

Champlain Beachgrass



Ammophila champlainensis



Photo credits: Stephen M. Young

Scientific Name *Ammophila breviligulata* ssp. *champlainensis*
(Seymour) P.J. Walker, C.A.
Paris & Barrington ex
Barkworth

Family Name Poaceae
Grass Family

Did you know?

Champlain beachgrass originated from coastal populations that migrated westward along the shores of the Champlain Sea, an arm of the Atlantic Ocean that filled the basins of the St. Lawrence River and Lake Champlain after the retreat of the Laurentide ice sheet about 10,000-11,500 years ago. Our plants were isolated from coastal populations as the land rebounded and cut off the Champlain Sea from the Atlantic Ocean.

Summary

Protection Endangered in New York State, not listed federally.

This level of state protection means: listed species are those with: 1) 5 or fewer extant sites, or 2) fewer than 1,000 individuals, or 3) restricted to fewer than 4 U.S.G.S. 7 ½ minute topographical maps, or 4) species listed as endangered by U.S. Department of Interior.

Rarity G2G3Q, S1

A global rarity rank of G2G3Q means: Imperiled or Vulnerable globally - At high or moderate risk of extinction due to rarity or other factors; typically 80 or fewer populations or locations in the world, few individuals, restricted range, few remaining acres (or miles of stream), and/or recent and widespread declines. More information is needed to assign a single conservation status. The Q indicates this species' status as a distinctive full species

is uncertain.

A state rarity rank of S1 means: This plant is endangered/critically imperiled in New York because of extreme rarity (typically 5 or fewer populations or very few remaining individuals) or is extremely vulnerable to extirpation from New York due to biological factors.

Conservation Status in New York

Based on the current circumscription, there is an estimate of six known populations. Most of these are threatened at some level by the introduction of the Cape strain (*Ammophila breviligulata*). This introduced strain is more aggressive and may genetically swamp the true native population. There are also numerous development and recreational activities that may threaten these populations.

Short-term Trends

The number of populations is stable and no more populations are expected. Within the Great Lakes, populations of the more vigorous Cape strain (*Ammophila breviligulata*) are probably outcompeting and reducing numbers of the true native Champlain strain but the speed of this reduction is not known.

Long-term Trends

Development at the Plattsburgh population and along the Lake Erie and Lake Ontario shorelines has substantially reduced numbers of plants from historical levels by cutting off natural dune formation and by introducing Cape strain (*Ammophila breviligulata*) that has outcompeted the native dune grass.

Conservation and Management

Threats

Beach erosion and the development of a park at the Plattsburgh population threaten regeneration. The plants along the Great Lakes shorelines are threatened by the introduction of the Cape strain (*Ammophila breviligulata*) that outcompetes the native dune grass.

Conservation Strategies and Management Practices

Along the Great Lakes shores, the non-native Cape strain (*Ammophila breviligulata*) needs to be eliminated and replaced with the native species. The dunes in Plattsburgh need to be monitored every five years to evaluate how this grass is regenerating.

Research Needs

Research needs to be done on how this species competes with the more vigorous Cape strain (*Ammophila breviligulata*) and how this applies to management needs. Can this grass be grown, planted, and used as a viable restoration species for Great Lake and Lake Champlain dunes?

Habitat

A beachgrass found on the sand beaches and dunes along Lake Champlain and the eastern shore of Lake Ontario, particularly on the top and front sides of the low lake dunes (New York Natural Heritage Program 2002). Dunes and dry sandy shores (Gleason & Cronquist 1991, under *Ammophila breviligulata*).

Associated Ecological Communities

Great Lakes Dunes

A community dominated by grasses and shrubs that occurs on active and stabilized sand dunes along the shores of the Great Lakes. Unstable dunes are sparsely vegetated, whereas the vegetation of stable dunes is more dense, and can eventually become forested.

Sand Beach

A sparsely vegetated community that occurs on unstable sandy shores of large freshwater lakes, where the shore is formed and continually modified by wave action and wind erosion. Characteristic species that are usually present at very low percent cover include various grasses and other herbs.

