Recovery Outline for the Ocmulgee Skullcap (*Scutellaria ocmulgee*)

Species Common Name: Ocmulgee skullcap
Species Scientific Name: *Scutellaria ocmulgee*
ESA Listing Status: E; November 29, 2024; (89 FR 86670)
Lead Region: Southeast Region, Atlanta, Georgia
Cooperating Region(s): N/A
Lead Office: Georgia Ecological Services Field Office; GAES_assistance@fws.gov
Cooperating Office(s): South Carolina Ecological Services Field Office
Species Range: Georgia and South Carolina

PURPOSE AND DISCLAIMER

The recovery outline is a succinct document that presents a preliminary recovery strategy and actions to direct a newly listed species' recovery efforts until a recovery plan is completed. Recommendations in the recovery outline are non-binding and are intended to guide (not require) regulatory (e.g., section 7 consultations and section 10 permitting) and conservation actions to be implemented by the Service and our external partners.

This document lays out a preliminary course of action for the survival and recovery of the Ocmulgee skullcap. Formal public participation for recovery planning will be invited upon the release of the draft recovery plan. However, we will consider any new information or comments that members of the public offer in response to this outline during the recovery planning process. For more information on Federal recovery efforts for Ocmulgee skullcap, or to provide additional comments, interested parties may contact the lead field office for this species, email listed above.

1. BACKGROUND

The purpose of this recovery outline is to provide an interim strategy to guide the conservation and recovery of the Ocmulgee skullcap until a final recovery plan is completed. Meeting the recovery needs of the species will require cooperation among the U.S. Fish and Wildlife Service (Service), other Federal and State agencies, and the public. An outline of potential recovery actions for the Ocmulgee skullcap may help interested stakeholders understand how we envision its conservation proceeding until a recovery plan is finalized.

The final rule listing the Ocmulgee skullcap (*Scutellaria ocmulgee*) was published in the Federal Register on October 30, 2024 (89 FR 86670) with an effective listing date of November 29, 2024. The following sections include a summary of the biology, life history, and ecology of the species. A complete discussion of the species' morphology, taxonomy, distribution, phenology, reproduction, life span, demographic trends, and habitat needs can be found in the Species Status Assessment for the Ocmulgee skullcap. An electronic copy of the assessment report is available on the ECOS species webpage for Ocmulgee skullcap. (https://ecos.fws.gov/ecp/species/6796).

Important Information Gaps and Treatment of Uncertainties

There are several important information gaps and uncertainties related to the Ocmulgee skullcap's history, demographics, and distribution. Additional data in the following areas may provide knowledge to better understand and improve species' recovery efforts.

1. Species status and distribution. Is the current distribution only limited to the Ocmulgee and Savannah River watersheds? Are there undiscovered populations within and/or between the watersheds?
2. Population trends over time. What constitutes a stable population? How long do individuals live?
3. Genetic diversity. How related or genetically diverse are individuals within and among populations? Are individuals within populations predominately genetically similar (clonal) or genetically unique? How isolated are the populations between the Ocmulgee and Savannah River watersheds?
4. Pollinators. Identify the pollinators, are there species-specific pollinators?
5. *Ex-situ* populations. Determine if conservation collections are Ocmulgee skullcap and document provenance, if possible.

Limiting Ecological Traits

Ocmulgee skullcap (*Scutellaria ocmulgee*) is in the Lamiaceae (mint) family and populations are naturally distributed as small and disjunct populations restricted to calcium-rich soil on forested bluffs along the Ocmulgee and Savannah River watersheds (Service 2023). In these isolated areas, the forest structure is comprised of mixed-hardwood tree species with a partially open canopy to allow the plants to reach maturity and produce viable seed. Ocmulgee skullcap requires little to no competition to reach maturity and produce seed. Sixteen of 19 Ocmulgee skullcap populations have fewer than 60 individuals and 9 populations have 10 or fewer individuals. Only three populations have more than 100 individuals. Small population size may increase the extinction risk of individual populations due to stochasticity of demographic (fluctuations in population size) and genetic (fluctuations in gene expression) characteristics, environmental stochasticity (spatiotemporal fluctuations in environmental conditions), or impacts from catastrophic events (e.g., hurricanes). Within each population, genetic, phenotypic, and demographic structure must have adequate representation for populations to respond to environmental change over time. Genetic stochasticity due to small population size can contribute to population extirpation, especially when population fragmentation disrupts gene flow. In addition, small population size may further increase risk of extirpation when combined with other threats such as habitat fragmentation, deer herbivory, competition from invasive plants and climate change.

