 15) occurs within the northerly portion of the site within the Coastal Dune and Coastal Beach areas according to the July 16, 2014 FEMA Flood Insurance Rate Map (FIRM) for Barnstable County (*Map Number 25001C0418J*). The landward limit of the LSCSF is equivalent to the digitized FEMA FIRM boundary.

The WPA Regulations and *Bylaw Regulations* currently do not identify any specific performance standards for work within LSCSF; however, LSCSF does occur within other Resource Areas (Coastal Dune and Coastal Beach).

Variance (Bylaw)

As reviewed under Part V of the *Bylaw Regulations*, the Conservation Commission may, in its discretion, grant variances of performance standards, provided that mitigating measures are proposed that contribute to the protection of resource values (interests); no reasonable alternative exists, and the proposed project will have no adverse impact.

Recommendations

LEC offers the following short-term ecological recommendations based on current site conditions:

- Remove the remaining northerly tennis courts and replace with natural, enhanced dune with vegetation to increase coastal resiliency and allow for the existing dune sand to migrate naturally.
- Conduct dune enhancement activities to improve dune stability and coastal resiliency (i.e., revegetating denuded areas, etc.).
- Evaluate paths through dune and BVW, abandon those deemed not critical for future access needs, upgrade boardwalks, as necessary, etc.
- Design and implement a comprehensive Invasive Species Management Plan, including the *Phragmites* stand present at the Pond and multitude of invasive vegetation spread throughout the campus.
- Provide stormwater management (i.e., vegetated swale, rain garden, etc.) between Units 38 and 40 upgradient of the IVW.
- Further evaluation, including field surveys for Eastern Prickly Pear may be necessary prior to any
 potential work activities in potential habitat areas and/or coordination with NHESP if documented onsite.
- A Vernal Pool Assessment(s) within the fringes of the BVW associated with the Pond in spring (March-April) may provide useful baseline information.
- File an Abbreviated Notice of Resource Area Delineation (ANRAD) Application with the Brewster Conservation Commission and MassDEP to confirm Wetland Resource Area boundaries.

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PLYMOUTH, MA WAKEFIELD, MA WORCESTER, MA RINDGE, NH EAST PROVIDENCE, RI



Summary

The Bay Parcel contains valuable Wetland Resource Areas along/proximate to the shoreline that also provide important wildlife habitat functions, values, and connectivity to adjoining areas. The interior of the site may offer limited wildlife habitat due to the existing conditions and surrounding development.

LEC offers short-term ecological recommendations for dune protection/restoration/enhancement, path improvements, invasive species management, stormwater management upgrades, Vernal Pool Assessment, and Wetland Resource Area boundaries confirmation.

Consultation and review the Brewster Conservation Commission and/or MassDEP would be required for any proposed work activity within a Wetland Resource Area or the jurisdictional 100-foot Buffer Zone, excluding normal maintenance. Analysis of regulatory performance standards may be necessary, depending on the nature of the activity.

LEC is pleased to submit this Natural Resources Inventory Report. If you have any questions or require additional information, please do not hesitate to contact LEC at bmadden@lecenvironmental.com.

Sincerely,

LEC Environmental Consultants, Inc.

Brian T. Madden

Senior Wildlife/Wetland Scientist

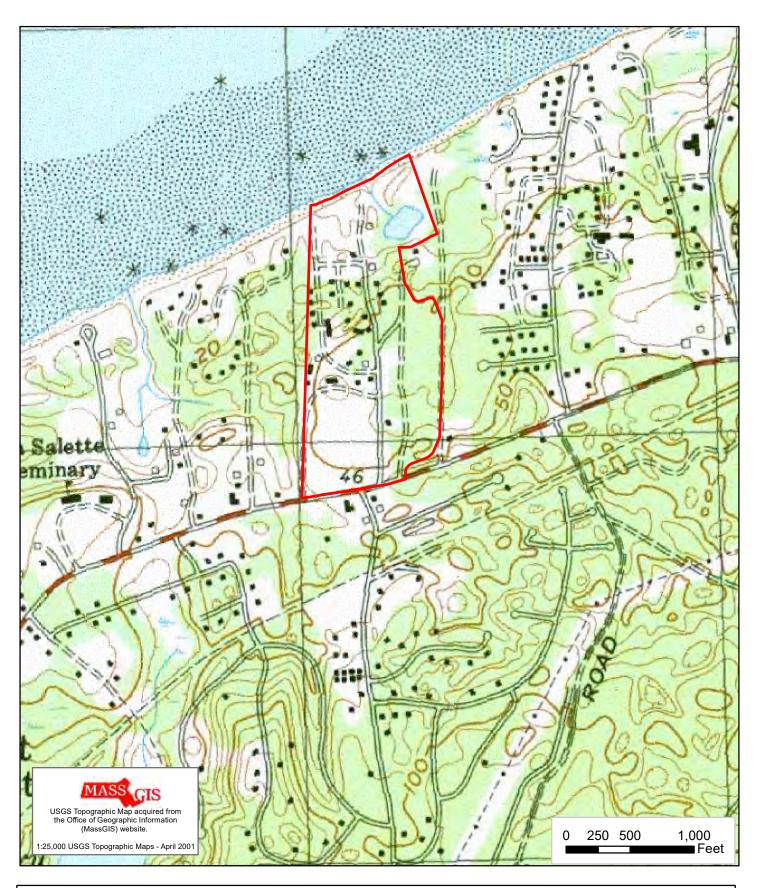
Attachments

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PLYMOUTH, MA WAKEFIELD, MA WORCESTER, MA RINDGE, NH EAST PROVIDENCE, RI

