

**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17**[Docket No. FWS–R4–ES–2021–0059;  
FXES1111090FEDR–256–FF09E21000]

RIN 1018–BE01

**Endangered and Threatened Wildlife and Plants; Endangered Species Status for Ocmulgee Skullcap and Designation of Critical Habitat****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), list the Ocmulgee skullcap (*Scutellaria ocmulgee*), a plant species from Georgia and South Carolina as an endangered species under the Endangered Species Act of 1973 (Act), as amended. We also designate critical habitat. In total, approximately 6,661 acres (2,696 hectares) in Bibb, Bleckley, Burke, Columbia, Houston, Monroe, Pulaski, Richmond, Screven, and Twiggs Counties, Georgia, and in Aiken and Edgefield Counties, South Carolina, fall within the boundaries of the critical habitat designation. This rule extends the protections of the Act to this species and its designated critical habitat.

**DATES:** This rule is effective November 29, 2024.

**ADDRESSES:** This final rule is available on the internet at <https://www.regulations.gov>. Comments and materials we received are available for public inspection at <https://www.regulations.gov> at Docket No. FWS–R4–ES–2021–0059.

*Availability of supporting materials:* Supporting materials we used in preparing this rule, such as the species status assessment report, are available at <https://www.regulations.gov> at Docket No. FWS–R4–ES–2021–0059. For the critical habitat designation, the coordinates or plot points or both from which the maps are generated are included in the decision file for this critical habitat designation and are available at <https://www.regulations.gov> at Docket No. FWS–R4–ES–2021–0059.

**FOR FURTHER INFORMATION CONTACT:** Peter Maholland, Field Supervisor, U.S. Fish and Wildlife Service, Georgia Ecological Services Field Office, 355 East Hancock Avenue, Room 320, Athens, GA 30601; telephone 706–613–9493. Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access

telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

**SUPPLEMENTARY INFORMATION:****Executive Summary**

*Why we need to publish a rule.* Under the Act, a species warrants listing if it meets the definition of an endangered species (in danger of extinction throughout all or a significant portion of its range) or a threatened species (likely to become endangered within the foreseeable future throughout all or a significant portion of its range). If we determine that a species warrants listing, we must list the species promptly and designate the species' critical habitat to the maximum extent prudent and determinable. We have determined that the Ocmulgee skullcap meets the Act's definition of an endangered species; therefore, we are listing it as such and finalizing a designation of its critical habitat. Both listing a species as an endangered or threatened species and designating critical habitat can be completed only by issuing a rule through the Administrative Procedure Act rulemaking process (5 U.S.C. 551 *et seq.*).

*What this document does.* This rule lists the Ocmulgee skullcap as an endangered species and designates critical habitat for the species in 18 units totaling approximately 6,661 acres (ac) (2,696 hectares (ha)) within portions of 10 counties in Georgia and 2 counties in South Carolina.

*The basis for our action.* Under the Act, we may determine that a species is an endangered or threatened species because of any of five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We have determined that the Ocmulgee skullcap is an endangered species due to the following threats: habitat loss and fragmentation due to development and urbanization (Factor A); competition and encroachment from nonnative, invasive species (Factors A and E); and herbivory from white-tailed deer (*Odocoileus virginianus*) (Factor C).

Section 4(a)(3) of the Act requires that the Secretary of the Interior (Secretary) to the maximum extent prudent and determinable, concurrently with listing

designate critical habitat for the species. Section 3(5)(A) of the Act defines critical habitat as (i) the specific areas within the geographical area occupied by the species, at the time it is listed, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protections; and (ii) specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species. Section 4(b)(2) of the Act states that the Secretary must make the designation on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impacts of specifying any particular area as critical habitat.

**Previous Federal Actions**

Please refer to the proposed listing and critical habitat rule (87 FR 37378) for the Ocmulgee skullcap published on June 22, 2022, for a detailed description of previous Federal actions concerning this species.

**Peer Review**

A species status assessment (SSA) team prepared an SSA report for the Ocmulgee skullcap. The SSA team was composed of Service biologists, in consultation with other species experts. The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the species.

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we solicited independent scientific review of the information contained in the Ocmulgee skullcap SSA report. As discussed in the June 22, 2022, proposed rule (87 FR 37378), we sent the SSA report to three independent peer reviewers and received one response. The peer review can be found at the docket on <https://www.regulations.gov>. In preparing the proposed rule, we incorporated the results of the review, as appropriate, into the SSA report, which was the foundation for the proposed rule and this final rule. A summary of the peer review comments and our responses can be found under Summary of Comments and Recommendations, below.

### Summary of Changes From the Proposed Rule

This final rule incorporates changes from our June 22, 2022, proposed rule (87 FR 37378) based on the comments that we received and respond to in this document as discussed in the Summary of Comments and Recommendations. Based on the comments and new information received (as described below) and our further consideration of the threats to the species, we determined the current risk of extinction is higher (see Determination of Ocmulgee Skullcap's Status, below) than we characterized in the proposal to list the Ocmulgee skullcap as a threatened species (87 FR 37378; June 22, 2022). We reassessed our analysis and found that habitat conditions in some areas, along with the low resiliency condition of most of the known Ocmulgee skullcap populations, places the species at a currently high risk of extinction throughout its range. Thus, after evaluating the best available information and the Act's regulations and policies, we determined that the Ocmulgee skullcap meets the definition of an endangered species, and such status is more appropriate than that of a threatened species as originally proposed. Because we determined that the Ocmulgee skullcap meets the definition of an endangered species, a 4(d) rule is inapplicable; consequently, we have removed that portion of the proposed rule issued under the authority of section 4(d) of the Act from this final rule.

New information (*i.e.*, updated surveys and habitat condition in areas considered extirpated or containing no suitable habitat, including updates regarding the Savannah River Bluffs Natural Heritage Preserve and Horse Creek sites) was submitted to us during the proposed rule's comment period. This new information and the comments we received during the comment period prompted us to reevaluate the best available information around the inclusion of sites previously considered extirpated in the SSA report, which is reflected in a new version of the SSA report (version 1.3) (Service 2023, pp. 21–22; 20–28). Applying the methodology to designate critical habitat (see Criteria Used to Identify Critical Habitat, below) to the new information, we determined that it is appropriate to add an occupied subunit to the critical habitat designation. The results of this updated analysis have been incorporated into this final rule and revises Unit 1 to add a new Subunit 1d, based on the area that we found to meet the definition of critical habitat, as

described in this rule. The addition of Subunit 1d increases the total critical habitat designation by 84 ac (34 ha) from the proposed critical habitat designation. The full descriptions of the designated units and subunits follow in III. Critical Habitat, below.

We changed the name of critical habitat Unit 9 from Robins Air Force Base to Adjoins Robins Air Force Base, to clarify the unit does not extend onto Robins Air Force Base but is immediately adjacent to the installation. In addition, we erroneously stated that Unit 9 consisted of 455 ac (184 ha) and that it included 231 ac (93 ha) of privately owned land and 224 ac (91 ha) of Department of Defense owned lands, even though the Robins Air Force Base was exempted. We changed the unit description to accurately reflect the exemption of the Robins Air Force Base, leaving 231 ac (93 ha) of privately owned land in Unit 9.

In the Summary of Biological Status and Threats, we clarified the significance of silvicultural and agricultural land uses on Ocmulgee skullcap populations.

Further, we have made minor editorial or stylistic changes and corrections to the June 22, 2022, proposed rule (87 FR 37378) in this final rule.

### Summary of Comments and Recommendations

In the proposed rule published on June 22, 2022 (87 FR 37378), we requested that all interested parties submit written comments on the proposal by August 22, 2022. We also contacted appropriate Federal and State agencies, scientific experts, organizations, and other interested parties and invited them to comment on the proposal. Newspaper notices inviting general public comment were published in the Aiken Standard, Augusta Chronicle, and Macon Telegraph newspapers on June 23, 2022. We did not receive any requests for a public hearing. All substantive information we received during comment periods has either been incorporated directly into this final determination or is addressed below.

#### Peer Reviewer Comments

As discussed in Peer Review above, we received comments from one peer reviewer on the draft SSA report. We reviewed the comments we received from the peer reviewer for substantive issues and new information regarding the contents of the SSA report. Peer reviewer comments are addressed in the following summary. As discussed above, because we conducted this peer

review prior to the publication of our proposed rule, we had already incorporated all applicable peer review comments into version 1.2 of the SSA report, which was the foundation for the proposed rule and this final rule.

The peer reviewer generally concurred with our methods and conclusions and provided support for thorough and descriptive narratives of assessed issues, additional information, clarifications, and suggestions to improve the final SSA report (version 1.2, Service 2020, entire). No substantive changes to our analysis and conclusions within the SSA report were deemed necessary, and the peer reviewer comments are addressed in versions 1.2 (Service 2020, entire) of the SSA report, which is available for public review at <https://www.regulations.gov> under Docket No. FWS-R4-ES-2021-0059.

(1) *Comment:* The peer reviewer suggested that the threat of land conversion to industrial silviculture or agriculture should be included in the future condition scenarios.

*Our response:* Our SSA report identifies urbanization and deer herbivory as the primary threats to the species. Although industrial silviculture or agriculture land uses may occur near the species' occurrences, the species typically occurs on steep slopes and bluffs that are less suitable for conversion to silviculture and agriculture. Thus, silviculture and agriculture activities that do not implement State-approved best management practices (BMPs) to buffer slopes (*i.e.*, Ocmulgee skullcap habitat) from erosion may impact populations. At least one occurrence, Boggy Gut Creek, has been affected by land use change associated with silviculture. The Boggy Gut Creek occurrence was last observed in 1999, but the entire site was clearcut in 2005, planted in loblolly pine (*Pinus taeda*), and subsequently cut in 2014 and 2017. In the most recent rangewide survey, Ocmulgee skullcap was not observed on the site and is categorized as "possibly extirpated" (Bradley 2019, p. 30).

At this time, the best available information is not sufficiently detailed to determine the level of BMP implementation in sites with Ocmulgee skullcap occurrences. However, implementation of State-approved BMPs for forestry activities are reportedly high for streamside management zones (SMZs) across Georgia and South Carolina, 91 and 99 percent, respectively (South Carolina Forestry Commission 2020, p. 6; Georgia Forestry Commission 2021, p. 3). Further, given the steep slopes associated with most

Ocmulgee skullcap occurrences, if BMP implementation is high in these areas, forestry activities are less likely to impact the species. Finally, in our future scenarios analysis in the SSA report, we describe how populations that occur on protected lands would not only be protected from urbanization but would also be protected from direct impacts from silviculture and agriculture (Service 2023, pp. 38–41).

