

Scutellaria floridana
(Florida skullcap)

**5-Year Status Review:
Summary and Evaluation**



Photo by Vivian Negrón-Ortiz, 2021

**U.S. Fish and Wildlife Service
Southeast Region
Florida Ecological Services Field Office
Panama City, Florida
February 2024**

5-YEAR STATUS REVIEW
***Scutellaria floridana* (Florida skullcap)**

GENERAL INFORMATION

Current Classification: Threatened

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Reviewers:

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Date of original listing: June 8, 1992 (57 FR 19813; May 8, 1992).

Methodology used to complete the review: In accordance with section 4(c)(2) of the Endangered Species Act of 1973, as amended (Act), the purpose of a status review is to assess each threatened species or endangered species to determine whether its status has changed and if it should be classified differently or removed from the Lists of Threatened and Endangered Wildlife and Plants (50 CFR 424.11). The U.S. Fish and Wildlife Service (Service) evaluated the biology, habitat, and threats of the *Scutellaria floridana* to inform this status review.

We announced initiation of this review in the Federal Register on May 11, 2023 (88 FR 30324). We received no public comments during the 60-day open comment period; however, key stakeholders were contacted while the review was being written, and various documents and communications were received. This review was accomplished using information obtained from the Recovery Plan of June 1994, 5-yr reviews of 2009 and 2019, unpublished field survey results, reports of current research projects, peer reviewed scientific publications, unpublished field observations by Service, State and other experienced biologists, and personal communications. These documents are on file with the Service.

FR Notice citation announcing the species is under active review: 88 FR 30324 (May 11, 2023): Endangered and Threatened Wildlife and Plants: 5-Year Status Review of 67 Southeastern Species.

Species' Recovery Priority Number at start of 5-year review (48 FR 43098): 2C
Scutellaria floridana is a species with a high degree of threat, has high recovery potential, and because the recovery is in conflict with development, the letter “C” was added to the recovery priority number.

Review History: Previous 5-year Review: September 5, 2019, June 11, 2009; both reviews recommended no change in status (Service 2019, 2009).

REVIEW ANALYSIS

Listed Entity: Species

Taxonomy and Nomenclature

Scutellaria, commonly known as skullcap, comprises about 360 species distributed from Europe, the U.S., and East Asia. This genus of the *Lamiaceae* includes mints, basil, rosemary, and lavender. All members of the *Scutellaria* are recognized as a monophyletic clade (Ranjbar and Mahmoudi 2013), and therefore, they are good taxonomic entities. We are not aware of any changes to the taxonomy of this entity, and it is still considered valid by the Service and the scientific community.

Distinct Population Segment (DPS) (61 FR 4722)

The Act defines species as including any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate wildlife. This definition limits listing of a DPS to only vertebrate species. Because the species under review is a not a vertebrate, the DPS policy does not apply.

Recovery Criteria

Recovery Plan

Recovery plans are not regulatory documents and intended to provide guidance to the Service, States, and other partners on methods of minimizing threats to listed species and on criteria that may be used to determine when recovery is achieved. If the recovery criteria defined in the plan are still valid, meeting recovery criteria can indicate that the species no longer requires protections under the Act. However, when recommending whether a listed species should be delisted, the Service must apply the factors in section 4(a) of the Act (84 FR 45020).

The recovery plan of 22 June 1994, “Recovery Plan for four plants of the lower Apalachicola Region, Florida: *Euphorbia telephioides* (telephus spurge), *Macbridea alba* (white birds-in-a-nest), *Pinguicula ionantha* (Godfrey’s butterwort), and *Scutellaria floridana* (Florida skullcap)” includes a recovery objective for delisting the species as well as one recovery criterion to adequately protect and manage 15 populations distributed throughout the species’ historical range for 10 years. This recovery criterion addresses factors A and B. Factor C is not relevant to *S. floridana*. Factors D and E, although relevant to this species, were not addressed by the Recovery Plan. *This criterion has not been met.*

This plant, based on best available information, is known from four counties with the populations primarily found on the Apalachicola National Forest (Fig. 1). At present, we have 19 protected occurrences across the species’ range with multiple source features (or subpopulations) that overlap or are in proximity to each other. Apart from Apalachicola National Forest, which currently has nine protected EOs (H. Rosner-Katz, FNAI, 2024, pers. comm.), no long-term monitoring or annual surveys have been initiated for other *S. floridana* sites. The most comprehensive survey across the species’ range was conducted in 2021 (Hanko et al. 2023).