Attachment A

USGS Topographic Map





USGS Topographic Map

3057 Route 6A, Bay Parcel Brewster, Massachusetts



Attachment B

Aerial Orthophoto Map





Aerial Orthophoto

3057 Route 6A, Bay Parcel Brewster, Massachusetts



Attachment C

Open Space Map





Open Space Map

3057 Route 6A, Bay Parcel Brewster, Massachusetts



Attachment D

NRCS Web Soil Survey Map



MAP LEGEND

Area of Interest (AOI) Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

Special Point Features

Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow Marsh or swamp





Mine or Quarry Miscellaneous Water



Perennial Water Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot

Spoil Area



Stony Spot



Very Stony Spot



Wet Spot Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads

Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25.000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Barnstable County, Massachusetts Survey Area Data: Version 19, Sep 9, 2022

Soil map units are labeled (as space allows) for map scales 1:50.000 or larger.

Date(s) aerial images were photographed: Sep 5, 2020—Sep 7. 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Water	1.4	0.7%
53A	Freetown muck, ponded, coastal lowland, 0 to 1 percent slopes	3.1	1.5%
226B	Hinesburg sandy loam, 3 to 8 percent slopes	0.9	0.5%
252C	Carver coarse sand, 8 to 15 percent slopes	0.5	0.2%
256A	Deerfield loamy fine sand, 0 to 3 percent slopes	5.7	2.8%
259B	Carver loamy coarse sand, 3 to 8 percent slopes	23.3	11.3%
263C	Carver-Hinesburg loamy coarse sands, rolling	12.6	6.1%
435A	Plymouth loamy coarse sand, 0 to 3 percent slopes	18.6	9.0%
435B	Plymouth loamy coarse sand, 3 to 8 percent slopes	71.1	34.5%
435C	Plymouth loamy coarse sand, 8 to 15 percent slopes	10.9	5.3%
436B	Plymouth loamy coarse sand, 3 to 8 percent slopes, very stony	2.3	1.1%
494C	Barnstable-Plymouth- Nantucket complex, rolling, very bouldery	0.8	0.4%
608	Water, ocean	37.1	18.0%
610	Beaches, sand	6.8	3.3%
612C	Hooksan sand, 3 to 15 percent slopes	0.8	0.4%
613C	Hooksan-Dune land complex, 15 to 35 percent slopes	10.3	5.0%
Totals for Area of Interest		206.1	100.0%