#### Public Comments

(2) *Comment:* Several commenters stated their view that the Ocmulgee skullcap warrants listing as an endangered species rather than a threatened species. In support of this assertion, these commenters point to: (a) the current low or very low resiliency exhibited by 16 of 19 delineated populations, (b) 11 of 19 populations occurring on lands not categorized as protected lands, and (c) the effects of climate change, in addition to the effects of other threats, on the species.

*Our response:* We further considered our analysis and the impacts of individual and cumulative threats to the current condition of the Ocmulgee skullcap. After further consideration of current threats to the species, the low resiliency condition of most of the known Ocmulgee skullcap populations, and new information on habitat condition in some areas, we determined the current risk of extinction for the Ocmulgee skullcap is higher (see Determination of Ocmulgee Skullcap's Status, below), than we characterized in the proposal to list the species as a threatened species. Therefore, we have determined the Ocmulgee skullcap is currently at risk of extinction as a result of the threats of habitat degradation and loss from development, competition and encroachment from nonnative and invasive (plant) species, and herbivory by white-tailed deer.

However, the best available information does not indicate that the effects of climate change have negatively impacted or are currently negatively impacting the Ocmulgee skullcap's viability. In the future, projected changes due to climate change, including the frequency and severity of drought and changes in rainfall patterns, may negatively impact the species in the future as the effects of climate change increase or may exacerbate the effects of other threats.

(3) *Comment:* One commenter suggested our determination that the threats are not concentrated in any portion of the Ocmulgee skullcap's range at a biologically meaningful scale

is not appropriate. The commenter recommended we revise our significant portion of the range analysis to evaluate the 16 of 19 populations that the commenter notes are impacted by small population size and isolation, as well as the threats to 11 populations that do not occur on protected lands.

*Our response:* Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range. As stated above under *Our Response to (2) Comment*, we have determined that the Ocmulgee skullcap meets the definition of an endangered species (see Determination of Ocmulgee Skullcap's Status, below), and we accordingly did not undertake or revise an analysis of any significant portions of its range.

(4) *Comment:* One commenter recommended we include areas surrounding existing Ocmulgee skullcap populations in the critical habitat designation.

*Our response:* For Ocmulgee skullcap populations to be sufficiently resilient, life-history requirements must be met, including areas of suitable habitat large enough to support pollinators needed for Ocmulgee skullcap reproduction. These areas of suitable habitat include habitat that acts to prevent or delay encroachment by nonnative, invasive species. To address this life-history requirement, we:

(a) Address the species' requirement of intact hardwood forest to provide the appropriate canopy conditions in large enough areas to prevent or delay encroachment of nonnative, invasive species. We recognize the life-history requirement for habitat conditions to reduce encroachment and competition, and we include that habitat as a physical or biological feature essential to the conservation of the species (see *Summary of Essential Physical or Biological Features*, below) to impede the invasion of competitors.

(b) Address the need for critical habitat areas to include habitat surrounding Ocmulgee skullcap occurrences that support the life-history requirements for pollinators. We delineated populations of Ocmulgee skullcap using a 2-kilometer (km) (1.24-mile (mi)) radius circle around species' occurrences, with overlapping areas determined to be within the same population based on the need for sufficient space and resources for required pollinators (NatureServe 2020, entire; Service 2023, p. 21). The SSA report contains the best available

information used to identify critical habitat for the Ocmulgee skullcap, which includes existing monitoring data, population status surveys, and maps using the best available Geographic Information Systems (GIS) layers (Service 2023, pp. 21, 37–38, appendix A).

(5) *Comment:* A commenter requested that we include areas with historical and current Ocmulgee skullcap occurrences, including the Horse Creek occurrence and 15 other sites (as described in Morris 1999), in the final critical habitat designation.

*Our response:* In our delineation of critical habitat for the Ocmulgee skullcap, we relied on the best available scientific and commercial information, including Morris (1999). We also incorporated occurrence data (1961 to present) obtained from peer-reviewed articles, unpublished survey reports, and survey records contained in agency and partner databases (*i.e.*, Georgia and South Carolina Natural Heritage databases), including the most recent rangewide species survey (Bradley 2019, entire; Service 2022, entire).

Of the 16 sites described by the commenter, 13 are included in the final critical habitat designation (see table 1, below). As noted below in table 1, two occurrences described by the commenter were misidentified as Ocmulgee skullcap until 2018, when the sites were resurveyed and the occurrences correctly identified as the congeneric Mellichamp's skullcap (*Scutellaria mellichampii*) (Bradley 2019, pp. 42–45; Service 2023, pp. 6–7; 87 FR 37378, June 22, 2022, p. 37380). In table 1, below, we list the 16 sites recommended for inclusion by the commenter, the county and State where the site is located, the corresponding site name in Bradley (2019), and the proposed and final critical habitat unit where the site occurs, or the correct identification of the species.

Ocmulgee skullcap was last observed in 1961 on the remaining site, Horse Creek. In a recent survey, some Ocmulgee skullcap habitat characteristics were documented but no Ocmulgee skullcap were found in the area of the 1961 Horse Creek occurrence (Service 2022, entire). Given that Ocmulgee skullcap has not been observed in the Horse Creek area for more than 60 years and there is limited suitable habitat, it is unlikely this area would support the conservation of the species. Therefore, we did not include the Horse Creek occurrence in our delineation of critical habitat.

TABLE 1—SITES RECOMMENDED FOR INCLUSION IN CRITICAL HABITAT DESIGNATION BY THE COMMENTER

Site	County, State	Recent survey description	Proposed critical habitat unit	Final critical habitat unit
Augusta Lock and Dam .....	Columbia County, Georgia	Bradley 2019, pp. 25–27; Site 4.	Unit 1: Columbia/Richmond.	Unit 1: Columbia/Richmond.
Augusta Canal .....	Richmond County, Georgia	Bradley 2019, pp. 25–27; Site 4.	Unit 2: Barney Bluff .....	Unit 2: Barney Bluff.
Barney Bluff .....	Richmond County, Georgia	Bradley 2019, p. 29; Site 6	Unit 2: Barney Bluff .....	Unit 2: Barney Bluff.
McBean Creek-Beazley Property.	Burke County, Georgia .....	Bradley 2019, pp. 29–30; Site 7.	Unit 3: Burke North .....	Unit 3: Burke North.
McBean Creek—Miller Property.	Burke County, Georgia .....	Bradley 2019, pp. 29–30; Site 7.	Unit 3: Burke North .....	Unit 3: Burke North.
Boggy Gut Creek .....	Burke County, Georgia .....	Bradley 2019, pp. 30–31; Site 8.	Unit 3: Burke North .....	Unit 3: Burke North.
Shell Bluff North .....	Burke County, Georgia .....	Bradley 2019, pp. 31–32; Site 9.	Unit 3: Burke North .....	Unit 3: Burke North.
Shell Bluff South .....	Burke County, Georgia .....	Bradley 2019, pp. 31–32; Site 9.	Unit 3: Burke North .....	Unit 3: Burke North.
Blue Buff .....	Burke County, Georgia .....	Bradley 2019, pp. 33–35; Site 11.	Unit 4: Burke South .....	Unit 4: Burke South.
Hancock Landing North .....	Burke County, Georgia .....	Bradley 2019, pp. 32–33; Site 10.	Unit 4: Burke South .....	Unit 4: Burke South.
Griffin Landing North .....	Burke County, Georgia .....	Bradley 2019, pp. 35–36; Site 12.	Unit 4: Burke South .....	Unit 4: Burke South.
Griffin Landing South .....	Burke County, Georgia .....	Bradley 2019, pp. 35–36; Site 12.	Unit 4: Burke South .....	Unit 4: Burke South.
Prescott Lakes .....	Screven County, Georgia	Bradley 2019, pp. 38–39; Site 14.	Unit 5: Prescott Lakes .....	Unit 5: Prescott Lakes.
Blue Springs Landing .....	Screven County, Georgia	<i>Scutellaria mellichampii</i> , see Bradley 2019, pp. 42–43.	Not included .....	Not included.
Porters Landing .....	Effingham County, Georgia	<i>Scutellaria mellichampii</i> , see Bradley 2019, pp. 43–45.	Not included .....	Not included.
Horse Creek .....	Aiken County, South Carolina.	Service 2022, entire .....	Not included .....	Not included.

**I. Final Listing Determination**

*Background*

A thorough review of the taxonomy, life history, and ecology of the Ocmulgee skullcap is presented in the SSA report (version 1.3; Service 2023, pp. 4–11). Ocmulgee skullcap is a perennial herb in the Lamiaceae (mint) family with 4-sided stems that grows up to 16 to 32 inches (in) (40 to 80 centimeters (cm)) tall. It bears blue-violet colored and faintly fragrant flowers in July. Although taxonomy for Ocmulgee skullcap has been consistent through time, identification of the species is difficult; as a result, some occurrences of the congeneric *S. mellichampii* were misidentified as Ocmulgee skullcap prior to 2018.

Ocmulgee skullcap is restricted to the moist, calcareous (calcium rich) north-facing slopes along the Ocmulgee and Savannah River watersheds in Georgia and South Carolina. In these isolated bluff and slope areas, the forest structure is composed of a mixed-hardwood species of trees with a partially open canopy to allow the plants to reach maturity and produce viable seed. The mature, mixed-level canopy provides the mottled shade

required by Ocmulgee skullcap. The river bluffs and steep slopes experience localized disturbances including water runoff that limit the accumulation of leaf litter and limit competition from other plants in the shaded, steep forest environment.

The lifespan of Ocmulgee skullcap is estimated to be 5 to 8 years, with 3 to 6 years of potential viable seed production. The species matures to produce seed in either the first or second year following spring germination. Ocmulgee skullcap reproduces sexually and is pollinated by over 35 different pollinator species, including bees, moths, butterflies, and sometimes flies and wasps (Cruzan 2001, pp. 1577–1578; Adams et al. 2010, p. 53).

Ocmulgee skullcap seeds release from the plant in response to disturbance of the stem by wind, rain, animal activity, or other means. The seeds require this dislodging and bare soil that is rich in calcium, and under partial shade, in order to germinate. Juvenile Ocmulgee skullcap individuals require sufficient amounts of sunlight, moisture, and calcium, as well as the presence of pollinators and stable soil conditions, to reach maturity and produce seed. In

addition, juvenile plants are sensitive to competition for needed resources. Mature Ocmulgee skullcap plants require the same resources as juvenile plants, including sufficient time without herbivory or other removal of the seed calyx in order to disperse seed.