Ten of the historically secured EOs are located on public lands outside the Apalachicola National Forest (ANF; Service 2009): three EOs on the St. Joseph Bay State Buffer Preserve (Gulf

County); one EO at Lathrop Bayou, Bay County; three EOs at Tate’s Hell State Forest, two EOs at Box-R Wildlife Management Area, and one EO at Apalachicola River Wildlife Environmental Area, Franklin County. Management plans have been developed and implemented by the: 1) Bureau of Land Management (BLM) for the Lathrop Bayou (BLM 2003), and 2) Florida Department of Environmental Protection for the St. Joseph Bay State Buffer Preserve. Long-term monitoring has not been initiated.

Biology and Habitat Summary

The previous 5-year reviews in 2009 and 2019 provide details on the life history and biology that will not be repeated here unless there is new information to indicate changes in our interpretation or past information or if context is needed for discussions below (Service 2009 and 2019; <https://ecos.fws.gov/ecp/species/2240>). Population biology comprises studies of pollination and reproduction, seed ecology and propagation (Service 2019).

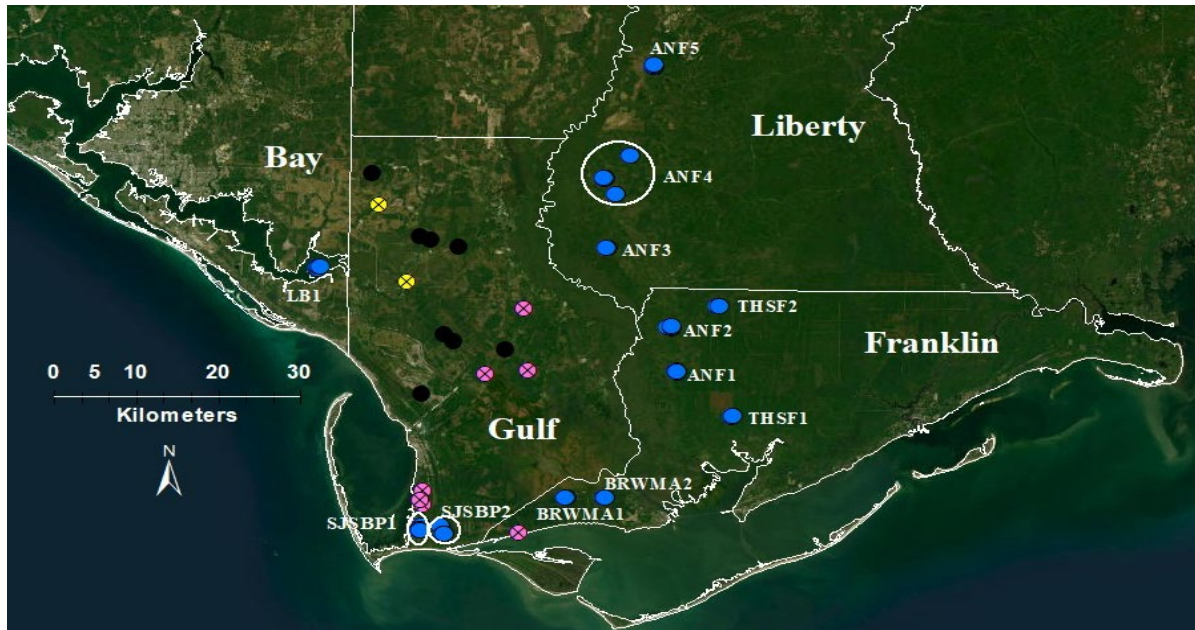


Figure 1. Locations of known occurrences of *S. floridana*, 2021 surveys. Symbols: black = officially extirpated sites; yellow = sites that were inaccessible; pink = sites without individuals; blue = sites with *S. floridana* plants.