Attachment E

Habitat Cover Type Map





Habitat Cover Type Map

3057 Route 6A, Bay Parcel Brewster, Massachusetts



Attachment F

Wetlands Map



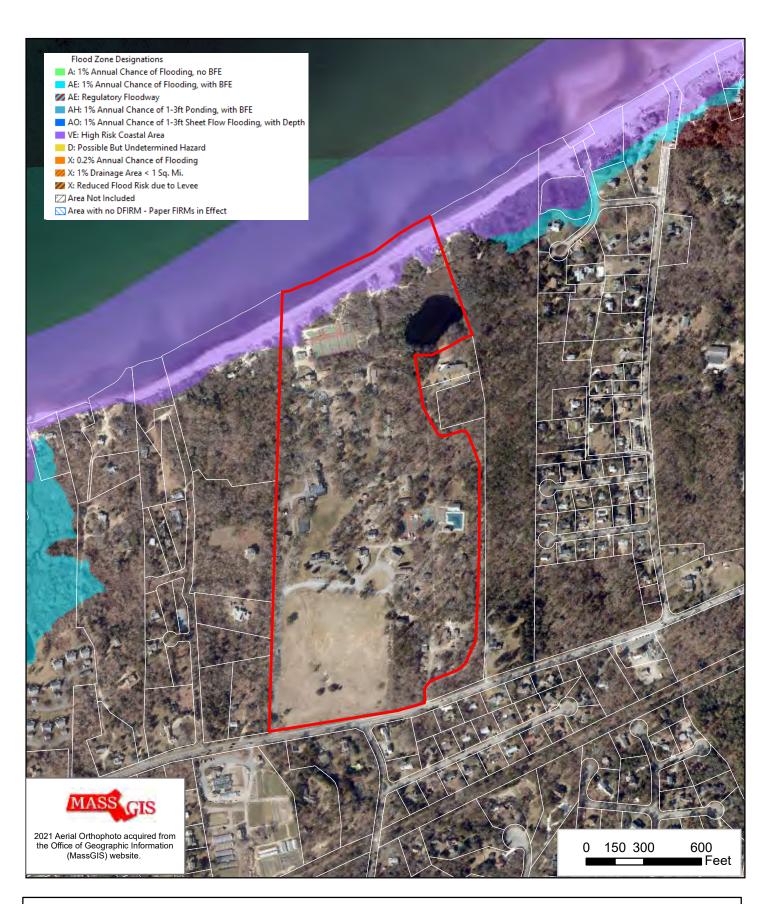


Wetlands Map



Attachment G

FEMA Flood Insurance Rate Map





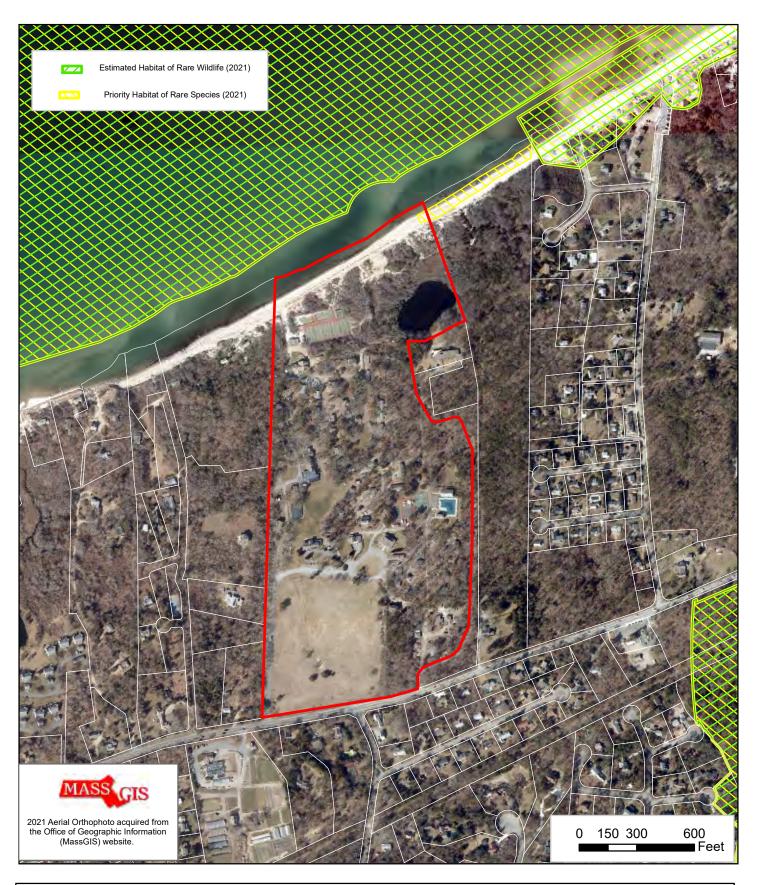
FEMA Map

3057 Route 6A, Bay Parcel Brewster, Massachusetts



Attachment H

NHESP Map





NHESP Map

3057 Route 6A, Bay Parcel Brewster, Massachusetts



Attachment I

BioMap





BioMap

3057 Route 6A, Bay Parcel Brewster, Massachusetts



Attachment J

Linnell Landing Beach eBird Hotspots

Linnell Landing Beach

Barnstable County (/region/US-MA-001?yr=all&m=), Massachusetts (/region/US-MA?yr=all&m=), US (/region/US?yr=all&m=)

Map(/hotspots?hs=L1865629&yr=all&m=)

♦ <u>Directions(https://www.google.com/maps/search/?api=1&query=41.7824755,-70.0383138)</u>

▶ Hotspot navigation

Overview (/hotspot/L1865629?yr=all&m=)

Illustrated Checklist (/hotspot/L1865629/media?yr=all&m=)

VIEW MY...

My eBird (/myebird/L1865629)

Life List (/lifelist/L1865629)

Target Species (/targets?r1=L1865629&bmo=1&emo=12)

Checklists (/mychecklists/L1865629)

EXPLORE...

Hotspot Map (/hotspots?hs=L1865629&yr=all&m=)

Bar Charts (/barchart?r=L1865629&yr=all&m=)

Media (https://media.ebird.org/catalog?regionCode=L1865629)

Printable Checklist (/printableList?regionCode=L1865629&yr=all&m=)



Species observed

(/hotspot/L1865629?yr=all&m=)



1 29

Complete checklists

(/hotspot/L1865629/activity?yr=all&m=)

<u>Last seen (/hotspot/L1865629?yr=all&m=&rank=mrec)</u>

First seen (/hotspot/L1865629?yr=all&m=&rank=lrec)

High counts (/hotspot/L1865629?yr=all&m=&rank=hc)