*Regulatory and Analytical Framework*  
Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in title 50 of the Code of Federal Regulations set forth the procedures for determining whether a species is an endangered species or a threatened species, issuing protective regulations for threatened species, and designating critical habitat for endangered and threatened species. On April 5, 2024, jointly with the National Marine Fisheries Service, the Service issued a final rule that revised the regulations in 50 CFR 424 regarding how we add, remove, and reclassify endangered and threatened species and what criteria we apply when designating listed species' critical habitat (89 FR 24300). On the same day, the Service published a final rule revising our protections for endangered species and threatened

species at 50 CFR 17 (89 FR 23919). These final rules are now in effect and are incorporated into the current regulations. Our analysis for this final decision applied our current regulations. Given that we proposed listing and critical habitat for this species under our prior regulations (revised in 2019), we have also undertaken an analysis of whether our decision would be different if we had continued to apply the 2019 regulations; we concluded that the decision would be the same. The analyses under both the regulations currently in effect and the 2019 regulations are available on <https://www.regulations.gov>.

The Act defines an “endangered species” as a species that is in danger of extinction throughout all or a significant portion of its range, and a “threatened species” as a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether any species is an endangered species or a threatened species because of any of the following factors:

- (A) The present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) Overutilization for commercial, recreational, scientific, or educational purposes;
- (C) Disease or predation;
- (D) The inadequacy of existing regulatory mechanisms; or
- (E) Other natural or manmade factors affecting its continued existence.

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species’ continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects.

We use the term “threat” to refer in general to actions or conditions that are known to or are reasonably likely to negatively affect individuals of a species. The term “threat” includes actions or conditions that have a direct impact on individuals (direct impacts), as well as those that affect individuals through alteration of their habitat or required resources (stressors). The term “threat” may encompass—either together or separately—the source of the action or condition or the action or condition itself.

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an “endangered species” or

a “threatened species.” In determining whether a species meets either definition, we must evaluate all identified threats by considering the species’ expected response and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an individual, population, and species level. We evaluate each threat and its expected effects on the species, then analyze the cumulative effect of all of the threats on the species as a whole. We also consider the cumulative effect of the threats in light of those actions and conditions that will have positive effects on the species, such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the Act’s definition of an “endangered species” or a “threatened species” only after conducting this cumulative analysis and describing the expected effect on the species.

The Act does not define the term “foreseeable future,” which appears in the statutory definition of “threatened species.” Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis which is further described in the 2009 Memorandum Opinion on the foreseeable future from the Department of the Interior, Office of the Solicitor (M–37021, January 16, 2009; “M–Opinion,” available online at <https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37021.pdf>). The foreseeable future extends only so far into the future as the U.S. Fish and Wildlife Service and National Marine Fisheries Service (hereafter, the Services) can reasonably make predictions about the threats to the species and the species’ responses to those threats. We need not identify the foreseeable future in terms of a specific period of time. We will describe the foreseeable future on a case-by-case basis, using the best available data and taking into account considerations such as the species’ life-history characteristics, threat-projection timeframes, and environmental variability. In other words, the foreseeable future is the period of time over which we can make reasonably reliable predictions. “Reliable” does not mean “certain”; it means sufficient to provide a reasonable degree of confidence in the prediction, in light of the conservation purposes of the Act.

#### Analytical Framework

The SSA report documents the results of our comprehensive biological review of the best scientific and commercial

data regarding the status of the species, including an assessment of the potential threats to the species. The SSA report does not represent our decision on whether the species should be listed as an endangered or threatened species under the Act. However, it does provide the scientific basis that informs our regulatory decisions, which involve the further application of standards within the Act and its implementing regulations and policies.

To assess Ocmulgee skullcap’s viability, we used the three conservation biology principles of resiliency, redundancy, and representation (Shaffer and Stein 2000, pp. 306–310). Briefly, resiliency is the ability of the species to withstand environmental and demographic stochasticity (for example, wet or dry, warm or cold years); redundancy is the ability of the species to withstand catastrophic events (for example, droughts, large pollution events), and representation is the ability of the species to adapt to both near-term and long-term changes in its physical and biological environment (for example, climate conditions, pathogens). In general, species viability will increase with increases in resiliency, redundancy, and representation (Smith et al. 2018, p. 306). Using these principles, we identified the species’ ecological requirements for survival and reproduction at the individual, population, and species levels, and described the beneficial and risk factors influencing the species’ viability.

The SSA process can be categorized into three sequential stages. During the first stage, we evaluated the individual species’ life-history needs. The next stage involved an assessment of the historical and current condition of the species’ demographics and habitat characteristics, including an explanation of how the species arrived at its current condition. The final stage of the SSA involved making predictions about the species’ responses to positive and negative environmental and anthropogenic influences. Throughout all of these stages, we used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time, which we then used to inform our regulatory decision.

The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket No. FWS–R4–ES–2021–0059 on <https://www.regulations.gov> and at <https://www.fws.gov/office/georgia-ecological-services/library>.

### Summary of Biological Status and Threats

In this discussion, we review the biological condition of the species and its resources, and the threats that influence the species' current and future condition, in order to assess the species' overall viability and the risks to that viability. For Ocmulgee skullcap populations to be sufficiently resilient, the needs of individuals (calcium-rich soil, shade or partial shade from canopy cover, adequate precipitation, reduced competition, pollinators) must be met at a large scale. Areas of suitable habitat must be large enough to support pollinators needed for Ocmulgee skullcap reproduction and habitat that acts to prevent or delay encroachment by nonnative, invasive species. At the species level, the Ocmulgee skullcap needs a sufficient number and distribution of healthy populations to withstand environmental stochasticity (resiliency) and catastrophes (redundancy) and to adapt to biological and physical changes in its environment (representation).

### Influences on Ocmulgee Skullcap's Viability

In the SSA analysis, we reviewed and summarized the factors that may influence the viability of Ocmulgee skullcap. Threats to Ocmulgee skullcap's viability include the following factors: (1) Habitat destruction and modification; (2) competition from other species (*e.g.*, *Elaeagnus pungens* (thorny olive), *E. umbellata* (autumn olive), *Ligustrum sinense* (Chinese privet), *Lonicera japonica* (Japanese honeysuckle), and *Pueraria montana* var. *lobata* (kudzu)); (3) collection and harvest; (4) herbivory; (5) climate change; and (6) pollinator visitation and reproduction (Service 2023, pp. 12–17). The primary factors driving the species' current and future conditions are habitat loss and fragmentation due to development and urbanization (Factor A); competition and encroachment from nonnative, invasive species (Factors A and E); and herbivory from white-tailed deer (Factor C). Although medicinal properties of other *Scutellaria* species have been investigated (Service 2023, p. 13), there is no evidence that overutilization (Factor B) has impacted Ocmulgee skullcap. In addition, conditions across the species' range are likely to be hotter and subject to variable precipitation including extreme weather events in the future. Although we do not have specific information regarding the species' likely response to these effects of climate change, we expect that the effects of climate change

will negatively affect Ocmulgee skullcap by reducing available resources such as water and limited competition. We have determined that climate change (Factor E) is not a primary risk factor for the species at this time; however, the effects of climate change, including drought and changes in rainfall patterns, may affect the species in the future as changes become more extreme. We also reviewed the conservation efforts being undertaken for the habitat where Ocmulgee skullcap occurs. A brief summary of relevant stressors is presented below; for a more detailed discussion of our evaluation of the biological status of Ocmulgee skullcap and the influences that may affect its continued existence, refer to chapter 3 of the SSA report (Service 2023, pp. 12–20).

### Urbanization and Land Conversion

Population growth and associated urbanization and development has increased in the Southeast at a rate 40 percent greater than the rest of the United States over the last 60 years. Much of this growth is in sprawling low-density, suburban areas encompassing large areas of single-family housing and infrastructure (Terando et al. 2014, p. e102261). Land conversion for residential, commercial, and infrastructure development is associated with an increase in population. Two Ocmulgee skullcap populations occur near the city of Macon, Georgia, and another population occurs near the city of Augusta, Georgia. Urbanization and land conversion can directly and indirectly impact Ocmulgee skullcap (Morris et al. 2000, pp. 31–32). Urbanization or land conversion can result in the direct loss of individuals or a population. For example, two occurrences have experienced altered conditions, such as erosion on the bluff due to nearby residential development and a parking lot expansion (Bradley 2019, pp. 27–29).

Further, land use patterns and urbanization near Ocmulgee skullcap occurrences can impact population resiliency. Urbanization modifies surrounding and nearby habitat conditions required by Ocmulgee skullcap by fostering the introduction of nonnative, invasive species and increasing the amount and velocity of water runoff during precipitation events due to an increase of impervious surfaces. As further discussed below, nonnative, invasive species compete with Ocmulgee skullcap for required resources. Increased runoff reduces the availability of nutrients and soil conditions required for successful reproduction, affecting Ocmulgee

skullcap recruitment and resiliency. Because Ocmulgee skullcap grows along steep slopes, when the tops of bluffs are logged or cleared for other land uses without implementation of BMPs runoff and erosion are increased.

### Silvicultural Activities

Silviculture (timber harvests) has been documented on bluffs above or adjacent to four extant Ocmulgee skullcap sites: Augusta Canal, Boggy Gut Creek, Hancock Landing North, and Plant Vogtle (Morris 1999, pp. 5, 12, 29, 34, 55–56, 65 and Bradley 2019, p. 29). Because silvicultural activities are primarily occurring upslope or adjacent to sites, erosion into the Ocmulgee skullcap sites has the potential for negative, indirect effects. Two sites (Barney Bluff and Plant Vogtle sites) historically showed signs of erosion from upslope timber harvests (Morris 1999 pp. 5, 65). One site (Boggy Gut Creek) has been directly impacted by clear-cut timber harvests and the status of this population is considered possibly extirpated. However, selective timber harvests (hardwood thinning) within Ocmulgee sites may be beneficial to populations when actions create the mottled shade conditions the species needs (Morris 1999 p. 5, Bradley 2019 pp. 29, 78).