Scutellaria floridana is a perennial mint endemic to four counties in the Florida panhandle (Figure 1). It grows in fire-dependent habitats such as longleaf pine wet forests and wet meadows and has a strong response to fire (Negron-Ortiz 2023). It can also occur in appropriate habitats within road/transportation and/or transmission rights-of-ways that are maintained. There were originally 40 historically documented occurrences throughout this species range (Service 2009, 2019). Since points within 1 km are all considered part of one occurrence (NatureServe 2020), the 40 historical occurrences represent 29 Element Occurrences (hereafter EOs or occurrences; Service 2009, 2019).

- Currently, there are 19 extant, protected EOs. These EOs continue to be threatened by urban development, timber farming, and fire suppression.
- Ten historically documented occurrences found on private property in Gulf County have been extirpated due to habitat modification, with a few not observed since the late 1980s (Service 2009, 2019).
- In 2022, a new EO was found in Apalachicola National Forest compartment 75 (H. Rosner-Katz, 2024, pers. comm.), and a new monitoring plot was established there.
- Apalachicola National Forest
 - ✓ Prescribed fire on an average of a 3-year fire return interval in the National Forest is targeted for management of the habitat community. From 2018-2022, the USFS burned annually on average 90,768 acres, with an average of 27,839 of those acres burned in the growing season. USFS will continue to apply prescribed fire, in addition to include rare plant locations on their prescribed fire maps for both protection and to prioritize habitat areas for hand lighting prescribed fire (M. Keys, Fire Management Planning Specialist, 2023, pers. comm.).
 - ✓ Compartments 69, 72, and 4 were burned on May 2023 (A. Johnson, 2023, pers. comm.). These compartments cover two occurrences composed of multiple source features (or subpopulations) that overlap or are in proximity to each other.
 - ✓ The Apalachicola National Forest Element Occurrences (EOs) are considered protected.
- A recent study assessed *S. floridana* response to prescribed fire (Negrón-Ortiz 2023), which will inform future conservation activities (see Appendix A for details).
- A summary of surveys in 2021 by Hanks et al. (2023):
 - ✓ *S. floridana* were located in 12 of 17 accessible sites.
 - ✓ Five of the 17 populations were found along power easements and did not have any above-ground *S. floridana* stems. The areas within 500 m of these five populations contained more woody wetlands, accounting for over 70% of land cover, and less evergreen forest accounting for 8.5% of land cover, contributing to the negative finding. They also contained more developed space than evergreen forest and included high intensity development, pasture, and cultivated crops.
 - ✓ We were unable to locate plants in one population located north of the St. Joseph Bay State Buffer Preserve (Gulf Co.). Within the population, several sites were inaccessible due to fencing, but those that we could access were flooded by 30–50 cm of water with an extremely thick understory of *Cyrtia racemiflora* (Titi) and little to no herb layer.
 - ✓ Two of the populations that we attempted to visit were in active rangeland or timber harvest operations in central Gulf County (Fig. 1, yellow symbol) and were inaccessible.
 - Timberland and habitat at the **northern occurrence** were present in 2013, but Google Earth historical imagery (accessed in 2023) showed partial land clearing in 2014 and complete clearing in 2019. It is uncertain whether *S. floridana* and its corresponding habitat is still extant.
 - The Google Earth historical imagery showed for the **southern occurrence** the presence of habitat in 2014, but a complete land clearing and corresponding *S. floridana* habitat in 2017 and 2019. The most recent

historical imagery (from 2022) showed that this land remains completely cleared. Therefore, this occurrence is considered extirpated.

- ✓ Of the 12 populations that contained actively growing individuals (Fig. 1, blue symbol):
 - Areas within 500 m were composed almost entirely of woody wetlands and evergreen forest, which account for over 88% of land cover. These areas contain no mixed forest, pasture, or cultivated crops, and low, medium, and high intensity development and deciduous forest each account for <0.5% of land cover. There was minimal change in land cover in these areas between 2001 and 2019. These suggest optimal habitat conditions for the presence of plants.
 - Flowering individuals were observed in several sites in the Apalachicola National Forest (Sumatra, Liberty Co.), one site in Tate's Hell State Forest (Franklin Co.), one site in the Box-R Wildlife Management Area, and the only site in the Lathrop Bayou Habitat Management Area (Bay Co.).
 - Box-R Wildlife Management Area (Franklin Co.):
 - Box-R Wildlife Management Area 1 was the smallest population, containing seven small patches (<10 stems/patch and <5 m²).
 - Genetic analyses identified 20 stems as belonging to 12 individuals with unique genetic profiles, and that Box-R Wildlife Management Area 1 is largely clonal (Hanko et al. 2023, Fig. 8). Contrasting to other estimates, re: 57 ramets recorded between 2016 and 2017 for both Box-R Wildlife Management Area 1 & 2 occurrences (Service 2019), the clonality analysis indicates that past population and/or occurrence sizes may be overestimates.

