

**Recommendation for the Designation of
Northeastern Bulrush**
Scirpus ancistrochaetus Schuyler
as a Virginia Species of Greatest Conservation Need

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The Virginia Department of Wildlife Resources, with support from the Virginia Department of Conservation and Recreation-Division of Natural Heritage, recommends the addition of northeastern bulrush (*Scirpus ancistrochaetus* Schuyler) to Virginia's list of Species of Greatest Conservation Need as a tier II-B species (Appendix 1).

Justification

Species Summary

Scirpus ancistrochaetus (northeastern bulrush; (G3/S2, Fed LE/State LE) (Appendix 2) was listed as Federally Endangered by the U.S. Fish and Wildlife Service in May 1991 due to habitat loss, modification, and degradation caused by residential and agricultural development (USFWS, 1991). *Scirpus ancistrochaetus* is ranked G3 (vulnerable) by NatureServe and the Natural Heritage Network, meaning that it is at moderate risk of extinction on a global scale (NatureServe, 2022). This member of the sedge family (Cyperaceae) is found in the northeastern United States, where it occurs in isolated wetlands such as ponds and depressions with seasonally variable water levels. In Virginia, these wetlands are found only in the mountains. Some populations across the species' range appear to be declining due to human activity and many populations are unprotected. Several of the extant populations are small and most are subject to threats including habitat degradation or loss caused by development and land use practices and natural threats such as succession and herbivory (USFWS, 1993). Climate change is expected to pose a threat to populations by affecting seasonal hydrology (USFWS, 2019a).

Trends

There are seven extant populations of *Scirpus ancistrochaetus* in Virginia and one population last seen in 1988. Many more populations are known to occur across seven additional states, all north of Virginia (USFWS, 2019b). The number of plants in Virginia populations ranges from thousands of individuals to fewer than 25 per pond, with year-to-year fluctuations in numbers documented (VA DCR, 2022). Fluctuations in plant numbers can be due to changes in

environmental conditions such as hydrology and light levels. Forest succession or increases in shrub density can increase shading and cause negative trends in plant health, population size, and population persistence (USFWS, 2019b). Isolated wetlands occupied by *Scirpus* are vulnerable to human impacts. Cipollini (2011) documented habitat modifications at 27% of sites visited during a survey of 90 *Scirpus* populations in Pennsylvania, Maryland, Virginia, and West Virginia. Determining population impacts and trends due to human impacts may be difficult since background fluctuations in plant numbers due to natural causes also account for some change. Range-wide, a net decrease of 10 populations is projected by 2055 due to natural factors alone, mainly climate change (USFWS, 2019b).

Conservation Action

Conservation actions recommended for *Scirpus ancistrochaetus* include increased protection of known populations and inventory of potential habitat for new locations.

Existing populations and their habitat should be conserved through land protection. Protection efforts should focus on ponds as well as adjacent uplands that could be impacted by development or adverse agricultural practices. These efforts should also focus on restoration of altered hydrologic cycles, if applicable. Disturbances such as roads or other development near these ponds can cause indirect effects such as sedimentation, altered hydrology, and introduction of invasive species. (USFWS, 2019a).

Inventory of isolated wetlands has been a priority (in Virginia?) for many years and numerous species of rare plants have been found, including *Scirpus ancistrochaetus*. Given the patchy distribution of these ponds, the difficulties inherent in finding them, and issues related to private land access, additional un-surveyed ponds still exist. Finding additional populations will increase the chances for their conservation. Given the serious threats faced by isolated wetlands, the conservation of multiple populations of *Scirpus ancistrochaetus* will be needed for the species to remain viable.

Summary

Scirpus ancistrochaetus (northeastern bulrush) is proposed for inclusion in the Virginia State Wildlife Action Plan as a tier II-B species due to its declining populations, limited and rare potential habitat, and land protection needs.

This species is found in the Roanoke Valley-Alleghany Regional Commission and Central Shenandoah Planning District Commission.

References

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