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# Conserving South Carolina's At-Risk Species:

## *Species facing threats to their survival*

### Harper's fimbristylis (*Fimbristylis perpusilla*)



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### Description

A small annual sedge reaching up to 8 cm tall (usually shorter), Harper's fimbristylis often forms tufts or mats. The leaves are thread-like and have 3 prominent veins on the backside. The greenish-brown flower spikelets (2-4 mm long) are borne on wiry stalks; fruits are pitted and banana-shaped, 0.4-0.6 mm long. Flowering occurs in late summer with fruiting in the fall. The small flowers of Harper's fimbristylis are wind-pollinated; seeds are probably dispersed by waterfowl and small animals. The seeds can remain dormant for years until a dry year produces the muddy pond edges that it inhabits, creating the specific conditions for germination.

### Range

Harper's fimbristylis is a regional endemic of the lower Coastal Plain from Delaware to Georgia with one disjunct site on the Cumberland Plateau in Tennessee. Occurrences are sporadic, with highly variable year-to-year abundance at each site. In South Carolina, the species is only known from Horry County.

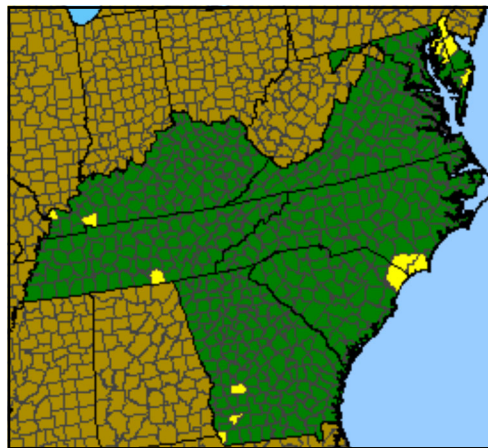
### Habitat

Habitat for Harper's fimbristylis includes muddy shores and exposed bottoms of limesinks, flatwoods, and farm ponds,

silty sandbars in blackwater rivers, and dried-up backwater sloughs. The plants are restricted to areas in ponds and rivers that are exposed, but not desiccated, during seasonal low-water periods. Many of these habitats are fragile and susceptible to hydrological disturbances. Surrounding communities include flatwoods, pine barrens, cypress-gum forests, and moist/wet hardwood forests and woodlands.

### Status

NatureServe's Rounded Global Status is G2 – Imperiled. The U.S. Fish and Wildlife Service was petitioned to list the species in April 2010 and in September 2011, published a substantial 90-day finding indicating listing may be warranted. Approximately 55 occurrences are believed to be in existence but only 24 of these have been observed in the past 20 years. The South Carolina Department of Natural Resources lists Harper's fimbristylis as a high priority species in the State Wildlife Action Plan.



*Harper's fimbristylis* (yellow counties - extant); map generated from Kartesz, J.T. 2015. *Floristic Synthesis of North America, Version 1.0*. Biota of North America Program (BONAP).

### Threats

One of the major threats to Harper's fim-

bristylis is the destruction of ponds by draining, filling, and cattle trampling. Fire suppression is also a threat. Logging, clearing or drainage for agriculture, and other land-use conversion such as road construction have destroyed much of this species' habitat and continue to threaten some sites.

### Management/Protection Needs

Increase survey efforts for the species. Surveys are best conducted during fruiting (September–October) because mature fruits are needed for identification. Begin regular monitoring on established sites. Plants may not be visible at a pond for years, then will re-appear when seasonal water fluctuations are favorable. Avoid draining or filling natural ponds. Allow fires in surrounding uplands to burn across ponds. Avoid plowing fire lines or cutting roads around ponds. Exclude cattle from natural ponds. Continue research, especially seed bank studies.

### References

Georgia Department of Natural Resources - Rare Plant Species Profiles: <http://georgiawildlife.com/speciesinfo/plants>

Kartesz, J.T., The Biota of North America Program (BONAP). 2015. North American Plant Atlas. (<http://bonap.net/napa>). Chapel Hill, N.C.

NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>.

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