Abundance Summary

Florida Natural Areas Inventory had estimated hundreds of thousands of flowering stems for multiple occurrences (Florida Natural Areas Inventory 2017-2023, A. Johnson, 2023, pers. comm). However, because of the clonal system for this species, stem counts alone are an imperfect proxy for abundance in *S. floridana* populations as one individual can be composed of dozens of stems with no clearly delineated shape or arrangement across the landscape (Hanko et al. 2023); clonal diversity in 12 studied populations showed that one to 16 clones were present in a single population.

Genetics (Hanko et al. 2023)

The genetic diversity and relatedness, population structure, and clonal diversity was conducted using next-generation sequencing, ddRADseq (Hanko et al. 2023). A total of 294 samples from 12 populations, representing 17 sites were collected, and a dataset of 10,223 loci and 28,210 variable sites was used for downstream analysis.

- Compared with other Lamiaceae, *S. floridana* possess low genetic diversity, low to moderate evidence of inbreeding, and moderate divergence.
- Results showed that about 62% of the sampled plants represented unique genotypes suggesting that the *S. floridana* populations consist of a mixture of both asexually and sexually reproducing individuals.

- Substantial clonal reproduction was observed, since 92% of the studied populations were found to be multiclonal. See Recommended Future Activities 2b.

Threats (Five-Factor Analysis) Summary

The status of a species is determined from an assessment of factors specified in section 4 (a)(1) of the Act, including. Recent information shows that these threats remain ongoing, sometimes severe, and occur throughout the species range (with severe risk in Gulf County), and we expect these threats to continue in the future.

A. Present or threatened destruction, modification or curtailment of its habitat or range:

The primary habitat of Florida skullcap is wet longleaf pine flatwoods and wet prairie, within the grassy seepage bog communities at the edge of forested or shrubby wetlands, a habitat defined as a fire-dependent community. It is also found in the ecotones between mesic flatwoods and swamps sites or grassy margins of wetland habitats, and somewhat disturbed wetland savanna (Service 2019 and references therein). Prescribed burnings at 3- to 5-year intervals seem to maintain optimal *S. floridana* populations. Consequently, land conversion coupled with disruption of pre-historical and historical fire regimes of the longleaf pine-wiregrass ecosystem is responsible for the rapid decline of the ecosystem where *S. floridana* is found. Fire suppression is further discussed in the 2019 5-year review (Service 2019).

Habitat modification remains the primary threat to this species, and we expect this threat to continue in the future. Commercial timber production, urban development, conversion of timberlands into pasture lands for cattle, and fire management and exclusion in this region have resulted in ecosystem degradation. Conversion of much of the upland forest land in the four counties to pulpwood plantations (clearcutting, mechanical site preparation, and pine plantations) has possibly extirpated additional *S. floridana*'s populations. Clearcutting and/or selective thinning are of concern since typical silviculture operations often result in soil disturbance and compaction as well as changes in native plant communities and site microclimate (sun/shade, soil moisture) which can result in unsuitable habitat conditions for *S. floridana*. Site preparation practices resulting in soil disturbance, change in canopy cover from tree harvest, and change in fire frequency and seasonality are of concern as well as conversion of timberlands into pasture lands for cattle.

Analyses of land cover changes between 2001 and 2019 showed that about 309,000 km² area that represents *S. floridana*'s range experienced significant increases in medium- and high-intensity development (21% and 14%, respectively; Hanco et al. 2023). The study also demonstrated that deciduous and evergreen forests decreased by 33% and 14%, respectively, whereas mixed forest, shrubland, grassland, and herbaceous wetlands increased by 18%, 19%, 39%, and 22%, respectively. About 22% of *S. floridana*'s range falls within the borders of public lands, including state forests, national forests, habitat management areas, and preserves. These areas experienced no significant change (>2%) in land cover, suggesting that changes were restricted to private lands. Therefore, privately owned forests managed (clearcutting, mechanical site preparation, and bedding) for commercial timber production, including fire suppression and development are primary threats to *S. floridana* habitat and plants.