Threats

The primary factors currently impacting the viability of Ocmulgee skullcap are habitat destruction and modification resulting from development (i.e., urbanization) and deer herbivory (Service 2023). In addition, invasion by nonnative invasive plant species is significantly impacting some populations. While silviculture and agriculture are not primary threats, at least one population has been negatively affected. Implementation of State-approved best management practices are critical to buffer and protect Ocmulgee skullcap populations from erosion and altered microclimate conditions. In the future projected climate change, including drought and changes in rainfall patterns, may exacerbate existing threats and negatively impact the species.

Current Biological Status

Overview

Ocmulgee skullcap (*Scutellaria ocmulgee*) is in the Lamiaceae (mint) family and is restricted to the calcium rich slopes along the Ocmulgee and Savannah River watersheds in Georgia and South Carolina. In these isolated areas, the forest structure is comprised of a mixed-hardwood species of trees with a partially open canopy to allow the plants to reach maturity and produce viable seed. Ocmulgee skullcap requires little to no competition for needed resources (e.g., sunlight, calcium, pollinator presence, stable soil conditions, etc.) to reach maturity and produce seed. Currently approximately 1,200 individuals are estimated to occur in 19 populations, at least 1 is reduced from timber harvesting, and almost all populations show signs of deer herbivory

and/or nonnative invasive species. Eight of the 19 populations (42 percent) are potentially protected and/or managed (Federally, State, or privately owned and managed for conservation).

3 Rs: For the purposes of the SSA, we assessed the condition of 19 Ocmulgee skullcap populations across two watersheds representing the range of the species (Service 2023).

Resiliency: We determined the resiliency of the majority (16 of 19) of populations across the range to be low or very low. Only one population within the Ocmulgee watershed exhibits moderate resiliency; and two populations within the Savannah watershed exhibit moderate or high resiliency. One occurrence within an extant population in the Savannah watershed is presumed extirpated. The Ocmulgee skullcap has generally low to very low resiliency to stochastic events at the population level.

Redundancy: The species-level redundancy was determined to be reduced from historical condition. Although the species is characterized by multiple populations distributed along the Ocmulgee and Savannah Rivers watersheds the resiliency of those populations is low to very low.

Representation: The current distribution of Ocmulgee skullcap populations represents the historical range of the species within the Ocmulgee and Savannah River watersheds. However, the watersheds are non-contiguous and most populations within the watersheds are not connected to each other limiting genetic flow. Therefore, we determined Ocmulgee skullcap representation is likely lower than its historical condition but retains moderate adaptive capacity to adapt to changing environmental conditions.

Conservation Actions to Date

Some Ocmulgee skullcap populations are being conserved in Georgia and South Carolina. In Georgia, Ocmulgee skullcap occurs on Robins Air Force Base and the species is included in the installation's Integrated Natural Resource Management Plan (INRMP) aimed to guide monitoring and vegetation management (Robins AFB INRMP 2017, p. 83). Efforts to reduce invasive plants within one of the populations on the installation is underway. The species also occurs on three State Wildlife Management Areas (WMAs) in Georgia: Yuchi, Ocmulgee, and Oaky Woods WMAs but no species-specific conservation actions have been conducted. Ocmulgee skullcap is listed as a high priority species (i.e., Species of Great Conservation Need (SGCN)) in the Georgia State Wildlife Action Plan (GA SWAP 2015) and is being prioritize for conservation action in the 2025 SWAP. The Georgia Power Company is working with the Service to develop strategies to protect one Ocmulgee skullcap population occurring on their land. Also in Georgia, Ocmulgee skullcap co-occurs with some populations of the federally endangered fringed campion (*Silene polypetala* (=*catesbyi*)) where conservation actions such as invasive species and deer management are underway. In South Carolina, one population occurs on a State Heritage Preserve where invasive species management is underway. Ocmulgee skullcap is not included in the South Carolina Wildlife Action Plan (SC SWAP 2015) but will be included in the 2025 update. After the SSA Report was completed, one population was discovered (in 2023) in South Carolina on the Sumter National Forest.