In general, silviculture or timber harvests are not a key driver of species status across the range but may be a threat to individuals or populations when BMPs intended to buffer slopes (*i.e.*, Ocmulgee skullcap habitat) from erosion are not implemented or are implemented improperly. Although Georgia considers the application of BMPs to be quasi-regulatory and South Carolina considers the application of BMPs to be nonregulatory, forest landowners certified under forest certification standards are required to implement appropriate BMPs to maintain certification and BMPs are expected to be protective of habitat conditions in areas where implemented correctly (Englund and Berndes 2015, pp. 34–37; Demarais et al. 2017, p. 6; National Council for Air and Stream Improvement (NCASI) 2022, pp. 2–9). Across all ownership types (non-industrial private forest, private, and public) in the Upper Coastal Plain region of Georgia where the Ocmulgee skullcap occurs, implementation of BMPs associated with streamside management zone (SMZ), stream assessment, timber harvest and mechanical site prep outside SMZs range from 89.5 to 100 percent (GFC 2021, entire). At this time, the best available information is not sufficiently detailed to determine the level of BMP

implementation in sites with Ocmulgee skullcap occurrences. However, given the steep slopes associated with most Ocmulgee skullcap occurrences, and if BMP implementation is high in these areas, silvicultural activities are less likely to impact the species.

#### Herbivory

Over the last century, white-tailed deer abundance has increased substantially (Horsely et al. 2003, p. 98). White-tailed deer presence results in herbivory (including preferential browsing of native plants) and trampling, causing impacts to plant development and species density, diversity, and composition (Miller et al. 1992, entire; Horsely et al. 2003, p. 113; Averill et al. 2017, p. 2). For many *Scutellaria* species, including Ocmulgee skullcap, immature stems are often browsed by deer; this herbivory can prevent reproduction of that stem for the year if the plant does not flower (Bradley 2019, p. 77). In addition, individual plants may be pulled from the ground during browsing. In contrast, deer herbivory was found to have a potential positive influence on the large-flowered skullcap (*Scutellaria montana*), where deer browsed on all vegetation and large-flowered skullcap individuals benefited from the reduction in competing vegetation (Benson and Boyd 2014, p. 89). However, the direct impacts from white-tailed deer are widely noted across the range of the Ocmulgee skullcap, with herbivory documented in over 75 percent of occurrences and herbivory by deer noted as a limiting factor for Ocmulgee skullcap populations (Cammack and Genachte 1999, entire; Morris 1999, entire; Snow 1999, entire; Morris et al. 2000, entire; Snow 2001, entire; Bradley 2019, entire). In 2018, deer herbivory was observed in every Ocmulgee skullcap population surveyed ( $n = 6$ ) by Bradley (2019, entire), with severe impacts on reproduction documented at some sites. Therefore, we conclude that deer herbivory continues to be an ongoing threat to Ocmulgee skullcap.

In addition to direct impacts, deer browse affects the vegetative community through facilitation of browse-resilient species and potential increases in species that compete with Ocmulgee skullcap for resources (Horsely et al. 2003, pp. 114–115). Encroaching development has decreased the amount and quality of forage and habitat for white-tailed deer, which can increase the probability of herbivory within Ocmulgee skullcap's suitable habitat. Further, as development increases, restrictions on deer harvest in proximity

to residential areas may lead to an increase in deer populations and associated herbivory of Ocmulgee skullcap.

The Ocmulgee skullcap occurrence at the Savannah River Bluffs Heritage Preserve in Aiken County, South Carolina, has been impacted by severe deer herbivory (Bradley 2019, p. 24). The preserve is the site of intense public recreation; therefore, deer harvest is not permitted within the preserve for public safety reasons. In addition, residents in housing developments adjacent to the preserve feed the deer and may maintain large piles of "deer corn" (Bradley 2019, p. 24). This abundance of food and lack of hunting pressure has resulted in an unnaturally dense deer population surrounding this occurrence. Although suitable habitat remains at this site; it has previously been described as depauperate, with an almost barren herbaceous layer.

#### Nonnative, Invasive Species

Invasive plant species limit the available resources (nutrients, space, sunlight, pollinators) necessary for Ocmulgee skullcap germination, growth, and reproduction. The introduction and spread of nonnative invasive species often occur with development (McKinney 2002, p. 888). However, nonnative invasive species can also be introduced from other types of adjacent land uses, such as agriculture and silviculture. This introduction occurs through the creation of transitional areas between natural and anthropogenic affected habitat types and associated edge effects (Brown and Boutin 2009, p. 1654; Honu et al. 2009, p. 182). Nonnative invasive plant species have been documented at 8 of the 32 Ocmulgee skullcap occurrences (Bradley 2019, entire; Morris 1999, entire).

Nonnative, invasive species known to affect multiple Ocmulgee skullcap populations include: *Elaeagnus pungens* (thorny olive), *E. umbellata* (autumn olive), *Ligustrum sinense* (Chinese privet), *Lonicera japonica* (Japanese honeysuckle), and *Microstegium vimineum* (Japanese stiltgrass) (Morris et al. 2000, p. 31; Bradley 2019, p. 77). On some sites, other nonnative, invasive species, including *Pueraria montana* var. *lobata* (kudzu), *Vinca minor* (periwinkle), *Citrus trifoliata* (hardy orange), and *Pyrus communis* (common pear), pose localized threats to occurrences or populations (Bradley 2019, p. 77). These nonnative, invasive species, when present, compete with Ocmulgee skullcap plants for required resources, including sunlight, water, and space.

Intact forested habitat with a mature canopy and discrete disturbances provides important habitat for Ocmulgee skullcap populations which limits encroachment of competing nonnative, invasive plants. Competition with other native species and nonnative, invasive species can restrict seedlings, vegetative plants, and flowering plants from obtaining the three key resources (water, sunlight, and soil) needed to grow and reproduce; therefore, healthy Ocmulgee skullcap individuals and populations need reduced competition.

#### Climate Change

In the southeastern United States, several climate change models have projected more frequent drought, more extreme air temperatures, increased heavy precipitation events (e.g., flooding), and more intense storms (e.g., frequency of major hurricanes increases) (Burkett and Kusler 2000, p. 314; Klos et al. 2009, p. 699; IPCC 2013, pp. 3–29). When taking into account future climate projections for temperature and precipitation where Ocmulgee skullcap occurs, warming is expected to be greatest in the summer, which is predicted to increase drought frequency. Additionally, annual mean precipitation is expected to increase, but only slightly, leading to a slight increase in flooding events (Alder and Hostetler 2013, unpaginated; IPCC 2013, entire; USGS 2020, unpaginated).

To understand how climate change is projected to change where Ocmulgee skullcap occurs, we used the National Climate Change Viewer (NCCV), a climate-visualization tool developed by the U.S. Geological Survey (USGS), to generate future climate projections across the range of the species. The NCCV is a web-based tool for visualizing projected changes in climate and water balance at watershed, State, and county scales (USGS 2020, unpaginated). To evaluate the effects of climate change in the future, we used projections from representative concentration pathway (RCP) 4.5 and RCP8.5 to characterize projected future changes in climate and water resources, averaged for the State of Georgia and encompassing the majority of the range of the Ocmulgee skullcap. The projections estimate change in mean annual values for maximum air temperature, minimum air temperature, monthly precipitation, and monthly runoff, among other factors, from historical (1950–2005) to future (2040–2060) time series.

Within the range of the Ocmulgee skullcap, the NCCV projects that under the RCP4.5 scenario, maximum air temperature will increase by 3.4 degrees

Fahrenheit (°F) (1.9 degrees Celsius (°C)), minimum air temperature will increase by 3.2 °F (1.8 °C), precipitation will increase by 0.2 in (5.36 millimeters (mm)) per month, and runoff will remain the same in the 2040–2060 time period (USGS 2020, unpaginated). Under the more extreme RCP8.5 emissions scenario, the NCCV projects that maximum air temperature will increase by 5.0 °F (2.8 °C), minimum air temperature will increase by 4.9 °F (2.7 °C), precipitation will increase by 0.2 in (5.36 mm) per month, and runoff will remain the same (USGS 2020, unpaginated). These estimates indicate that, despite projected minimal increases in annual precipitation, anticipated increases in maximum and minimum air temperatures will likely offset those gains. Based on these projections, Ocmulgee skullcap will, on average, be exposed to increased air temperatures across its range, despite limited increases in precipitation in scenarios based on RCP4.5 and RCP8.5. The increase of maximum and minimum temperatures and variability in precipitation are expected to result in an increased probability of longer and more severe droughts in the future.

Within the mixed hardwood forests where Ocmulgee skullcap occurs, drought conditions due to higher temperatures and variable precipitation could reduce the available resources required for plant survival, including water and reduced competition. Extreme rainfall events may increase negative effects associated with erosion on the steep slopes where the species occurs and with increased mobilization of pollutants and sedimentation carried in runoff from urbanized areas near species sites. Increased competition from other species that are more tolerant of drought and extreme rainfall events may also limit the ability of Ocmulgee skullcap to produce viable seed and sustain populations in the wild over time. The species occupies hardwood forests with mature overstory and midstory canopy cover, and these more mesic, shaded habitats may provide a buffer to changes induced by climate change (such as increased temperatures). If precipitation increases slightly, as predicted in some models, and extreme rainfall events are infrequent, the effects to Ocmulgee skullcap could be beneficial, although this scenario is quite uncertain and climate change is not expected to benefit the species (Alder and Hostetler 2013, unpaginated).

The potential risks associated with long-term climate change as described above will affect ecosystem processes in Ocmulgee skullcap habitat, but there is

uncertainty in how the ecosystems and species will respond. Overall, we do not expect the effects of climate change to be beneficial to the species, but the extent of the negative effects cannot be estimated with the available information on the species' responses to increased temperature and variability in precipitation. Likewise, the threshold or level at which changes in temperature (prolonged hot weather) and rainfall (drought or extreme rainfall events) are expected to affect Ocmulgee skullcap is not available for the species or its congeners. We have determined that climate change is not a primary risk factor for the species at this time; however, the effects of climate change, including drought and changes in rainfall patterns, may affect the species in the future as changes become more extreme.

#### Small Population Size

Some plant species, such as Ocmulgee skullcap, are naturally distributed as small and disjunct populations in heterogeneous landscapes because of their requirements for specific habitat conditions. The specific habitat requirement of Ocmulgee skullcap (*i.e.*, calcium-rich soil on forested bluffs) is disjunct, and, therefore, populations are generally very small, with 16 of 19 populations having fewer than 60 individuals and 9 populations having 10 or fewer individuals. Only three populations have more than 100 individuals (Service 2023, appendix A). It is unknown whether Ocmulgee skullcap was historically more abundant but given the magnitude and scope of past habitat loss and modification, it is likely the species' numbers are lower than in the past. In addition, small and isolated populations offer limited nectar and pollen resources available to pollinators, making visitation to these sites more energetically expensive. Small, isolated populations of rare plant species often receive less pollinator visitation in comparison with larger or more widespread plant species (Ellstrand and Elam 1993, p. 227).