In 2013, the Timberland Company sold more than 380,000 acres of its land to AgReserves, Inc. The land sold included timberlands across the current range of the species.

Within Gulf County, AgReserves, Inc. has converted timberlands into pasture lands for cattle, therefore, the status of the documented occurrences on the land sold in North Gulf Co. is unknown.

Several *S. floridana*'s locations are found along U.S. and state roads. Construction activity may directly kill individual plants or convert habitat to unsuitable space; widening may convert native habitat to managed roadside; and culvert modification may change drainage patterns, which may change seasonal hydrology. Therefore, because they contribute to habitat loss, road widening, and new roads continue to pose a threat to the species.

B. Overutilization for commercial, recreational, scientific, or educational purposes and

C. Disease or predation:

We have no indication that overutilization for commercial, recreational, scientific, or educational purposes (Factor B) or disease and predation (Factor C) poses a significant threat for *S. floridana*.

D. Inadequacy of existing regulatory mechanisms:

Federal. The Endangered Species Act of 1973, as amended prohibits the removal of federally listed threatened and endangered plants or the malicious damage of such plants on areas under federal jurisdiction, or the destruction of endangered plants on non-federal areas in violation of state law or regulations or in the course of any violation of a state criminal trespass law. However, the Act does not provide protection for plants on non-federal lands unless it is in violation of state law.

On National Forests, protections for this plant could continue after a potential delisting from the Act contingent that it is recognized as a sensitive or locally rare species and is included in the management plan for the forest. These protections would allow the species to be considered during management of the property but may not protect it from all threats. However, only a portion of the species populations (five of 17 extant populations, located in Apalachicola National Forest) occur on National Forests.

Florida. *Scutellaria floridana* is listed as endangered under the Preservation of Native Plant Flora of Florida Act (Rule: 5B-40.0055, Regulated Plant index, Florida Statutes; <https://www.flrules.org/gateway/ChapterHome.asp?Chapter=5B-40>). The Preservation of Native Plant Flora of Florida Act addresses the protection of endangered, threatened, or "commercially exploited" plants. The removal of protected plants from a property, whether for transplant, sale, or any other purpose, requires both the written permission of the landowner and a permit from the Florida Department of Agriculture and Consumer Services. There are 6 of 17 extant populations (populations located in Tate's Hell State Forest, Box-R Wildlife Management Area, St. Joseph Bay State Buffer Preserve, and Lathrop Bayou Habitat Management Area) that occur on state owned or state managed lands, that may be provided some protection and management in the future.

Overall, the current regulatory mechanisms are not sufficient to protect the species from the threats identified in this review.

e. Other natural or manmade factors affecting its continued existence:

Herbicide. We no longer consider this a threat to Florida skullcap because mowing is now the common practice to maintain ROWs in Florida, although this threat was mentioned in the Recovery Plan. Franklin County allows only "spot treatment" due to impacts concerning the Apalachicola National Forest and waters within Apalachicola Bay and River basin.

Sea Level Rise (SLR). Using the National Oceanic and Atmospheric Administration Sea Level Rise and Coastal Flooding Impacts Viewer (<https://coast.noaa.gov/digitalcoast/tools/slr.html>), the projections indicated that coastal habitat areas in Bay, Franklin, and Gulf counties would be largely inundated beginning at 0.305 m (one foot) of sea level rise. Therefore, sea level rise projections will most likely extirpate populations located in Gulf (3 occurrences) and Franklin (2 occurrences) counties by intrusion of saltwater beginning at one foot of SLR. Under this scenario, Apalachicola National Forest will be least affected and the most important location for the survival of this species.

