Natural Heritage & Endangered Species Program

Commonwealth of Massachusetts
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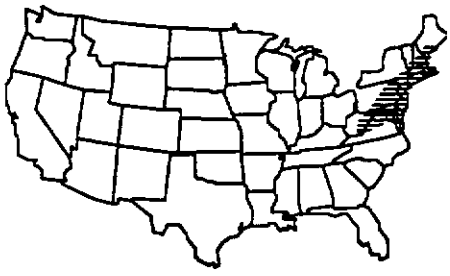
MASSACHUSETTS RARE AND ENDANGERED PLANTS

Variable Sedge
(*Carex polymorpha* Muhl.)

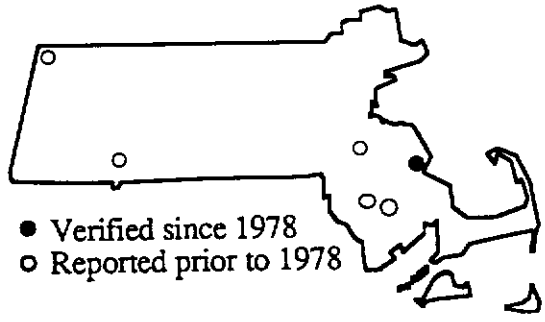
North American Cariceae.
Mackenzie

Description
Variable Sedge is a vigorous, grass-like herbaceous perennial that grows from large rhizomes (rooting underground stems) into dense, spreading colonies. The stems stand 30-60 cm (12-24 in.) tall with long and narrow, 3-5 mm (1/8-1/4 in.) leaves extending from their base. Each flowering culm has 1 or 2 pistillate spikes, which bear 12-25 female flowers, and 1-3 staminate spikes. On the pistillate spikes are bright green, egg-shaped perigynia (seed sacs) with long, slightly curved beaks with obviously oblique tips. Subtending the perigynia are much smaller ovoid scales, dark purplish brown with green centers. In mid-May during the flowering season the plants look bluish green, whereas by September the leaves turn tawny yellow.

Range
Variable Sedge has a very restricted geographical range within North America, extending from southern Maine to Virginia, and inland to Pennsylvania and West Virginia. Throughout its range it is considered an extremely rare species owing to its occurrence as only very localized populations in specialized habitats.



Range of Carex polymorpha



Distribution in Massachusetts by Town
1990

Similar Species

Variable Sedge can be easily confused with Stiff Sedge (Carex vestita), a species that often occurs in similar habitats. Whereas Stiff Sedge has obviously and densely hairy perigynia, those of Variable Sedge are smooth. The female spikes of Variable Sedge can be longer, 1-2 in. as opposed to 1/2-1 in., and the stems lack the continuous network of veins which encircle the stems of Stiff Sedge. While Variable Sedge often appears bluish in color, due to small bumps or papillae on its leaf surfaces, Stiff Sedge appears uniformly green. Both of these sedges are distinguished from other co-occuring woodland sedges by their habit of culms arising singly, rather than forming even small clumps.

Habitat in Massachusetts

Massachusetts has only 1 recorded occurrence for Variable Sedge- an abandoned cranberry bog-where it grows on a few manmade dikes and extends into the adjacent forest. The soils are strongly acidic, friable, loamy-sands to sandy loams that are low in nutrients. This site is sparsely vegetated with Black and Scarlet Oaks, Black Cherry, Pasture Rose, blueberry and numerous grasses- Broom Sedge, Sheep Fescue and Rhode Island Bent among them. Variable Sedge is rarely found fruiting and flowering except when there is abundant light and little competition from other plants. In some states its grows more vigorously in burned-over areas. This seems to stimulate flowering, and seed production as well. But in Massachusetts Variable Sedge has not been found in much apparently suitable habitat, indicating that there are other unknown factors influencing its distribution.

Population Status

Variable Sedge is listed as Endangered in Massachusetts. Despite extensive searches throughout its former range, it has so far been rediscovered in only 7 of the 12 states where it originally was recorded. Much of its historical habitat may have been destroyed by residential construction and gravel pit operations, so that the total world population of Variable Sedge is now reduced to 20 current sites. Consequently the U.S. Fish and Wildlife Service has proposed Carex polymorpha as a candidate for the Federal List of Endangered Species.