Small populations are vulnerable to habitat impacts and face a higher risk of extinction (Matthies et al. 2004, p. 481). 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) (Lande 1993, entire). 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. Two genetic consequences of small population size are increased genetic drift and inbreeding. Genetic drift is the random change in allele frequency that occurs because gametes transmitted from one generation to the next carry only a sample of the alleles present in the parental generation. In large populations, changes due to chance in allele frequency from drift are generally small. In contrast, in small populations (*e.g.*, fewer than 100 individuals), allele frequencies may undergo large and unpredictable fluctuations due to drift that can erode genetic variation (diversity) over time and may decrease the potential for a species to persist in the face of environmental change (Ellstrand and Elam 1993, pp. 219, 224). Inbreeding, which can be caused by genetic drift, is the mating of related individuals. Inbreeding can lead to increased homozygosity in a population above levels expected under random mating (Barrett and Kohn 1991, p. 19). Small population size alone may not necessarily be a threat to the long-term viability of a given population, as small populations of some isolated endemic plant species are known to maintain stable populations for at least 40 years (Abeli 2010, p. 6). However, the synergistic effect of habitat fragmentation, reduced population size, and inbreeding may lead to inbreeding depression and reduced fitness.

#### Conservation Efforts and Regulatory Mechanisms

Ocmulgee skullcap is listed as threatened in Georgia (Patrick et al. 1995, pp. 173–174) and is not listed or otherwise protected in South Carolina. In Georgia, the Georgia Wildflower Preservation Act of 1973 (Georgia Code, title 12, chapter 6, article 3, sections 12–6–170 to 12–6–176) protects Ocmulgee skullcap growing on State lands from cutting, digging, pulling, or removing unless the Georgia Department of Natural Resources has authorized such acts. The six populations occurring on State-owned or State-managed wildlife management areas in Georgia receive the benefits of protection under the Georgia Wildflower Preservation Act of 1973.

Throughout the range of the species, portions of eight populations occur on lands owned and managed by State or



Federal entities that prioritize conservation as a management objective. The Robins Air Force Base Integrated Natural Resources Management Plan (INRMP) specifically considers and manages for one Ocmulgee skullcap population (three occurrences) on the installation (for more information, see Exemptions, below). The State conservation lands owned or leased and managed by the Georgia Department of Natural Resources where six Ocmulgee skullcap populations occur include Yuchi Creek Wildlife Management Area (WMA), Ocmulgee WMA, and the Oaky Woods WMA. One Ocmulgee skullcap population occurs on the Savannah River Heritage Preserve owned and managed by the South Carolina Department of Natural Resources. It is expected that the eight Ocmulgee skullcap populations are positively affected by protection from development on these State-owned and State-managed lands. However, State-owned or managed land and the Georgia Wildflower Protection Act do not require or ensure species appropriate habitat management (e.g., invasive species and deer management) that may be needed to conserve the species. The one population on Federal land (Robins Air Force Base) is protected and managed via an INRMP. However, the negative impacts associated with herbivory and the effects of climate change continue to impact Ocmulgee skullcap populations on all protected lands.

Synergistic and Cumulative Effects

We note that, by using the SSA framework to guide our analysis of the scientific information documented in

the SSA report, we have analyzed the cumulative effects of identified threats and conservation actions on the species. To assess the current and future condition of the species, we evaluate the effects of all the relevant factors that may be influencing the species, including threats and conservation efforts. Because the SSA framework considers not just the presence of the factors, but to what degree they collectively influence risk to the entire species, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative-effects analysis.

In addition to factors impacting Ocmulgee skullcap individually, it is likely that several of the threats summarized above are acting synergistically or cumulatively on the species. The combined impacts of multiple threats are likely more harmful than a single threat acting alone. Development and urbanization may remove or degrade habitat where Ocmulgee skullcap occurs and may also bring an increase in encroaching nonnative, invasive species and white-tailed deer due to hunting restrictions near inhabited areas. In addition, herbivory by white-tailed deer may change the community structure to favor plants more resistant to deer browse. The impacts of herbivory by white-tailed deer and competition from nonnative, invasive species were recently noted in several populations (Bradley 2019, entire).

Methods To Assess Current Condition

To evaluate the biological status of Ocmulgee skullcap both currently and into the future, we assessed a range of

conditions to consider the species' resiliency, redundancy, and representation. For the purposes of our analysis, representative units (RUs) were delineated to describe the breadth of known genetic, phenotypic, and ecological diversity within the species. We divided the Ocmulgee skullcap range into two noncontiguous RUs, the Ocmulgee and Savannah River watersheds. We used the 2-km separation distance rule in NatureServe's habitat-based plant element occurrence delineation guidance (NatureServe 2020, entire) to delineate populations. We delineated populations of the Ocmulgee skullcap using occurrence data obtained from peer-reviewed articles, unpublished survey reports, and survey records (1961 to present) contained in agency and partner databases (i.e., Georgia and South Carolina Natural Heritage databases).

Occurrences are defined as an individual or group of individuals in close proximity in an area not widely separated from other individuals. Rangewide, each of the 32 occurrences was buffered by a 2-km (1.24-mi) radius circle and occurrences with overlapping buffers were considered within the same population, resulting in 19 Ocmulgee skullcap populations (13 in the Ocmulgee RU and 6 in Savannah RU) (see table 2, below). Historical occurrence data are limited, but we assumed that the current distribution of Ocmulgee skullcap populations represents at least most of the historical range of the species within the Ocmulgee and Savannah watersheds in Georgia and South Carolina.

TABLE 2—POPULATIONS USED TO ASSESS VIABILITY OF THE OCMULGEE SKULLCAP IN THE OCMULGEE AND SAVANNAH REPRESENTATIVE UNITS

Ocmulgee representative unit populations	Savannah representative unit populations
James Dykes Memorial Adjoins Robins Air Force Base Savage Branch Bolingbroke Rest Area Crooked Creek Jordan Creek Shellstone Creek Dry Creek Oaky Woods Wildlife Management Area North Oaky Woods Wildlife Management Area South River North Bluff South Shellstone Creek Tributary to Richland Creek	Burke South Burke North Columbia Richmond Barney Bluff Horse Creek Prescott Lakes

After the proposed rule published, we received new information about the Horse Creek population and now consider it a historical population (Service 2022, entire).

The Ocmulgee skullcap needs multiple, sufficiently resilient populations distributed across its range

to maintain viability. A sufficiently resilient population exhibits high or moderate resiliency and is characterized

by 60 or more individuals in stable or increasing numbers of widespread occurrences with no or few invasive

species and no or minor change in habitat condition. A number of factors influence whether Ocmulgee skullcap populations exhibit resiliency to stochastic events. These factors include: (1) Number of individuals in all occurrences within a population; (2) number of flowering individuals (reproductive adults) within a population; (3) number of occurrences (groups of individuals) within a population; (4) change in number of occurrences within a population over time; and (5) condition of habitat, which is directly related to growth, survival, and reproductive success (Service 2023, p. 24). To capture important aspects of the habitat condition, we used two factors, both of which characterize the quality and quantity of native herbaceous ground cover: (1) Presence of nonnative, invasive plant species (competition); and (2) presence of deer herbivory (browsing) (Service 2023, p. 24).

We assessed representation for the Ocmulgee skullcap based on the potential adaptive capacity of the species as expressed in the number of populations across the range of the species and within representative units. Finally, we assessed Ocmulgee skullcap’s redundancy (the ability of a species to withstand catastrophic events) by evaluating the number and distribution of sufficiently resilient populations throughout the species’ range.

**Current Conditions of Ocmulgee Skullcap**

As described above, we delineated the range of Ocmulgee skullcap into two representative units and 19 populations for our analyses. Having a greater number of self-sustaining populations

distributed across the known range of the species is associated with an overall higher viability of the species into the future. We determined four condition classes for Ocmulgee skullcap resiliency: very low, low, moderate, and high. A population exhibiting high resiliency is characterized by: 100 or more individuals, with multiple, widespread clusters of individuals; an increasing trend in the number of occurrences; few or no nonnative, invasive plant species; no evident deer browse impacts; and no substantial change in habitat condition. Moderate resiliency populations are characterized by: 60–99 individuals, with a few, somewhat widespread clusters of individuals; stable number of occurrences; few or no nonnative, invasive plant species; evident deer browse impacts; and only minor changes in habitat condition. A population in low resiliency is characterized by: 40–59 individuals, with two clusters of individuals; a decreasing trend in the number of occurrences; presence of nonnative, invasive plant species and deer browse impacts; and moderate change in habitat condition. A very low resiliency population is characterized by: fewer than 40 individuals in a single, isolated site; presence of nonnative, invasive plant species and deer browse; and substantial change in habitat condition. Resiliency categories are further described in the SSA report (Service 2023, p. 24, table 4–1).

Currently, 16 of 19 populations within the species’ range exhibit low or very low resiliency (see table 3, below). One population (James Dykes Memorial) within the Ocmulgee RU exhibits moderate resiliency, and two

populations (Burke North and Burke South) within the Savannah RU exhibit moderate or high resiliency (see table 3, below). The majority of Ocmulgee skullcap populations have low or very low resilience to stochastic events. One occurrence within an extant population in the Savannah RU has been extirpated because of land conversion to pine plantation; currently, there are no known extirpations at the population level. The Horse Creek population is considered historical because it has not been found in over twenty years; however, it has not been surveyed extensively enough since the 1960s to confirm there is no habitat and the plant no longer occurs there (Service 2022, entire).

The Ocmulgee skullcap is found in two non-contiguous RUs (watersheds); and currently occupies the known historical range of the species. One occurrence within a population has been extirpated, but the population is still extant. Thus, representation may be slightly reduced from the species’ historical condition. Based on available information, we determined the Ocmulgee skullcap has adaptive capacity or ability to adapt to changing environmental conditions, given that 19 populations occur in two watersheds in two States and no populations have been lost from the known historical range. Sixteen of 19 known populations currently exhibit low to very low resiliency across the range, but these populations are distributed across two watersheds in two States across the historical range. Overall, the Ocmulgee skullcap’s current condition is characterized by low or reduced resiliency, moderate representation, and multiple redundant populations.

