

**Recommendation for the Designation of
Virginia Sneezeweed
Helenium virginicum Blake
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 Virginia Sneezeweed (*Helenium virginicum* Blake) to Virginia's list of Species of Greatest Conservation Need as a tier **I-A*** species (Appendix 1).

Justification

Species Summary

Helenium virginicum (Virginia Sneezeweed; G3/S2, Fed LT/State LE) (Appendix 2) was listed as Federally Threatened by the U.S. Fish and Wildlife Service on November 3, 1998 due to impacts from residential development, incompatible agricultural practices, filling and ditching of habitat, and other hydrologic modifications (USFWS, 1998). *Helenium virginicum* is ranked G3 (vulnerable) by NatureServe and the Natural Heritage Network, meaning that it is at a moderate risk of extinction on a global scale (NatureServe, 2023). This perennial member of the Aster family (Asteraceae) is restricted to shallow, seasonally inundated ponds in Virginia and sinkhole pond margins and wet meadows in the Ozark Highlands (Rimer and McCue 2005, VA DCR 2023). Aside from those populations eliminated by development, some have experienced dramatic declines or been extirpated due to filling and ditching, activities that alter the hydrologic cycle. Grazing and mowing of *Helenium virginicum* in formerly forested pastures is also a problem due to repeated stresses from trampling, decreased reproduction, and eutrophication. A significant and surprising amount of damage to *Helenium* populations has occurred due to excessive offroad vehicle use (USFWS, 1998).

Trends

There are 18 extant element occurrences (EOs) of *Helenium virginicum* in Virginia, encompassing 44 sinkhole ponds (VA DCR, 2023). Over 40 EOs are known in Missouri and at least one population was discovered recently in Indiana. The species was initially thought to be

endemic to Augusta, Rockbridge, and Rockingham counties, Virginia but was discovered in Missouri in 2000, where it is now known from at least 10 counties in the Ozark Highlands region (Natureserve 2023, Kartesz 2015). Significant natural fluctuations in plant numbers have been documented. Recruitment is often governed by water fluctuations, with years of suitable soil moisture causing populations to thrive and years with excessive water levels - especially persistent inundation - inhibiting germination and causing declines. Plants that compete with *Helenium* for space also experience fluctuations depending on these growing conditions, sometimes leading to increased competition with *Helenium* (NatureServe 2023). Population trends are difficult to interpret for this species. No populations in Virginia are known to have been extirpated since the species was named but historical impacts to sinkhole ponds in the region makes it extremely likely that populations were extirpated before ponds were surveyed (VA DCR 2023). Populations in some Virginia ponds have not been found during follow-up visits, but it is impossible to tell if this indicates true absence or part of the species' aforementioned boom-and-bust cycle. In Missouri, the most obvious trend has been the continued discovery of new populations and the recognition of that state as the stronghold for *Helenium virginicum*.

Conservation Action

The main conservation action recommended for *Helenium virginicum* is habitat protection. This may include land purchases, but cooperation with private landowners is necessary due to the location of many ponds. Activities that may negatively affect *Helenium* populations include draining or filling of ponds, enlargement of ponds for livestock use, grazing or haying of formerly intact ponds, agrochemical impacts, and offroad vehicle use. Impacts from invasive species are also possible, particularly when pond habitats have been degraded by drainage and converted to pasture. Active management is not usually possible in habitats occupied by *Helenium*, so protection from human impacts is a top priority.

The inventory of sinkhole ponds in the Shenandoah Valley for *Helenium virginicum* and other rare species has been a priority in Virginia for decades but is not complete. Most ponds on public land and many on private land have been visited but inventory of additional ponds is needed. Given the logistics required to survey private lands, some populations have likely escaped detection. Finding these populations will increase the chances for their conservation, particularly if human impacts can be lessened by working with landowners.

Summary

Helenium virginicum (Virginia Sneezeweed) is proposed for inclusion in the Virginia State Wildlife Action Plan as a tier 1-A species due to its threatened habitat and highly restricted range. The ponds occupied by *Helenium virginicum* are also very small in size and few in number, making the species highly vulnerable to human impacts.

This species occurs only in the Central Shenandoah Planning District Commission.

References

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***Rank Tier 1-A based on the species' State Endangered Status; as far as the A rank, on the ground conservation strategies (land protection) have been identified and some implemented. Does land protection count? Seems like that would make every species an "A" by default**