

**Recommendation for the Designation of
Smooth Coneflower**
(*Echinacea laevigata* (C.L. Boynt. & Beadle) 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 Smooth Coneflower (*Echinacea laevigata* (C.L. Boynt. & Beadle) Blake) to Virginia's list of Species of Greatest Conservation Need as a tier **2-A*** species (Appendix 1).

Justification

Species Summary

Echinacea laevigata (Smooth Coneflower; G2/S2, Fed LT/State LT) (Appendix 2) was listed as Federally Endangered by the U.S. Fish and Wildlife Service on October 8, 1992 due to habitat loss and modification, development, and collecting (USFWS, 1992). The species was downlisted to Threatened on July 6, 2022 (USFWS 2022). *Echinacea laevigata* is ranked G2 (imperiled) by NatureServe and the Natural Heritage Network, meaning that it is at a high risk of extinction on a global scale. (NatureServe, 2023). This perennial member of the Aster family (Asteraceae) is restricted to prairie-like openings in forests and artificially open habitats such as rights-of-way and clearcuts, usually in areas with calcium- and magnesium-rich soils. It is distributed from Virginia to Georgia and may have once been present in Pennsylvania. Habitat alteration and development are the primary threats to the species' continued existence. Since *Echinacea* habitat is maintained partly by fire, prescribed burns or mechanical methods that mimic the effects of fire are necessary to safeguard extant populations. Timber management is used in tandem with fire to create the canopy openings favored by *Echinacea*. Impacts to populations from development can be direct or can result from the prohibition of burning due to the concerns of adjacent landowners and for road safety.

Trends

There are 15 extant populations of *Echinacea laevigata* in Virginia and 6 additional populations of historical occurrence only. No extirpated populations are known (VA DCR, 2023). 44

populations currently exist range-wide (USFWS 2021). A review of Virginia survey data shows population sizes to be relatively stable although increases have occurred in two populations due to the use of prescribed fire and timber removal by DCR. In these populations, monitoring has not been intensive enough to tell whether the increases are due to increases in flowering of existing rosettes or the recruitment of new plants from seed. Broader land management trends are also critical to understanding the future of *Echinacea laevigata*. Awareness of the role of fire and other disturbances in natural systems has never been higher, but the constraints on burning caused by development and liability concerns are steadily increasing. The health and viability of some populations can be maintained by mowing or the use of hand tools but most will need a combination of prescribed burning and timber harvests to flourish (USFWS 2021).

Conservation Action

Conservation actions recommended for *Echinacea laevigata* include land protection, habitat management, and continuing surveys for new populations. Illegal harvest of various *Echinacea* species for the medicinal trade is a problem; harvesting of *E. laevigata* has been reported but the level of threat is unknown.

Like most species occurring in dynamic habitats, simple land protection can effectively deter impacts from development but cannot assure the perpetuation of *Echinacea* populations. Habitat management is crucial to conserving and restoring populations. Habitat management generally consists of prescribed burning and timber removal but populations in artificially maintained habitats such as rights-of-way require cooperation with easement holders. Management of these marginal habitats needs to take timing and method of maintenance into account, including consideration of herbicide use.

Surveys for new populations should be continued, especially on private land. Geologic maps, topo maps, and aerial photography have proven very useful in discovering new colonies, but the ratio of effort to result is high on private property due to permission being denied on many tracts. The inability to reach owners due to lack of cell phone data and the inevitable denial of many visit requests once contact has been made means the process of discovering new populations may be slow. Encouraging landowners to manage their populations will increase *Echinacea* population numbers in Virginia more than any other method.

Summary

Echinacea laevigata (Smooth Coneflower) is proposed for inclusion in the Virginia State Wildlife Action Plan as a tier 2-A species due to its development threats, habitat restoration requirements, and potential impacts from medicinal harvest.

This species occurs in the following Planning District Commissions:

Mount Rogers

New River Valley Regional Commission

Roanoke Valley-Alleghany Regional Commission

Region 2000 Local Government Commission

West Piedmont

Southside

Commonwealth Regional Commission.

References

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United States Fish and Wildlife Service (USFWS). October 8, 1992. Determination of threatened status for the Smooth Coneflower (*Echinacea laevigata*). Federal Register Vol 57 (196): 46340-46344.

United States Fish and Wildlife Service (USFWS). June 24, 2021. Smooth Coneflower (*Echinacea laevigata*) 5 Year Review: Summary and Evaluation. Federal Register Vol 86 (119): 33159-33176. Raleigh Ecological Services Field Office Raleigh, North Carolina.

U.S. Fish and Wildlife Service (USFWS). 2022. Reclassification of Smooth Coneflower From Endangered To Threatened With a Section 4(d) Rule. Final rule. Federal Register 87(128): 40100-40115.

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***Rank Tier 2-A based on the species' G2 and S2 rankings and Federally Threatened Status; on the ground conservation strategies have been identified and some implemented.**