**TABLE 3—CURRENT RESILIENCY CATEGORY OF EACH OCMULGEE SKULLCAP POPULATION**  
[Service 2023]

Population name	Number of individuals	Overall resiliency category *
<b>Ocmulgee Representative Unit (Ocmulgee River watershed)</b>		
James Dykes Memorial .....	54	Moderate.
Adjoins Robins Air Force Base .....	3	Low.
Savage Branch .....	50	Low.
Bolingbroke Rest Area .....	8	Low.
Crooked Creek .....	31	Low.
Jordan Creek .....	50	Low.
Shellstone Creek .....	46	Low.
Dry Creek .....	10	Very low.
Oaky Woods WMA North .....	1	Very low.
Oaky Woods WMA South .....	1	Very low.
River North Bluff .....	1	Very low.
South Shellstone Creek .....	15	Very low.
Tributary to Richland Creek .....	6	Very low.

TABLE 3—CURRENT RESILIENCY CATEGORY OF EACH OCMULGEE SKULLCAP POPULATION—Continued  
[Service 2023]

Population name	Number of individuals	Overall resiliency category*
<b>Savannah Representative Unit (Savannah River watershed)</b>		
Burke South .....	319	High.
Burke North .....	112	Moderate.
Columbia Richmond .....	450	Low.
Barney Bluff .....	50	Low.
Horse Creek .....	0	Very low (historical).
Prescott Lakes .....	0	Very low.

\* Overall resiliency category includes the demographic metrics of the number of individuals, number of occurrences, and change in number of occurrences, and the habitat metric assessment of native herbaceous groundcover/habitat condition.

Future Scenarios

Given the current conditions of Ocmulgee skullcap and the expected influences on viability, we projected the resiliency, redundancy, and representation of Ocmulgee skullcap under three plausible future scenarios. Our projections incorporate the effects of development (urbanization) and habitat management actions that reduce nonnative, invasive species and herbivory from white-tailed deer. However, having determined that the current condition of the Ocmulgee skullcap is consistent with that of an endangered species (see Determination of Ocmulgee Skullcap’s Status, below), we are not presenting the results in this final rule. Please refer to the proposed listing and designation of critical habitat rule for the Ocmulgee skullcap (87 FR 37378; June 22, 2022) and the SSA report, version 1.3 (Service 2023, entire) for the full analysis of future conditions and descriptions of the associated scenarios.

*Determination of Ocmulgee Skullcap’s Status*

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species meets the definition of an endangered species or a threatened species. The Act defines an “endangered species” as a species in danger of extinction throughout all or a significant portion of its range, and a “threatened species” as a species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether a species meets the definition of endangered species or threatened species because of any of the following factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational

purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

Status Throughout All of Its Range

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act’s section 4(a)(1) factors, we determined the Ocmulgee skullcap to be an endangered species throughout all of its range due to current and ongoing threats across the range. We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats, and the cumulative effect of the threats to the Ocmulgee skullcap. Our review of the best available information indicates Ocmulgee skullcap occurs in 19 populations in 2 representative units, the Ocmulgee River watershed in Georgia (13 populations) and the Savannah River watershed in Georgia/South Carolina (6 populations), across the historical range of the species. Recently, there has been one extirpation of an occurrence within a currently extant population in the Savannah River watershed resulting from land use conversion to a pine plantation.

Ocmulgee skullcap populations are generally small. At present, 3 populations contain more than 100 individuals, and 16 populations have fewer than 60 individuals. Generally, the Ocmulgee skullcap has low resiliency to stochastic events at the population level. Sixteen of the known populations have low abundance and exhibit low or very low resiliency to stochastic events. Of the remaining three (out of 19) populations, one population in the Savannah RU has high resiliency and two have moderate resiliency (one in each the Ocmulgee and Savannah RUs).

As stated previously, Ocmulgee skullcap populations are distributed in two watersheds across the historical

range of the species. We determined the Ocmulgee skullcap has some adaptive capacity or representation based on the species occurrences across the known historical range. The species-level redundancy was determined to be reduced from historical condition due to the loss of one occurrence. Although the resiliency of most populations is low or very low, populations are distributed across the species’ range, giving it some redundancy and ability to withstand catastrophic events.

Ocmulgee skullcap faces threats from habitat degradation or loss as a result of development and urbanization (Factor A); competition and encroachment from nonnative, invasive species (Factors A and E); and herbivory by white-tailed deer (Factor C). These threats are exacerbated by small population size (Factor E) and existing regulatory mechanisms that do not adequately address the threats (Factor D). Overutilization (Factor B) and disease (Factor C) are not currently affecting Ocmulgee skullcap populations. Climate change (Factor E) is not a primary risk factor for the species at this time; however, the effects of climate change, including drought and changes in rainfall patterns, may affect the species in the future as changes become more extreme.

While we anticipate that the threats will continue to act on the species in the future, they are affecting the species such that it is in danger of extinction now, and therefore, we find that a threatened species status is not appropriate. We find that the Ocmulgee skullcap’s vulnerability to ongoing stressors is heightened to such a degree that it is currently in danger of extinction as a result of its low number of populations, low population size, and response to current and ongoing threats. Thus, after assessing the best available information, we determine that Ocmulgee skullcap is in danger of extinction throughout all of its range.

### Status Throughout a Significant Portion of Its Range

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so within the foreseeable future throughout all or a significant portion of its range. We have determined that the Ocmulgee skullcap is currently in danger of extinction throughout all of its range and accordingly did not undertake an analysis of any significant portion of its range. Because the Ocmulgee skullcap warrants listing as endangered throughout all of its range, our determination does not conflict with the decision in *Center for Biological Diversity v. Everson*, 435 F. Supp. 3d 69 (D.D.C. 2020), because that decision related to significant portion of the range analyses for species that warrant listing as threatened, not endangered, throughout all of their range.

### Determination of Status

Our review of the best scientific and commercial data available indicates that the Ocmulgee skullcap meets the Act's definition of an endangered species. Therefore, we are listing the Ocmulgee skullcap as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

### Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened species under the Act include recognition as a listed species, planning and implementation of recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing results in public awareness, and conservation by Federal, State, Tribal, and local agencies, private organizations, and individuals. The Act encourages cooperation with the States and other countries and calls for recovery actions to be carried out for listed species. The protection required by Federal agencies, including the Service, and the prohibitions against certain activities are discussed, in part, below.

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Section 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The goal of this

process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

The recovery planning process begins with development of a recovery outline made available to the public soon after a final listing determination. The recovery outline guides the immediate implementation of urgent recovery actions while a recovery plan is being developed. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) may be established to develop and implement recovery plans. The recovery planning process involves the identification of actions that are necessary to halt and reverse the species' decline by addressing the threats to its survival and recovery. The recovery plan identifies recovery criteria for review of when a species may be ready for reclassification from endangered to threatened ("downlisting") or removal from protected status ("delisting"), and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery outline, draft recovery plan, final recovery plan, and any revisions will be available on our website as they are completed (<https://www.fws.gov/program/endangered-species>), or from our Georgia Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Implementation of recovery actions generally requires the participation of a broad range of partners, including other Federal agencies, States, Tribes, nongovernmental organizations, businesses, and private landowners. Examples of recovery actions include habitat restoration (e.g., restoration of native vegetation), research, captive propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands. To achieve recovery of these species requires cooperative conservation efforts on private, State, and Tribal lands.

Once this species is listed, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost-share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In

addition, pursuant to section 6 of the Act, the States of Georgia and South Carolina will be eligible for Federal funds to implement management actions that promote the protection or recovery of the Ocmulgee skullcap. Information on our grant programs that are available to aid species recovery can be found at: <https://www.fws.gov/service/financial-assistance>.

Please let us know if you are interested in participating in recovery efforts for the Ocmulgee skullcap. Additionally, we invite you to submit any new information on this species whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

Section 7 of the Act is titled "Interagency Cooperation," and it mandates all Federal action agencies to use their existing authorities to further the conservation purposes of the Act and to ensure that their actions are not likely to jeopardize the continued existence of listed species or adversely modify critical habitat. Regulations implementing section 7 are codified at 50 CFR part 402.

Section 7(a)(2) states that each Federal action agency shall, in consultation with the Secretary, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Each Federal agency shall review its action at the earliest possible time to determine whether it may affect listed species or critical habitat. If a determination is made that the action may affect listed species or critical habitat, formal consultation is required (50 CFR 402.14(a)), unless the Service concurs in writing that the action is not likely to adversely affect listed species or critical habitat. At the end of a formal consultation, the Service issues a biological opinion, containing its determination of whether the Federal action is likely to result in jeopardy or adverse modification.

Examples of discretionary actions for the Ocmulgee skullcap that may be subject to consultation procedures under section 7 include management and any other landscape-altering activities on Federal lands administered by the National Park Service as well as actions on State, Tribal, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as

funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat—and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or carried out by a Federal agency—do not require section 7 consultation. Federal agencies should coordinate with the local Service Field Office (see **FOR FURTHER INFORMATION CONTACT**) with any specific questions on Section 7 consultation and conference requirements.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to endangered plants. The prohibitions of section 9(a)(2) of the Act, and the Service's implementing regulations codified at 50 CFR 17.61, make it illegal for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or to cause to be committed any of the following with regard to any endangered plant: (1) import to, or export from, the United States; (2) remove and reduce to possession from areas under Federal jurisdiction; maliciously damage or destroy on any such area; remove, cut, dig up, or damage or destroy on any other area in knowing violation of any law or regulation of any State or in the course of any violation of a State criminal trespass law; (3) deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever and in the course of a commercial activity; or (4) sell or offer for sale in interstate or foreign commerce. Certain exceptions to these prohibitions apply to employees or agents of the Service, other Federal land management agencies, and State conservation agencies.

We may issue permits to carry out otherwise prohibited activities involving endangered plants under certain circumstances. Service regulations governing permits for endangered plants are codified at 50 CFR 17.62, and general Service permitting regulations are codified at 50 CFR part 13. With regard to endangered plants, a permit may be issued for scientific purposes or for enhancing the propagation or survival of the species. The statute also contains certain exemptions from the prohibitions, which are found in sections 9 and 10 of the Act.

It is the policy of the Services, as published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify to the extent known at the time a

species is listed, specific activities that will not be considered likely to result in violation of section 9 of the Act. To the extent possible, activities that will be considered likely to result in violation will also be identified in as specific a manner as possible. The intent of this policy is to increase public awareness of the effect of a listing on proposed and ongoing activities within the range of the species.