Catastrophic events. Hurricanes have impacted the Florida Panhandle and this threat is expected to continue. Hurricane Michael was the first Category 5 hurricane on record to impact the Florida Panhandle in 2018, and the effect of this disturbance on the 5 documented occurrences in Gulf and Bay counties, areas that were severely affected by the hurricane, remains largely unknown. Although *S. floridana* occurs in natural communities more resistant to hurricane damage such as pine flatwoods and wet prairie (Anderson et al. 2019), circumstantial evidence based on Hanko et al. (2023) surveys suggest potential extirpation to a population north of St. Joseph Bay State Buffer Preserve (Gulf Co.) since no plants were found after a thorough survey during the optimal survey period. Furthermore, we cannot rule out the possibility of permanent habitat modification after Hurricane Michael because several sites within the population were inundated by 30 to 50 cm of water with an extremely thick understory of *Cyrilla racemiflora*, conditions which are unsuitable for *S. floridana*.

Synthesis

Florida skullcap is presently located in four Florida panhandle counties (i.e., Bay, Franklin, Gulf, and Liberty counties). It is vulnerable because of its limited distribution within its historical range, low number of populations, and continued extirpation of documented elemental occurrences. The species is particularly concentrated in a few locations, specifically in the Apalachicola National Forest, where a new occurrence was recorded in 2023. The main threat for this species is habitat destruction and modification. Urban development, timbering, conversion of land to cattle grazing, and inadequate fire management, i.e., fire suppression, are the main pressures reducing or eliminating individual populations.

As of 2019, 10 of the historically documented occurrences appear to be extirpated due to development and/or habitat modification. Potentially, two other EOs located on active rangeland or timber harvest operations in central Gulf County could be extirpated or severely fragmented; therefore, conducting surveys in these areas is a priority.

The species occurs on both private and public lands. The nine EOs at Apalachicola National Forest are protected and adequately managed; these represent 47% of the 19 protected occurrences. Habitat on private lands has deteriorated in quality and extent due to conversion of much of the forest land to pulpwood plantations (e.g., clearcutting, conversion to improved pasture, drainage, and fire exclusion), and some to cattle grazing. Sea level rise at 1 foot predicts

potential impacts to another five documented occurrences, increasing total extirpations or severe fragmentation to an estimated 15 to 17 EOs. Surveys, finding new sites away from the coast as well as drafting a reintroduction / translocation plan are important actions for this species. Current monitoring data indicate an increase in the number of plants in Apalachicola National Forest. Plots in St. Joseph Bay State Buffer Preserve and Tate’s Hell State Forest should be established, with emphasis on areas known to be or will be inundated with seawater. Overall, *S. floridana* appears to have experienced a continued decline since its listing as threatened under the Act. Of the accessible EOs in 2021, we were able to confirm only 12 EOs with plants. Because of on-going threats and limited populations, the species continues to meet the definition of a threatened species under the Act.

RECOMMENDED FUTURE ACTIVITIES

1. Address continued monitoring and management.
 - a. Continue the long-term monitoring in the Apalachicola National Forest sites and set up plots in other sites such as St. Joseph Bay State Buffer Preserve, Tate’s Hell State Forest, and Lathrop Bayou.
 - b. As sea levels rise, saltwater intrusion increases in duration, frequency, and spatial extent. To assess the effect of salinity on *S. floridana*, sites where intrusion of salt water occurs should be considered for long-term monitoring.
 - c. Develop a stand-alone plan for managing listed plants at the Apalachicola National Forest and Tate’s Hell State Forest and integrate it to their Management Plans.
2. Conduct surveys/inventories on targeted sites. Based on Hanko et al. (2023), the genetic study showed that stem counts alone may not accurately reflect abundance in populations with low clonal richness; one individual can be composed of dozens of stems. It appears that on average, ten adjacent stems generally represent 1–2 unique individuals, suggesting that stem counts are usually equivalent to ten times the true population size.
 - a. Gulf County. Thorough surveying of populations located on private lands (North Gulf Co., Fig. 1, sites with yellow and black symbols) is recommended to determine whether *S. floridana* and corresponding habitat are still present. *This action is a priority for this species.*
 - b. In-depth investigation of clonal reproduction and management history of the four populations on public lands (Box-R Wildlife Management Area 1, Apalachicola National Forest 5, Tate’s Hell State Forest 1, and St. Joseph Bay State Buffer Preserve 1; Fig. 1) that possess very low genetic diversity and evidence of inbreeding.
3. Conduct surveys/inventories on potentially new sites (targeting recently burned sites). This action can include the use of species distribution modeling methods to initially determine potential sites, with subsequent validation or inspection of the sites for plants.
4. Manage Right-of-ways (ROWs)
Continue fostering conservation practices for utility and highway ROWs with the Forest Service, Florida Department of Transportation, and the Service; a management plan should be developed and implemented.