			Show all details	Sort by ▼
SPECIES NAME (/HOTSPOT/L1865629?	YR=ALL&M=&RANK=MREC&HS SORTBY=TAXON ORDER&HS O=ASC)			
COUNT (/HOTSPOT/L1865629? YR=ALL&M=&RANK=MREC&HS SO	<u>Date (/hotspot/l1865629?</u> Rtby= gr=nix&hs=&harsk }mrec&hs sortby=date&hs o=asc)	→ OBSERVER		
1. Ring-billed Gull(/species/	<u>ribgul/L1865629)</u>			
# 3	18 Jan 2023 (/checklist/S126442078)	上 Dan Gray		
2. Herring Gull(/species/her	<u>gul/L1865629)</u>			
# 45	18 Jan 2023 (/checklist/S126442078)	🚨 Dan Gray		
3. Great Black-backed Gull(/	<u>/species/gbbgul/L1865629)</u>			
# 4	18 Jan 2023 (/checklist/S126442078)	Dan Gray		
4. American Crow(/species/	amecro/L1865629)			
# 6	18 Jan 2023 (/checklist/S126442078)	Dan Gray		
5. Carolina Wren(/species/c	arwre/L1865629 <u>)</u>			
# 1	18 Jan 2023 (/checklist/S126442078)	Dan Gray		
6. Canada Goose(/species/ca	angoo/L1865629 <u>)</u>			
# 15	4 Dec 2022 (/checklist/S123433205)	James Sherwonit		
7. Common Eider(/species/c	comeid/L1865629)			
# X	## 4 Dec 2022 (/checklist/S123433205)	James Sherwonit		
8. White-winged Scoter(/sp	ecies/whwsco2/L1865629)			
# 1	## 4 Dec 2022 (/checklist/S123433205)	James Sherwonit		
9. Black-legged Kittiwake(/s	<u>pecies/bklkit/L1865629)</u>			

# 2	4 Dec 2022 (/checklist/S123433205)	James Sherwonit	A
10. Red-throated Loon(<u>/species/retloo/L1865629)</u>		
# 4	4 Dec 2022 (/checklist/S123433205)	♣ James Sherwonit	
11. Northern Gannet(/s	pecies/norgan/L1865629)		= c
# 150	4 Dec 2022 (/checklist/S123433205)	James Sherwonit	
12. Long-tailed Duck(/s	<u>pecies/lotduc/L1865629)</u>		
# 35	24 Nov 2022 (/checklist/S122950017)	Michael Auda	
13. Bufflehead(/species	s/buffle/L1865629)		
# 10	24 Nov 2022 (/checklist/S122950017)	Michael Auda	
14. Common Loon(/spe	ecies/comloo/L1865629)		
# 1	24 Nov 2022 (/checklist/S122950017)	Michael Auda	
15. Blue Jay(/species/b	<u>lujay/L1865629)</u>		
# 2	24 Nov 2022 (/checklist/S122950017)	Michael Auda	
16. Laughing Gull(/spec	cies/laugul/L1865629 <u>)</u>		
# 1	31 Oct 2022 (/checklist/S121637700)	Dan Gray	
17. Black-bellied Plover	<u> (/species/bkbplo/L1865629)</u>		
# 5	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
18. American Golden-P	<u>lover(/species/amgplo/L1865629)</u>		
# 1	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
19. Semipalmated Plove	er(/species/semplo/L1865629)		
# 25	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
20. Sanderling(/species/sander/L1865629)			
# 5	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
21. Semipalmated Sand	<u> piper(/species/semsan/L1865629)</u>		

# 8	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	A
22. Greater Yellowlegs	<u>s(/species/greyel/L1865629)</u>		
# 4	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
23. Cory's Shearwater	<u>(/species/corshe/L1865629)</u>		
# 2	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
24. Great Blue Heron(<u>/species/grbher3/L1865629)</u>		
# 5	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
25. Great Egret(/speci	<u>es/greegr/L1865629)</u>		
# 1	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
26. Osprey(/species/o	<u>sprey/L1865629)</u>		
# 1	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
27. Cooper's Hawk(/s p	pecies/coohaw/L1865629)		
# 1	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
28. Belted Kingfisher(,	<u>/species/belkin1/L1865629)</u>		
# 1	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
29. Common Raven(/s	<u>pecies/comrav/L1865629)</u>		
# 1	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
30. Black-capped Chic	kadee(/species/bkcchi/L1865629)		
# 1	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
31. Gray Catbird(/spec	<u>cies/grycat/L1865629)</u>		
# 1	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
32. American Goldfing	<u>:h(/species/amegfi/L1865629)</u>		
# 5	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
33. Red-winged Black	<u>bird(/species/rewbla/L1865629)</u>		