Associated Species

American Beachgrass (*Ammophila breviligulata*)
Houghton's Umbrella-sedge (*Cyperus houghtonii*)
Sand-heather (*Hudsonia tomentosa*)
Beach Pea (*Lathyrus japonicus*)
Sand Cherry (*Prunus pumila* var. *pumila*)
Sand Dune Willow (*Salix cordata*)
Salix exigua

Identification Comments

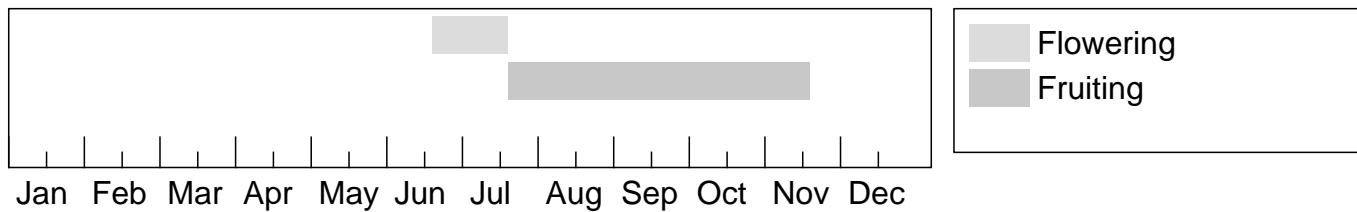
Champlain dune grass dominates the small dunes of Lake Champlain and portions of Lake Ontario. Long rhizomes produce many clumps that can be scattered in the sand or tightly arranged to cover the dune. Many long, flexible, very narrow leaves arise like a fountain from a central clump. They are flat at the base but the margins become inrolled toward the narrow sharp tip. One to many flowering stems grow from the base of the clump and reach 2-3 feet in height. They produce many flowers arranged in a compact spike-like inflorescence 13-21 cm long in the top half to one-third of the stem. A so-called flag leaf arises just below the inflorescence and measures 8-22 cm long. The yellow anthers give the inflorescence its color as they hang out of the flowers. When the flowers mature and senesce they turn tan to brown. Reproduction is primarily vegetative and seed production and seedling survival is very low. Flowering stems are seen more often in moving sand near the water and can be absent in plants that persist in sand that has been stabilized for many years.

Best Life Stage for Identifying This Species

Catching this grass in flower offers the best opportunity to properly identify it. A specimen should be collected and measurements made of the flag leaf and panicle to properly identify this species.

The Best Time to See

This grass flowers in late June to early July. The flowering stalks and leaves can be seen whenever they are not covered by snow, but they are often difficult to identify to the species level unless you are intimately familiar with *Ammophila*. Surveys should be conducted during the peak flowering period.



The time of year you would expect to find Champlain Beachgrass in New York.

Similar Species

Ammophila breviligulata occurs on the Atlantic coast and has been planted throughout the range of *Ammophila champlainensis*. This more common species has a larger panicle (23-30 cm long), larger flag leaf (30-24 cm long), and flowers in late August and September.

Conservation Comments

This was recently described as a subspecies instead of a full species. SIDA Vol. 22(1):496.

Taxonomy

Kingdom Plantae

└ Phylum Anthophyta

└ Class Monocots (Monocotyledoneae)

└ Order Cyperales

└ Family Poaceae (Grass Family)

Synonyms

Ammophila breviligulata (Fern.)

Ammophila champlainensis (Seymour)

Additional Resources

Links

New York Flora Atlas

<http://www.newyork.plantatlas.usf.edu/Plant.aspx?id=2131>

USDA Plants Database

<http://plants.usda.gov/java/nameSearch?mode=sciname&keywordquery=AMMOPHILA+CHAMPLAINENSIS>

NatureServe Explorer

<http://natureserve.org/explorer/servlet/NatureServe?searchName=AMMOPHILA+CHAMPLAINENSIS>

Google Images

<http://images.google.com/images?q=AMMOPHILA+CHAMPLAINENSIS>

Best Identification Reference

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