



Plants That Build Dunes?

By Eastern Lake Ontario Dune Steward Paul Dawson

Sand dunes are harsh places for plants to survive until “pioneer” species, such as beachgrass, begin to take hold. Once established, pioneers make way for larger, woody plants, such as shrubs and trees, to grow. This gradual change in vegetation is known as succession. Forests also build in stages, with different plants growing at the same site at different times. In the Eastern

Lake Ontario Dune and Wetlands Area (ELODWA) there is a progression from lakeside or foredunes to the backdune, forested areas.

Beachgrass stabilizes sand dunes by holding the sand in place. This allows for more nutrients to build up, which allows other plants to grow.

Next are the secondary successional shrubs, such as low sand cherry and sand dune willow, and such tree species as cottonwoods, red oak, sugar maple, and red maple.

These secondary successional shrubs and trees bring additional nutrients, shade, and lower temperatures that allow more plants and animals to survive in the changed dune environment.

Eastern Lake Ontario Dune Stewards install protective fencing to promote dune stability and educate the public to promote awareness of these dune-building plants.

When you visit the ELODWA, you may see examples of plant species that play an important role in dune succession, such as low sand cherry, dune willow, and Eastern cottonwood.

Low sand cherry is most often found on the foredune area of the ELODWA. Sand dune willow is a shrub that is limited to the foredune and low interior areas of the ELODWA where there is enough sunlight and sand, but limited organic nutrients. The Eastern cottonwood is the most common tree in the dune area and can be found throughout the dunes.

Although *some* of these plants are rare globally, they can be found locally. Each of these plants has physical features that separate it from other plants along the ELODWA.

Beachgrass is the frontrunner that stabilizes the dunes and “paves” the way for woody shrubs and trees to populate the backdune areas of the ELODWA.

Photo: Paul Dawson, Eastern Lake Ontario Dune and Salmon River Steward Program



The statements and views expressed in this publication are those of the Eastern Lake Ontario Dune and Salmon River Stewards who are student authors. 10/2009

Identifying the Successional Species of the Eastern Lake Ontario Dune & Wetlands Area

Beachgrass *(seen on reverse side)*

- Grows in clumps of long slender leaves that reach two to three feet in height
- Grows vertically as the plant is covered by sand
- Grows horizontally creating colonies; spreads by rhizomes (root-like structures)
- Tall "spikes" at the top of the stem are packed with seeds and bloom once during the growing season
- The ELODWA has two varieties of beachgrass: Champlain (native) and American. Champlain beachgrass blooms around Memorial Day; American beachgrass blooms around Labor Day



Low sand cherry.
Photo: Mary Penney,
New York Sea Grant



Sand dune willow.
Photo: Mary Penney,
New York Sea Grant

Low sand cherry

- Rarely grow to be more than three to four feet off the ground, allowing it to survive in harsh conditions
- Leaves are long and narrow with finely-toothed edges
- White-to-pinkish flowers are arranged in clusters
- Cherries may be eaten by many animals that live in the ELODWA, but should not be eaten by people!

Sand dune willow

- Rarely grow to be more than eight to ten feet in height
- Leaves are heart-shaped with white hairs
- Spread by rhizomes (root-like structures) forming colonies

Eastern cottonwood

- Grows to be 60 to 100 feet tall
- Leaves are triangular-shaped with serrated edges
- Leaves are staggered along stem and do not pair (alternative leaf pattern)
- Bark is smooth, gray to yellow-green when young; later turns gray with thin ridges and deep grooves
- Produces many small seeds attached to cotton-like strands that are blown by the wind



Eastern cottonwood sapling. Photo: Paul Dawson, Eastern Lake Ontario Dune and Salmon River Steward Program

For More Info: Eastern Lake Ontario Dune & Salmon River Steward Program, 315-312-3042

The Eastern Lake Ontario Dune Steward & Salmon River Steward Program is managed by New York Sea Grant in partnership with the New York State Department of Environmental Conservation, New York State Parks, and The Nature Conservancy



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