# 20	18 Sep 2022 (/checklist/S118995127)	Daniel Kalamarides	
34. Mallard(/species/malla	ar3/L1865629)		
# 2	17 Sep 2022 (/checklist/S118904434)	Daniel Kalamarides	
35. Common Tern(/species	s/comter/L1865629)		
# 1	17 Sep 2022 (/checklist/S118904434)	Daniel Kalamarides	
36. Double-crested Cormo	orant (/species/doccor/L1865629)		
# 12	17 Sep 2022 (/checklist/S118904434)	Daniel Kalamarides	
37. Turkey Vulture(/specie	es/turvul/L1865629 <u>)</u>		
# 1	17 Sep 2022 (/checklist/S118904434)	Daniel Kalamarides	
38. Downy Woodpecker(/s	species/dowwoo/L1865629)		
# 1	17 Sep 2022 (/checklist/S118904434)	Daniel Kalamarides	
39. Merlin(/species/merlin	<u>n/L1865629)</u>		
# 1	17 Sep 2022 (/checklist/S118904434)	Daniel Kalamarides	
40. Eastern Phoebe(/specie	<u>es/easpho/L1865629)</u>		
# 1	17 Sep 2022 (/checklist/S118904434)	Daniel Kalamarides	
41. <u>Cedar Waxwing(/speci</u>	<u>les/cedwax/L1865629)</u>		
# 1	17 Sep 2022 (/checklist/S118904434)	Daniel Kalamarides	
42. Whimbrel(/species/wh	<u>nimbr/L1865629)</u>		
# 1	16 Sep 2022 (/checklist/S118904453)	Daniel Kalamarides	
43. Tree Swallow(/species/	<u>/treswa/L1865629)</u>		
# 8	16 Sep 2022 (/checklist/S118904453)	Daniel Kalamarides	
44. Red-tailed Hawk(/spec	cies/rethaw/L1865629)		
# 1	2 Aug 2022 (/checklist/S116229426)	David Halm	
45. Mourning Dove(/speci	<u>ies/moudov/L1865629)</u>		

# 5	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	A
46. Willet(/species/will	<u>et1/L1865629)</u>		
# 2	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
47. Snowy Egret(/speci	<u>es/snoegr/L1865629)</u>		
# 2	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
48. Willow Flycatcher(/	<u>species/wilfly/L1865629)</u>		
# 1	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
49. Eastern Kingbird(/s	pecies/easkin/L1865629)		
# 3	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
50. Fish Crow(/species/	<u>fiscro/L1865629)</u>		
# 2	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
51. Barn Swallow(/spec	<u>:ies/barswa/L1865629)</u>		
# 2	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
52. House Sparrow(/sp	ecies/houspa/L1865629)		*
# 2	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
53. Song Sparrow(/spe	<u>cies/sonspa/L1865629)</u>		
# 1	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
54. Common Grackle(/s	<u>species/comgra/L1865629)</u>		
# 25	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
55. Common Yellowthr	oat (/species/comyel/L1865629)		
# 2	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
56. <u>Yellow Warbler(/spe</u>	<u>ecies/yelwar/L1865629)</u>		
# 1	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
57. Pine Warbler(/spec	<u>ies/pinwar/L1865629)</u>		

# 3	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
58. Prairie Warbler(/spe	<u>ecies/prawar/L1865629)</u>		
# 3	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
59. Northern Cardinal()	<u>/species/norcar/L1865629)</u>		
# 1	17 Jun 2022 (/checklist/S113123955)	Daniel Kalamarides	
60. American Black Duc	ck(/species/ambduc/L1865629)		- 1
# 2	4 Jun 2022 (/checklist/S112116767)	Anonymous eBirder	
61. Seaside Sparrow(/sp	pecies/seaspa/L1865629)		
# 1	3 Jun 2022 (/checklist/S112017744)	Anonymous eBirder	
62. Dunlin(/species/du	nlin/L1865629 <u>)</u>		
# 38	13 Dec 2021 (/checklist/S98832101)	▲ Al Curtis	
63. Yellow-bellied Saps	ucker (/species/yebsap/L1865629)		= c
# 2	9 Nov 2021 (/checklist/S97343989)	Timothy Spahr	
64. Red-bellied Woodpe	ecker(/species/rebwoo/L1865629)		
# 2	9 Nov 2021 (/checklist/S97343989)	Timothy Spahr	
65. Northern Flicker(/sp	pecies/norfli/L1865629)		
# 3	9 Nov 2021 (/checklist/S97343989)	Timothy Spahr	
66. Tufted Titmouse(/s	pecies/tuftit/L1865629)		
# 10	9 Nov 2021 (/checklist/S97343989)	Timothy Spahr	
67. Northern Mockingb	oird (/species/normoc/L1865629)		
# 1	9 Nov 2021 (/checklist/S97343989)	Timothy Spahr	
68. American Robin(/sp	pecies/amerob/L1865629)		
# 10	9 Nov 2021 (/checklist/S97343989)	Timothy Spahr	
69. House Finch(/specie	es/houfin/L1865629 <u>)</u>		*