5. Establish (or continue) frequent growing-season fire regimes (i.e., 3- to 5-year interval) on selected areas such as the Apalachicola National Forest, St. Joseph Bay State Buffer Preserve, Tate's Hell State Forest, and Lathrop Bayou to maintain optimal conditions of populations. Re-visit sites shortly after a burn event, and mark and count individual ramets. Populations tend to be more evident after a fire event (Negrón-Ortiz 2023).

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Appendix A

Monitoring in the Apalachicola National Forest

1) The Service (collaborative with A. Johnson, Florida Natural Areas Inventory) established fifteen randomly selected 1 m² quadrats located within three sites at the Apalachicola National Forest, representing three restoration treatments (Negrón-Ortiz 2023). Ramets clustered in a 15.2 cm diameter circle were tagged and the number of ramets per cluster counted. Growth, reproduction, and survival of ramets were monitored three times a year from 2017 to 2019 to provide baseline data on survival *S. floridana* of ramets a) after a prescribed fire (which was instituted prior to thinning) and b) after thinning, and to help streamline the Section 7 consultation of projects of similar scope and scale. We have results for *objective a*, as thinning treatments were not initiated at the conclusion of this study in 2019 (Negrón-Ortiz 2023):

- i. Fire plays a role in the population biology of *S. floridana* by stimulating immediately after fire, reproduction (flowering ramets and number of buds, flowers, and fruits) and vegetative growth (number of clusters of ramets and ramet number). No fertile ramets were recorded in all study plots in the 2nd year post-fire.
- ii. The initial number of clusters of ramets increased > 60% in subsequent years due to ramet proliferation, as the high prevalence of clonality demonstrated for this species by Hanko et al. (2023) likely explain this finding.
- iii. Reproduction is size dependent. On average and across years, fertile ramets exhibited a wider diameter and had taller ramets compared to vegetative ramets.
- iv. The proportion of buds, flowers, or fruits peaked at each site in April and May during the first year-study.
- v. *Scutellaria floridana* is a post-fire resprouter species, a crucial trait for persistence in fire-prone habitats.

2) Using four monitoring methods in 2023, the Florida Natural Areas Inventory, in collaboration with the U.S. Forest Service, surveyed 1,001 plots of 1 m² in size in Apalachicola National Forest compartments 69 and 72. Results show that (a) 50% of the plots have Florida skullcap; (b) lower shrub cover tends to be more favorable for higher Florida skullcap cover, and (c) moderate levels of herbaceous cover exhibit highest cover of Florida skullcap (FNAI 2023).

3) The Friends of the Apalachicola National Forest (FANF), a group of citizens organized to provide input to the U.S. Department of Agriculture Forest Service on issues related to management of the Apalachicola National Forest, randomly located 25 CVS plots. These plots were set up in 2015 and 2016 to sample groundcover before and after thinning, and before and after fire; one random plot has *S. floridana* (Service 2019). According to Glitz (FANF, 2023, pers. comm.), this plot had in 2019 about 12 clumps with an average of 1.3 stems per clump. No further updates were offered.

RESULTS / SIGNATURES

U.S. Fish and Wildlife Service Status Review of *Scutellaria floridana* (Florida skullcap)

Status Recommendation:

On the basis of this review, we recommend the following status for this species. A 5-year review presents a recommendation of the species status. Any change to the status requires a separate rulemaking process that includes public review and comment, as defined in the Act.

Uplist to Endangered

Delist:

The species is extinct

The species does not meet the definition of an endangered or threatened species

The listed entity does not meet the statutory definition of a species

No change needed

Acting Division Manager, Florida Ecological Services Field Office, U.S. Fish and Wildlife Service

Approve _____

** In the Florida Ecological Services Field Office, the Classification and Recovery Division Manager has delegated authority to approve 5-year reviews that do not recommend a status change.*