Maritime Beach

Maritime beach at Breezy Point, Gateway National Recreation Area

Photo credits: *Aissa L. Feldmann*

System Terrestrial

Subsystem Open Uplands

Did you know?
Maritime beaches and dunes provide important nesting ground for birds such as piping plover, least tern, common tern, and roseate tern.

Summary

Protection Not listed in New York State, not listed federally.

Rarity G5, S3

A global rarity rank of G5 means: Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
A state rarity rank of S3 means: Typically 21 to 100 occurrences, limited acreage, or miles of stream in New York State.

Conservation Status in New York

There are an estimated 1000 miles of maritime beach on Long Island covering about 10,000 to 16,000 acres; there may be more than 30 to 50 extant occurrences statewide. The several documented occurrences of this community have good viability and are protected on public or private conservation land. The community is restricted to the ocean shoreline of the Coastal Lowlands ecozone in Suffolk, Richmond, Queens, Kings, and Nassau Counties. Although the number of maritime beaches may have increased slightly when formerly long, continuous examples were fragmented by development, the overall trend for the community is declining as a result of coastal development and recreational overuse.

Short-term Trends

Although the number of maritime beaches may have increased slightly when formerly long, continuous examples were fragmented by development, the acreage of maritime beach in New York has probably declined in recent decades as a result of coastal development and recreational overuse. Community viability/ecological integrity is suspected to be slowly

declining, primarily due to anthropogenic alterations (both physical and hydrological) to beach/dune/swale dynamics and coastal development (e.g., fragmentation, shoreline hardening, road construction, and community destruction).

Long-term Trends

Although the number of maritime beaches in New York may have increased substantially from historical numbers when formerly long, continuous examples were fragmented by development into numerous large and small stretches of beach, their aerial extent and viability are suspected to have declined substantially over the long-term. These declines are likely correlated with coastal development and associated changes in connectivity, hydrology, water quality, and natural processes.

Conservation and Management

Threats

Threats to maritime beaches in New York include driving on the beach (ATVs and four-wheel drive vehicles), fragmentation by development, barriers to connectivity between the open ocean and the beach/dune system, trampling, increased horseback riding, trash, and invasion by exotic species, including winged pigweed (Cycloloma atriplicifolium) and Oriental bittersweet (Celastrus orbiculata). Processes that create and maintain maritime beaches have been disrupted by hydrologic alterations to tidal dynamics, fragmentation, shoreline hardening, altered sediment budgets, and management practices like beach replenishment.

Conservation Strategies and Management Practices

Maintain dynamic beach and dune processes, prevent recreational overuse (driving on the beach is particularly destructive) and encourage the public to carry away all of their trash. Monitor rare plant and animal populations, including seabeach amaranth (Amaranthus pumilus) and beach-dune tiger beetle (Cicindela hirticollis), and the nesting use of beaches by species such as the horseshoe crab and the piping plover. Take measures (e.g., install fencing and predator exclosures) to prevent disturbance to critical areas. Ensure connectivity between maritime dunes, maritime beaches, salt marshes, and the open ocean to allow seed dispersal and to enable species to freely move between habitats during nesting season. Remove shoreline armoring to increase overland sediment input; improve water quality by reducing or eliminating sewer and stormwater discharge and pesticide application; restore tidal regime by removing culverts, dikes, and impoundments, plugging ditches, and replacing static flow restriction devices with those that are calibrated for local tidal hydrology.

Development and Mitigation Considerations

Minimize or eliminate hardened shoreline and avoid dumping dredge spoil onto maritime beaches. This community is best protected as part of a large salt marsh complex. Protected areas should encompass the full mosaic of low salt marsh, high salt marsh, marine intertidal mudflats, saltwater tidal creek, salt panne, and salt shrub communities to allow dynamic ecological processes (sedimentation, erosion, tidal flushing, and nutrient cycling) to continue. Connectivity to estuarine, brackish, and freshwater tidal communities; upland dunes; and shallow offshore communities should be maintained. Connectivity

between these habitats is important not only for nutrient flow and seed dispersal, but also for animals that move between them seasonally. Similarly, fragmentation of linear beaches should be avoided. Bisecting roads and developments significantly disrupt biota and alter physical dune processes.

Inventory Needs

Surveys and documentation of additional occurrences are needed, as are data on rare and characteristic animals.

Research Needs

Future research on maritime beaches should include monitoring community response to sea level rise, sediment starvation, and permanent flooding and studying nutrient exchange processes and relationships to adjacent communities (e.g., salt marsh complexes and maritime dunes).