# 5	9 Nov 2021 (/checklist/S97343989)	▲ Timothy Spahr	_
70. White-throated Spa	arrow(/species/whtspa/L1865629)		
# 3	9 Nov 2021 (/checklist/S97343989)	♣ Timothy Spahr	
71. Swamp Sparrow(/s	<u>pecies/swaspa/L1865629)</u>		
# 1	9 Nov 2021 (/checklist/S97343989)	Timothy Spahr	
72. Baltimore Oriole(/s	pecies/balori/L1865629)		= ¢
# 2	9 Nov 2021 (/checklist/S97343989)	Timothy Spahr	
73. Yellow-rumped Wa	rbler(/species/yerwar/L1865629)		
# 6	9 Nov 2021 (/checklist/S97343989)	Timothy Spahr	
74. Eastern Screech-Ow	vl (/species/easowl 1/L 1865629)		- 1
# 2	12 Oct 2021 (/checklist/S96029414)	Timothy Spahr	
75. Red-eyed Vireo(/sp	ecies/reevir1/L1865629)		
# 2	12 Oct 2021 (/checklist/S96029414)	Timothy Spahr	
76. Blackpoll Warbler()	<u>/species/bkpwar/L1865629)</u>		
# 2	12 Oct 2021 (/checklist/S96029414)	Timothy Spahr	
77. Chimney Swift(/spe	ecies/chiswi/L1865629)		
# 5	26 May 2021 (/checklist/S89039541)	David Halm	
78. Least Tern(/species	<u>/leater1/L1865629)</u>		
# 2	26 May 2021 (/checklist/S89039541)	David Halm	
79. Brown-headed Cow	<u>/bird(/species/bnhcow/L1865629)</u>		
# 2	26 May 2021 (/checklist/S89039541)	David Halm	
80. House Wren(/speci	<u>es/houwre/L1865629)</u>		
# 1	25 May 2021 (/checklist/S88950962)	David Halm	
81. Eastern Bluebird(/s	pecies/easblu/L1865629)		

# 1	25 May 2021 (/checklist/S88950962)	■ David Halm	_
82. <u>Red-breasted Merga</u>	nser(/species/rebmer/L1865629)		= £
# 3	17 Apr 2021 (/checklist/S85867357)	Austin Gonzalez	
83. Red-breasted Nutha	tch(/species/rebnut/L1865629)		
# 1	17 Apr 2021 (/checklist/S85867357)	Austin Gonzalez	
84. Brant(/species/brant	t/L1865629 <u>)</u>		
# 8	16 Mar 2021 (/checklist/S83509015)	benny albro	
85. Hairy Woodpecker(/	<u>/species/haiwoo/L1865629)</u>		
# 1	30 Jan 2021 (/checklist/S80119431)	Timothy Spahr	
86. Winter Wren(/specie	es/winwre3/L1865629 <u>)</u>		
# 1	30 Jan 2021 (/checklist/S80119431)	Timothy Spahr	
87. Fox Sparrow(/specie	s/foxspa/L1865629)		- 1
# 1	30 Jan 2021 (/checklist/S80119431)	Timothy Spahr	
88. Surf Scoter(/species	<u>/sursco/L1865629)</u>		
# 2	15 Dec 2019 (/checklist/S62362346)	Timothy Spahr	
89. Black Scoter(/specie	<u>s/blksco2/L1865629)</u>		
# 65	15 Dec 2019 (/checklist/S62362346)	Timothy Spahr	
90. Pomarine Jaeger(/sp	pecies/pomjae/L1865629)		
# 1	15 Dec 2019 (/checklist/S62362346)	Timothy Spahr	
91. Common Murre(/sp e	ecies/commur/L1865629)		= c
# 15	15 Dec 2019 (/checklist/S62362346)	Timothy Spahr	
92. Thick-billed Murre(/	species/thbmur/L1865629)		
# 1	15 Dec 2019 (/checklist/S62362346)	Timothy Spahr	
93. Razorbill(/species/ra	nzorb/L1865629)		

# 385	15 Dec 2019 (/checklist/S62362346)	Timothy Spahr	
94. Hermit Thrush(/sp	ecies/herthr/L1865629)		
# 2	15 Dec 2019 (/checklist/S62362346)	Timothy Spahr	
95. Dark-eyed Junco(/	<u>species/daejun/L1865629)</u>		
# 1	15 Dec 2019 (/checklist/S62362346)	Timothy Spahr	
96. Common Goldeney	<u>/e(/species/comgol/L1865629)</u>		
# 6	14 Dec 2014 (/checklist/S21137544)	Peter Bono	
97. Bonaparte's Gull(/s	species/bongul/L1865629)		
# 2	14 Dec 2014 (/checklist/S21137544)	Peter Bono	
ADDITIONAL TAXA			
gull sp.			•
# 90	18 Jan 2023 (/checklist/S126442078)	Dan Gray	
scoter sp.			
# 30	24 Nov 2022 (/checklist/S122950017)	Michael Auda	
swallow sp.			
# 2	2 Aug 2022 (/checklist/S116229426)	David Halm	
Greater/Lesser Yello	wlegs		•
# 1	4 Jun 2022 (/checklist/S112116767)	Anonymous eBirder	
Spizella sp.			
# 1	12 Oct 2021 (/checklist/S96029414)	Timothy Spahr	