At this time, we are unable to identify specific activities that will or will not be considered likely to result in violation of section 9 of the Act beyond what is already clear from the descriptions of prohibitions or already excepted through our regulations at 50 CFR 17.61 (e.g., any employee or agent of the Service, any other Federal land management agency, or a State conservation agency, who is designated by that agency for such purposes, may, when acting in the course of official duties, remove and reduce to possession endangered plants from areas under Federal jurisdiction without a permit if such action is necessary to: (i) care for a damaged or diseased specimen; (ii) dispose of a dead specimen; or (iii) salvage a dead specimen which may be useful for scientific study). Also, as discussed above, certain activities that are prohibited under section 9 may be permitted under section 10 of the Act.

Questions regarding whether specific activities would constitute violation of section 9 of the Act should be directed to the Georgia Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

## II. Critical Habitat

### Background

Section 4(a)(3) of the Act requires that, to the maximum extent prudent and determinable, we designate a species' critical habitat concurrently with listing the species. Critical habitat is defined in section 3 of the Act as:

(1) The specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the Act, on which are found those physical or biological features

(a) Essential to the conservation of the species, and

(b) Which may require special management considerations or protection; and

(2) Specific areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Our regulations at 50 CFR 424.02 define the geographical area occupied

by the species as an area that may generally be delineated around species' occurrences, as determined by the Secretary (*i.e.*, range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (e.g., migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).

This critical habitat designation was proposed when the regulations defining "habitat" (85 FR 81411; December 16, 2020) and governing the 4(b)(2) exclusion process for the Service (85 FR 82376; December 18, 2020) were in place and in effect. However, those two regulations have been rescinded (87 FR 37757, June 24, 2022; and 87 FR 43433, July 21, 2022) and no longer apply to any designations of critical habitat. Therefore, for this final rule designating critical habitat for the Ocmulgee skullcap, we apply the regulations at 50 CFR 424.19 and the Policy Regarding Implementation of Section 4(b)(2) of the Endangered Species Act (hereafter, the "2016 Policy"; 81 FR 7226, February 11, 2016).

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation also does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Rather, designation requires that, where a landowner requests Federal agency funding or authorization for an action that may

affect areas designated as critical habitat, the Federal agency consult with the Service under section 7(a)(2) of the Act. If the action may affect the listed species itself (such as for occupied critical habitat), the Federal action agency would have already been required to consult with the Service even absent the critical habitat designation because of the requirement to ensure that the action is not likely to jeopardize the continued existence of the species. Even if the Service were to conclude after consultation that the proposed activity is likely to result in destruction or adverse modification of the critical habitat, the Federal action agency and the landowner are not required to abandon the proposed activity, or to restore or recover the species; instead, they must implement “reasonable and prudent alternatives” to avoid destruction or adverse modification of critical habitat.

Under the first prong of the Act’s definition of critical habitat, areas within the geographical area occupied by the species at the time it was listed are included in a critical habitat designation if they contain physical or biological features (1) which are essential to the conservation of the species and (2) which may require special management considerations or protection. For these areas, critical habitat designations identify, to the extent known using the best scientific data available, those physical or biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat).

Under the second prong of the Act’s definition of critical habitat, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106–554; H.R. 5658)), and our associated Information Quality Guidelines provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data

available, use primary and original sources of information as the basis for recommendations to designate critical habitat.

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information from the SSA report and information developed during the listing process for the species. Additional information sources may include any generalized conservation strategy, criteria, or outline that may have been developed for the species; the recovery plan for the species; articles in peer-reviewed journals; conservation plans developed by States and counties; scientific status surveys and studies; biological assessments; other unpublished materials; or experts’ opinions or personal knowledge.

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act; (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species; and (3) the prohibitions found in section 9 of the Act. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

*Physical or Biological Features Essential to the Conservation of the Species*

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR

424.12(b), in determining which areas we will designate as critical habitat from within the geographical area occupied by the species at the time of listing, we consider the physical or biological features that are essential to the conservation of the species and which may require special management considerations or protection. The regulations at 50 CFR 424.02 define “physical or biological features essential to the conservation of the species” as the features that occur in specific areas and that are essential to support the life-history needs of the species, including, but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions. Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity. For example, physical features essential to the conservation of the species might include gravel of a particular size required for spawning, alkaline soil for seed germination, protective cover for migration, or susceptibility to flooding or fire that maintains necessary early-successional habitat characteristics. Biological features might include prey species, forage grasses, specific kinds or ages of trees for roosting or nesting, symbiotic fungi, or absence of a particular level of nonnative species consistent with conservation needs of the listed species. The features may also be combinations of habitat characteristics and may encompass the relationship between characteristics or the necessary amount of a characteristic essential to support the life history of the species.

In considering whether features are essential to the conservation of the species, we may consider an appropriate quality, quantity, and spatial and temporal arrangement of habitat characteristics in the context of the life-history needs, condition, and status of the species. These characteristics include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing (or development) of offspring; and habitats that are protected from disturbance.

Our SSA report for the Ocmulgee skullcap provides the scientific information upon which this critical

habitat designation is based (Service 2023, entire). A thorough account of the ecological needs of the Ocmulgee skullcap can be found in the SSA report (Service 2023, chapter 2, pp. 4–11), and is briefly summarized here in the context of the physical or biological features that are essential to the conservation of the species.

**Habitat**

As described above under Background, the Ocmulgee skullcap occurs in moist, calcareous hardwood forests on north- to northeast-facing slopes of river bluffs and their floodplains in the Ocmulgee and Savannah River watersheds in Georgia and South Carolina. River bluffs and steep slopes are subject to localized disturbances that limit the accumulation of leaf litter and competition. Ocmulgee skullcap individuals require reduced competition to grow and reproduce within suitable habitat.

These hardwood forests are characterized by a mature, mixed-level canopy with spatial heterogeneity that provides mottled shade required by Ocmulgee skullcap. Intact calcareous forests are characterized by a diverse

species composition ranging from short-lived pioneer species to long-lived, shade-tolerant species (Edwards et al. 2013, p. 406). Communal species in these areas may consist of red buckeye (*Aesculus pavia*), eastern redbud (*Cercis canadensis*), white oak (*Quercus alba*), basswood (*Tilia americana*), American holly (*Ilex opaca*), and relict trillium (*Trillium reliquum*) (Edwards et al. 2013, p. 409; Bradley 2019, pp. 21–28). The herbaceous layer in this forest type includes a rich diversity of grasses and forbs that support the required pollinators for the species in adequate numbers to facilitate Ocmulgee skullcap reproduction. The upper canopy of mixed hardwoods in a forest with suitable habitat provides the partial shade required for germination, growth, and reproduction.

Intact forested habitat with a mature canopy and discrete disturbances provides important habitat for Ocmulgee skullcap populations to decrease encroachment of competing nonnative, invasive plants. Competition with other native species and nonnative, invasive species can restrict seedlings, vegetative plants, and flowering plants from obtaining the three key resources

(water, sunlight, and soil) needed to grow and reproduce; therefore, healthy Ocmulgee skullcap individuals and populations need reduced competition.

**Soils**

The calcareous hardwood forests where Ocmulgee skullcap occurs are influenced by outcroppings of limestone or marl that provide the calcium-rich parent material for soils. Ocmulgee skullcap requires well-drained soils or shallow, calcium-rich soils that are buffered or circumneutral (pH between 6.5 and 7.5) to germinate. These soils occur within regions underlain or otherwise influenced by limestone or marl.

**Summary of Resource Needs**

More detail on the species’ habitat and life-history needs is provided above under Background, and a thorough review is available in the SSA report (Service 2023, entire; available at <https://www.regulations.gov> under Docket No. FWS–R4–ES–2021–0059).

A summary of the resource needs of the Ocmulgee skullcap is provided below in table 5.

TABLE 5—OCMULGEE SKULLCAP INDIVIDUAL RESOURCES NEEDS BY LIFE STAGE

[Key resource needs are in bolded text and include precipitation (water), partial sunlight, soil, and reduced competition (Collins 1976, pp. 1, 70; Chafin 2008, p. 2)]

Life stage	Resources and circumstances needed for individuals to complete life stage	Resource function *
Seed .....	Fall/winter <b>precipitation</b> .....	N
	<b>Bare mineral calcium-rich soil</b> .....	H, N, R
	Partial <b>sunlight</b> .....	N
Seedling .....	Sufficient summer/fall <b>precipitation</b> .....	N
	<b>Calcium-rich soil</b> .....	H, N
	<b>Reduced competition</b> from invasives/encroaching plants .....	H
Vegetative plant .....	Partial <b>sunlight</b> for photosynthesis .....	N
	Spring/summer <b>precipitation</b> .....	N
	<b>Calcium-rich soil</b> .....	H, N
Flowering plant .....	<b>Reduced competition</b> from invasives/encroaching plants .....	H
	Partial <b>sunlight</b> for photosynthesis .....	N
	Spring/summer <b>precipitation</b> .....	N
	<b>Calcium-rich soil</b> .....	H, N
	<b>Reduced competition</b> from invasives/encroaching plants .....	H
	<b>Pollinators</b> .....	R
	Partial <b>sunlight</b> for photosynthesis .....	N

\* H = Habitat, N = Nutrition, and R = Reproduction.

**Summary of Essential Physical or Biological Features**

We derive the specific physical or biological features essential to the conservation of Ocmulgee skullcap from studies of the species’ habitat, ecology, and life history as described below. Additional information can be found in the SSA report (Service 2023, entire; available on <https://www.regulations.gov> under Docket No. FWS–R4–ES–2021–0059). We have

determined that the following physical or biological features are essential to the conservation of Ocmulgee skullcap:

- (1) River bluffs with steep and/or shallow soils that are subject to localized disturbances that limit the accumulation of leaf litter and competition within the Upper Gulf Coastal Plain and Piedmont of Georgia.
- (2) Well-drained soils that are buffered or circumneutral (pH between 6.5 and 7.5) generally within regions

underlain or otherwise influenced by limestone or marl (mixed carbonate-clay rock).

- (3) A mature, mixed-level canopy with spatial heterogeneity, providing mottled shade and often including a rich diversity of grasses and forbs characterizing the herbaceous layer.
- (4) Intact forested habitat that is ecologically functional (*i.e.*, with mature canopy and discrete disturbances) and

buffered by surrounding habitat to impede the invasion of competitors.

