

Glyceria maxima (C. Hartm.) Holmb.
(Reed sweetgrass)

History

Glyceria maxima is native to northern Eurasia, from the British Isles to Japan and Kamchatka. The first specimen of *Glyceria maxima* in North America dates from 1940 and comes from a marsh at the edge of Lake Ontario. Between 1940 and 1952 several more populations of the plant were located in this same region. It is possible that *Glyceria maxima* arrived some time before these records were documented. It may have been introduced intentionally as a forage species, or accidentally as part of packing material. *G. maxima* has been used as a forage crop. However, several instances of cattle poisoning have occurred due to cyanide production in the young shoots (4).

The first record of *Glyceria maxima* in New England comes from the Ipswich River Wildlife Sanctuary in Essex County, Massachusetts in 1990.



Photographer: [Emmet J. Judziewicz](#) (courtesy of USDA Plants Website)

Identification

Glyceria maxima (Poaceae -- the grass family) is a perennial, rhizomatous grass. Stems are unbranched and can reach a height of 2.5 m (8.5 ft). The leaf sheaths are rough in texture and

have a reddish-brown band at the junction with the leaf. The ligule is about 5 mm (0.2 in.) long and obtuse at the apex. The leaf blades are shallowly grooved, with prominent midribs. The leaf margins have short, stiff hairs that are rough to the touch.



Habit (courtesy of IPANE)



Habit (Courtesy of www.habitas.org.uk/flora/)

Flowers appear on this plant from June to August. The inflorescence or flower is a panicle. The inflorescence can be open and symmetrical. The inflorescence branches have short, stiff hairs similar to those on the leaf margins (6). The panicle measures 15-30 cm (6-12 in.) in length. The spikelets are 5-8 mm (0.2-0.3 in.) long. The glumes are keeled in shape. The ovate,

obtuse lemma is 3 mm (0.1 in.) in length; the palea is about equal in size to the lemma, ovate and obtuse in shape and very slightly two-cleft.



Flower (courtesy of IPANE)

The small seeds are 1.5-2 mm (0.07 in.) long, obovoid in shape and smooth in texture. They are dark brown and have a deep and narrow central furrow.

Reproduction

Flowers appear on this plant from June to August. In North America, *Glyceria maxima* appears to reproduce and spread primarily by means of rhizomes. The extent to which it is able to reproduce and spread by seed is not clear, though evidence suggests that only a small percentage of its florets set viable seed.

Invasive Status

Glyceria maxima has the ability to form huge stands in wetlands because it can develop mat-like root systems suspended in water. It is an aggressive plant that has been invasive in Ontario for over 50 years. Even in its native range, conservationists are concerned with the ability of reed sweetgrass to form monocultures under different levels of disturbance. Reed sweetgrass has a competitive advantage because growth starts early in the spring. *Glyceria maxima* reduces plant species diversity (1, and references therein), in particular, seed producing plants that provide food for wildlife. *Glyceria maxima* is a poor food-plant and nesting substrate for wetland wildlife (1).

Habitats in New England

It grows best in open sunny grassy or shrub wetlands, but can tolerate partial shade of wooded wetlands such as swamps. It thrives during prolonged periods of flooding.

Native Species
Glyceria grandis

Characteristics	<i>G. maxima</i>	<i>G. grandis</i>
Height	Up to 2.5m	Up to 1.5m
Panicle	Erect branches with rough sheaths	Nodding branches with smooth sheaths
Glume	2 – 3mm	1.2 – 1.5mm

Sources

The Nature Conservancy The Global Invasive Species Team
<http://tncweeds.ucdavis.edu/index.html>

The Invasive Plant Atlas of New England's
<http://nbii-nin.ciesin.columbia.edu/ipane/index.htm>

United States Department of Agriculture Plants Website
<http://www.plants.usda.gov/>

The *Flora of Northern Ireland* web site
<http://www.habitas.org.uk/flora/index.html>