No media submitted

<u>Latest media (https://media.ebird.org/catalog?regionCode=L1865629)</u>

Recent visits

OBSERVER DATE SPECIES Dan Gray 18 Jan 2023 (/checklist/S126442078) Will Freedberg 19 Dec 2022 (/checklist/S124343003) Connecticut Audubon Society EcoTravel 4 Dec 2022 (/checklist/S123496663) James Sherwonit 4 Dec 2022 (/checklist/S123433205) Michael Auda 24 Nov 2022 (/checklist/S122950017) Dan Gray 31 Oct 2022 (/checklist/S121637700) **Daniel Kalamarides** 18 Sep 2022 (/checklist/S118995127) 20 **Daniel Kalamarides** 17 Sep 2022 (/checklist/S118904434) 19 **Daniel Kalamarides** 16 Sep 2022 (/checklist/S118904453) 16 2 Aug 2022 (/checklist/S116229426) David Halm

Checklists submitted within the last hour are not shown.

More recent visits (/hotspot/L1865629/activity?yr=all&m=)

Top eBirders Updated 19 sec agc

Species (/hotspot/L1865629?yr=all&m=&sortBy=spp)

Checklists (/hotspot/L1865629?yr=all&m=&sortBy=cl)

1 Daniel Kalamarides 51

2 David Halm 34

3 Austin Gonzalez 16

4 Peter Bono 14

5 benny albro 11
6 James Sherwonit 9
7 Michael Auda 8

Attachment K

Photographs



Photo 1: Southerly view across site towards Main St/Route 6 (11/22/22).



Photo 2: Northerly view of site towards Cape Cod Bay (11/22/22).



Photo 3: Westerly view of recently constructed parking lot (11/22/22).

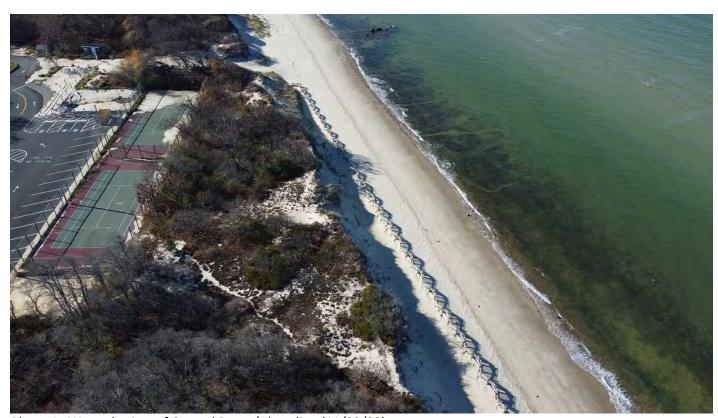


Photo 4: Westerly view of Coastal Dune / shoreline (11/22/22).

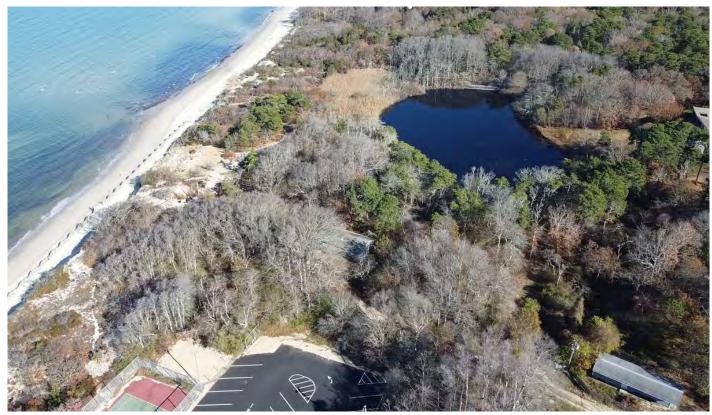


Photo 5: Easterly view of Coastal Dune and Pond (11/22/22).

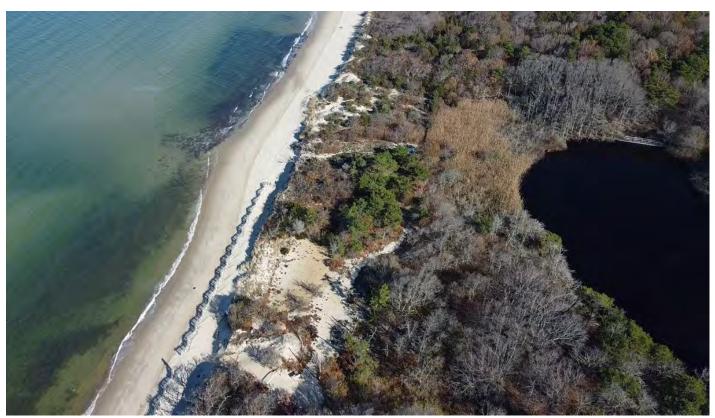


Photo 6: Easterly view of Coastal Dune and Pond (11/22/22).