2. PRELIMINARY RECOVERY PROGRAM

Recovery Priority Number

Number: 2

Rationale: The Ocmulgee skullcap is assigned a recovery priory number of 2, indicating the species faces a high degree of threat but has a high recovery potential. The degree of threat is considered high because most populations have very few individuals and the degree of deer herbivory on those remaining individuals is high. In addition, habitat degradation is increasingly high due to introduction and expanding invasive plant populations in Ocmulgee skullcap populations. However, there is a high to moderate recovery potential because the biological and ecological limiting factors are relatively well-understood. The threats are known (primarily deer herbivory and habitat degradation due to invasive species) and techniques to abate them are known but would require a moderate level of intensity to implement to a level necessary to meet recovery.

Preliminary Recovery Strategy

The ultimate recovery goal is to ensure the long-term viability of Ocmulgee skullcap by implementing conservation actions to support self-sustaining and sufficiently large populations, and across the species' current distribution within both the Ocmulgee and Savannah River watersheds, such that protections afforded by the Endangered Species Act are no longer necessary. The interim recovery actions include acquiring updated population and habitat condition information for all populations. Based on the survey information, conservation actions should be prioritized for populations on protected lands and those at highest risk of extirpation. Conservation actions may include deer management, invasive species removal, and other actions to protect and manage Ocmulgee skullcap and its habitat. New and continued partnerships with State (GA/SC) and Federal agencies, county governments, industry (e.g., Georgia Power), non-governmental organizations (NGOs), private landowners, and universities will be needed to protect habitat and recover populations at known sites. Ground truth and revise the species distribution model to better guide surveys to discover additional populations. Finally, we will develop Ocmulgee skullcap captive propagation and genetic plans to guide population augmentation and reintroductions. Collecting and safeguarding plant material *in* and *ex-situ* collections should be assessed. Recovery actions (not in priority order) may include:

Preliminary Recovery Actions

- Protect known populations from adverse habitat impacts.
    - Prioritize sites for protection.
    - Identify resources/tools needed to ensure long-term protection.
    - Contact and develop conservation plans in partnership with private landowners.
- Obtain updated population and habitat information for all known populations.
- Manage (or reduce) impacts from deer herbivory at all known populations.
- Manage (or reduce) impacts from invasive plant species.
- Establish and further develop diverse partnerships to support recovery.

- Use and improve species distribution model to guide surveys for finding new populations.
- Develop and implement Service-approved captive propagation and genetics plan.
    - Preserve genetic stock.
    - Select sites from which germplasm needs to be conserved.
    - Develop protocols for collection and propagation (e.g., seed, cuttings, tissue culture, etc.).
    - Conduct genetics study to inform recovery and captive propagation program.
    - Develop outplanting protocols, including monitoring and management of re-established sites.

3. RECOVERY PRE-PLANNING CONSIDERATIONS

We will prepare a Recovery Plan for the Ocmulgee skullcap informed by the Species Status Assessment Report (Service 2023) and the best scientific data available. The Recovery Plan will include objective and measurable criteria that, when met, will ensure the conservation of the species. Recovery criteria will address all meaningful threats to the species and estimate the time and cost to achieve recovery. The Georgia Ecological Services Field Office will lead the recovery planning effort.

During the recovery planning process, we will seek input, comments, and review from multiple stakeholders in Georgia and South Carolina, including State conservation agencies, species experts, research universities, and conservation organizations. Species experts are currently cooperating in ongoing conservation actions including the planning and development of the species monitoring plan and the draft Recovery Plan.

Signed: CARRIE STRAIGHT Digitally signed by CARRIE STRAIGHT Date: 2025.04.02 08:53:58 -04'00'

Acting for Division Manager, Recovery Program

REFERENCES

U.S. Fish and Wildlife Service [Service]. 2023. Species status assessment report for the Ocmulgee Skullcap (*Scuterllaria ocumlgee*), version 1.3. https://ecos.fws.gov/ecp/species/6796