Rare Species

Dune Sandspur (*Cenchrus tribuloides*)
Marsh Straw Sedge (*Carex hormathodes*)
Snowy Egret (*Egretta thula*)
Yellow-crowned Night-Heron (*Nyctanassa violacea*)
Seabeach Amaranth (*Amaranthus pumilus*)
Thickleaf Orach (*Atriplex dioica*)
Black Skimmer (*Rynchops niger*)
Gull-billed Tern (*Gelochelidon nilotica*)
Least Tern (*Sternula antillarum*)
Common Tern (*Sterna hirundo*)
Roseate Tern (*Sterna dougallii*)
Seabeach Knotweed (*Polygonum glaucum*)
Narrow-leaf Sea-blite (*Suaeda linearis*)
Small's Knotweed (*Polygonum aviculare ssp. buxiforme*)
Golden Dock (*Rumex fueginus*)
Piping Plover (*Charadrius melodus*)
Large Fruited Fireweed (*Erechtites hieraciifolius var. megalocarpus*)
A Noctuid Moth (*Sympistis riparia*)
A Moth (*Sympistis perscripta*)
Hairy-necked Tiger Beetle (*Cicindela hirticollis*)
Serrate Round-leaf Boneset (*Eupatorium pubescens*)
Sea Purslane (*Sesuvium maritimum*)

Identification Comments

A community with extremely sparse vegetation that occurs on unstable sand, gravel, or cobble ocean shores above mean high tide, where the shore is modified by storm waves and wind erosion. The upper margin of a maritime beach often grades into the base of a primary maritime dune, or other maritime community, such as maritime shrubland or one of the maritime forests.

The Best Time to See

Maritime beaches are scenic year-round! Enjoy a visit in the middle of the summer when the ocean is warm for swimming.

Characteristics Most Useful for Identification

Characteristic species include beachgrass (Ammophila breviligulata), sea-rocket (Cakile edentula ssp. edentula), seaside atriplex (Atriplex patula), seabeach atriplex (A. arenaria), seabeach sandwort (Honckenya peploides), salsola (Salsola kali), seaside spurge (Chamaesyce polygonifolia), seabeach knotweed (Polygonum glaucum), and seabeach amaranth (Amaranthus pumilus).

Elevation Range

Known examples of this community have been found at elevations between 0 feet and 7 feet.

Similar Ecological Communities

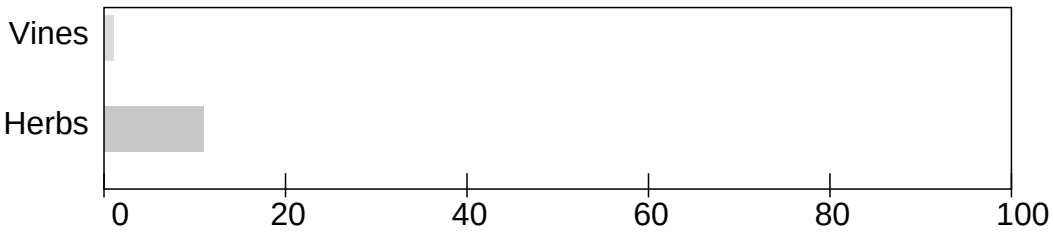
Sand beach: Sand beaches are similar, structurally, to maritime beaches but they occur on the unstable sandy shores of large freshwater lakes instead of on the maritime coast.

Marine intertidal gravel/sand beach: Marine intertidal gravel/sand beaches are marine communities that are fully exposed at low tide and extend inland to the limit of mean high tide. Maritime beaches are terrestrial and are located in a band just above this tidal limit.

Characteristic Species

Vines
Eastern Poison Ivy (*Toxicodendron radicans*)

Herbs
Seabeach Amaranth (*Amaranthus pumilus*)
American Beachgrass (*Ammophila breviligulata ssp. breviligulata*)
Pearly Everlasting (*Anaphalis margaritacea*)
Halberd-leaf Saltbush (*Atriplex patula*)
American Sea-rocket (*Cakile edentula*)
Coast-blite Goosefoot (*Chenopodium rubrum*)
Jimsonweed (*Datura stramonium*)
Fragrant Cudweed (*Gnaphalium obtusifolium*)
Beach Pea (*Lathyrus japonicus*)
Common Evening-primrose (*Oenothera biennis*)
Seabeach Knotweed (*Polygonum glaucum*)
Russian Thistle (*Salsola kali*)
Seaside Goldenrod (*Solidago sempervirens*)



This figure helps visualize the structure and "look" or "feel" of a typical maritime beach. Each bar represents the amount of "coverage" for all the species growing at that height. Because layers overlap (shrubs may grow under trees, for example), the shaded regions can add up to more than 100%.

International Vegetation Classification System Associations

This New York natural community encompasses all or part of the concept of the following International Vegetation Classification (IVC) natural community associations. These are often described at finer resolution than New York's natural communities. The IVC is developed and maintained by NatureServe.

North Atlantic Upper Ocean Beach (CEGL004400)

NatureServe Ecological System Associations

This New York natural community falls into the following ecological system(s). Ecological systems are often described at a coarser resolution than New York's natural communities and tend to represent clusters of associations found in similar environments. The ecological systems project is developed and maintained by NatureServe.

Atlantic Coastal Plain Northern Sandy Beach (CES203.301)

Additional Resources

Links

Long Island Beaches
http://www.loving-long-island.com/long-island-beaches.html

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