Photo 7: Southerly view of Pond and invasive *Phragmites* (11/22/22).



Photo 8: Pond located within northeasterly portion of site (11/22/22).



Photo 9: Phragmites stand present along northerly/northeasterly edge of Pond (11/22/22).



Photo 10: Easterly view of boardwalk along easterly portion of Pond (11/22/22).



Photos 11 & 12: Elevated boardwalk along easterly portion of Pond and associated BVW (11/22/22).



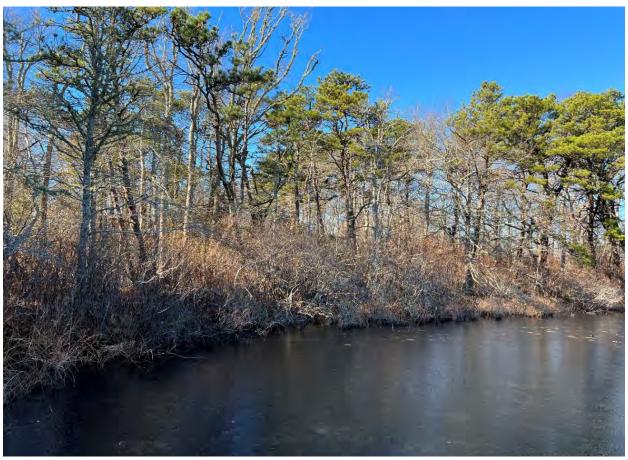


Photo 13: Westerly portion of Pond and adjacent BVW (11/21/22).



Photo 14: Dock present within southwesterly portion of Pond (11/21/22).



Photo 15 & 16: Representative at-grade boardwalks and walking paths through BVW west of Pond (11/21/22).





Photo 17: Typical walking path through Coastal Dune (11/21/22).



Photo 18: Former swimming pool footprint within Coastal Dune (11/21/22).



Photos 19 & 20: Coastal Dune/Beach interface and drift fencing, northerly (above) and southerly views (below) (11/21/22).









Photo 23: Maritime Forest within the northerly portion of the site (11/21/22).

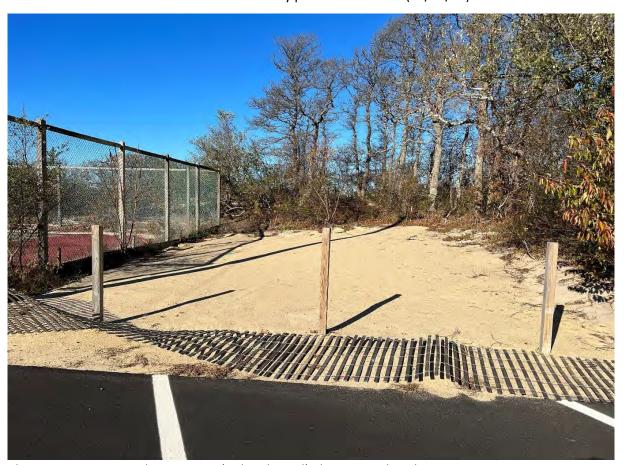
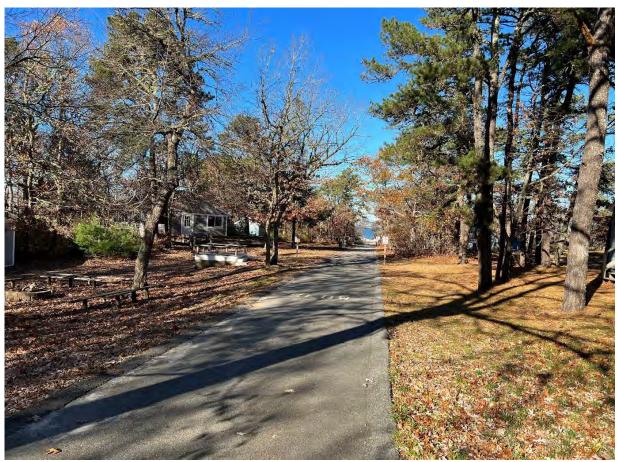


Photo 24: Mitigation Planting Area (to be planted) abutting parking lot, remaining tennis courts, Coastal Dune, and Maritime Forest (11/21/22).



Photos 25 & 26: Representative site conditions within the westerly (above) and easterly (below) portions of site with scattered trees and patches of Forested Upland amongst structures (11/21/22).





Photos 27 & 28: Northerly view of contiguous Forested Upland within the northeasterly portion of the site (11/21/22).





Photo 29: Fringing Forested Upland with significant invasive species within the southeasterly portion of the site (11/21/22).



Photo 30: Cultural Grassland within southerly portion of site adjacent to Main St/Route 6 (11/21/22).