#### *Special Management Considerations or Protection*

When designating critical habitat, we assess whether the specific areas within the geographical area occupied by the species at the time of listing contain features which are essential to the conservation of the species and which may require special management considerations or protection. The features essential to the conservation of Ocmulgee skullcap may require special management considerations or protection to reduce the following threats: development; nonnative, invasive species (plants); and indirect effects on habitat quality due to herbivory by white-tailed deer and adjacent land uses such as silviculture and agriculture.

Special management considerations or protection may be required within critical habitat areas to address these threats. Management activities that could ameliorate these threats include, but are not limited to, local review of proposed county and State projects and other development projects that may affect Ocmulgee skullcap habitat to determine whether or not the project will avoid impacts to the species' habitat; control and reduction of nonnative, invasive species; harvest of deer to reduce changes in plant community and increase in browse-resistant plants in affected populations; implementation of BMPs (for silvicultural and agricultural land uses); and habitat restoration projects. These management activities would protect the physical or biological features for the species by promoting intact vegetative community with mixed heterogeneity, mottled shade, and a diverse herbaceous layer.

#### *Criteria Used To Identify Critical Habitat*

As required by section 4(b)(2) of the Act, we use the best scientific data available to designate critical habitat. The SSA report, version 1.3 (Service 2023, entire), contains the best available information used to identify critical habitat for the Ocmulgee skullcap, which includes existing monitoring data, population status surveys, and relevant Geographic Information Systems (GIS) layers (Service 2023, pp. 21, 37–38, appendix A). In accordance with the Act and our implementing regulations at 50 CFR 424.12(b), we review available information pertaining to the habitat requirements of the species and identify specific areas within the geographical area occupied

by the species at the time of listing and any specific areas outside the geographical area occupied by the species to be considered for designation as critical habitat. We are not designating any areas outside the geographical area occupied by the species because we have not identified any unoccupied areas that meet the definition of critical habitat. The protection of the current extant populations in both representative units will sufficiently reduce the risk of extinction, and improving the resiliency within these currently occupied units should increase viability to the point that the protections of the Act are no longer necessary. We have determined that the areas we are designating as critical habitat are sufficient for the recovery of the species and align with our conservation strategy for Ocmulgee skullcap.

To determine and select appropriate occupied areas that contain the physical or biological features essential to the conservation of the species, we developed a conservation strategy for the species. The goal of the conservation strategy for the Ocmulgee skullcap is to recover the species to the point where the protections of the Act are no longer necessary. The role of critical habitat in achieving this conservation goal is to identify the specific areas within the species' range that provide essential physical or biological features, without which rangewide resiliency, redundancy, and representation could not be achieved. We anticipate that recovery will require continued protection of existing populations and habitats that contribute to the viability of the species: ensuring there are adequate numbers of individual plants in populations; and ensuring multiple sufficiently resilient populations in each representative unit and across the current range of the species. This approach may lead to connectivity among populations and will help to ensure that catastrophic events cannot simultaneously affect all known populations of the Ocmulgee skullcap. Recovery considerations, such as striving for representation of both watersheds in the species' current range, were considered in formulating this designation.

Ocmulgee skullcap populations, with the exception of one large area, are confined to small patches (ranging in size from 0.24 to 24 ac (0.1 to 9.7 ha)). Ocmulgee skullcap requires areas of intact hardwood forest to provide the appropriate canopy conditions in large enough areas to protect the species from encroachment of nonnative, invasive species. The small patches typically do

not provide enough habitat to support the species or provide connectivity among populations. In addition, the small populations in these patches experience the exacerbation of other threats associated with small population size (see *Influences on Ocmulgee Skullcap's Viability*, above).

Based on the Act's implementing regulations (see 50 CFR 424.12(d)), when habitats are in close proximity to one another, an inclusive area may be designated. We delineated populations of Ocmulgee skullcap using a 2-km (1.24-mi) radius circle, with overlapping buffers determined to be within the same population based on the need for sufficient space and resources for required pollinators (NatureServe 2020, entire; Service 2023, p. 21). Therefore, the habitat areas surrounding Ocmulgee skullcap occurrences are also included within these occupied units, because they have the physical or biological features essential to the conservation of the species, provide space for population expansion that would increase the resiliency within these units, provide connectivity between individual patches of occupied habitat, and support the conditions that Ocmulgee skullcap individuals and populations require.

In summary, for areas within the geographic area occupied by the species at the time of listing, we delineated critical habitat unit boundaries using the following criteria:

- We identified areas that are considered to be occupied at the time of listing within the historical range of the species, and
- We determined if those areas contain the physical or biological features to support life-history functions that are essential for the conservation of the species.

For the purposes of the critical habitat designation, and for areas within the geographic area occupied by the species at the time of listing, we determined a unit to be occupied if it contains a recent observation (*i.e.*, observed since 1999). These areas are consistent with the identified populations in the SSA report that were derived using occurrence data and a 2-km separation distance for sufficient space and resources for required pollinators (NatureServe 2020, entire; Service 2023, p. 21). Suitable habitat within the identified populations was determined through site specific surveys and GIS analyses that identified the areas with appropriate aspect, geomorphons (landform pattern), temperature, burned area, soil type, vegetation cover, and land cover, using source data from the National Elevation Dataset, Landsat,



WorldClim, NatureServe landcover map, and the GAP/LANDFIRE National Terrestrial Ecosystems dataset. Information specific to calcium-rich soils was not available; therefore, we rely on species occurrence data to represent presence of this identified species need.

Based on this analysis, the following areas meet the critical habitat criteria for the species at the time of listing: Columbia/Richmond, Barney Bluff, Burke North, Burke South, Prescott Lakes, Bolingbroke Rest Area, River North Bluff, Savage Branch, Adjoins Robins Air Force Base, Tributary (Trib) Richland Creek, Oaky Woods North, Crooked Creek, Shellstone Creek, Oaky Woods South, Dry Creek, James Dykes Memorial, South Shellstone Creek, and Jordan Creek. These areas are known to be occupied by the species, including the element occurrence at Savannah River Bluffs Natural Heritage Preserve. These areas meet our conservation strategy and provide the essential physical or biological features necessary to support and increase resiliency, redundancy, and representation for the Ocmulgee skullcap. Designating critical habitat units in these areas will sufficiently lead to the protection, and eventual reduction in risk of extirpation of the species.

Sources of data for this designation of critical habitat include multiple databases maintained by universities and State agencies in Georgia and South Carolina, as well as numerous reports from surveys conducted in suitable habitat throughout the species' range. Other sources of available information

on habitat requirements for this species include studies conducted at occupied sites and published in peer-reviewed articles, agency reports, and data collected during monitoring efforts (Cammack and Genachte 1999, entire; Morris 1999, entire; Snow 1999 and 2001, entire; Bradley 2019, entire; Service 2022, entire; Service 2023, entire). Occurrence records were compiled and provided to us by State partners during the SSA analysis.

When determining critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical or biological features necessary for Ocmulgee skullcap. The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. Any such lands inadvertently left inside critical habitat boundaries shown on the maps of this rule have been excluded by text in the rule and are not designated as critical habitat. Therefore, a Federal action involving these lands will not trigger section 7 consultation with respect to critical habitat and the requirement of no adverse modification unless the specific action will affect the physical or biological features in the adjacent critical habitat.

The critical habitat designation is defined by the maps, as modified by any accompanying regulatory text, presented at the end of this document under Regulation Promulgation. We include more detailed information on the boundaries of the critical habitat

designation in the preamble of this document. We will make the coordinates or plot points or both on which each map is based available to the public on <https://www.regulations.gov> at Docket No. FWS-R4-ES-2021-0059, and on our internet site <https://www.fws.gov/office/georgia-ecological-services/library>.

*Final Critical Habitat Designation*

We are designating 18 units as critical habitat for Ocmulgee skullcap. The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for Ocmulgee skullcap. The 18 areas we designate as critical habitat are: (1) Columbia/Richmond; (2) Barney Bluff; (3) Burke North; (4) Burke South; (5) Prescott Lakes; (6) Bolingbroke Rest Area; (7) River North Bluff; (8) Savage Branch; (9) Adjoins Robins Air Force Base; (10) Trib Richland Creek; (11) Oaky Woods North; (12) Crooked Creek; (13) Shellstone Creek; (14) Oaky Woods South; (15) Dry Creek; (16) James Dykes Memorial; (17) South Shellstone Creek; and (18) Jordan Creek. All 18 critical habitat units are currently considered occupied by Ocmulgee skullcap. Table 6 shows the critical habitat units and the approximate area of each unit. Approximately 84.2 percent of the designated critical habitat occurs on private lands, 0.4 percent occurs on county lands, and the remaining 15.3 percent occurs on State-owned or State-managed lands. No Federal lands are included in this critical habitat designation.

TABLE 6—FINAL CRITICAL HABITAT UNITS FOR OCMULGEE SKULLCAP  
[Area estimates reflect all land within critical habitat unit boundaries]

Critical habitat unit No. and name	Land ownership by type	Size of unit in acres (hectares)
1a: Columbia/Richmond	Richmond County; Private	106 (43)
1b: Columbia/Richmond	Private	117 (47)
1c: Columbia/Richmond	Private	334 (135)
1d: Columbia/Richmond	State of South Carolina	84 (34)
2: Barney Bluff	Private	415 (168)
3: Burke North	Private	526 (213)
4: Burke South	State of Georgia; Private	976 (395)
5: Prescott Lakes	Private	81 (33)
6: Bolingbroke Rest Area	Private	338 (137)
7: River North Bluff	State of Georgia; Private	115 (46)
8: Savage Branch	Private	115 (46)
9: Adjoins Robins Air Force Base	Private	231 (93)
10: Trib Richland Creek	State of Georgia; Private	340 (138)
11: Oaky Woods North	State of Georgia; Private	657 (266)
12: Crooked Creek	State of Georgia; Private	205 (83)
13: Shellstone Creek	State of Georgia; Private	160 (65)
14: Oaky Woods South	State of Georgia; Private	363 (147)
15: Dry Creek	State of Georgia; Private	330 (133)
16: James Dykes Memorial	State of Georgia; Private	515 (208)
17: South Shellstone Creek	State of Georgia; Private	403 (163)
18: Jordan Creek	Private	250 (101)

TABLE 6—FINAL CRITICAL HABITAT UNITS FOR OCMULGEE SKULLCAP—Continued  
 [Area estimates reflect all land within critical habitat unit boundaries]

Critical habitat unit No. and name	Land ownership by type	Size of unit in acres (hectares)
Total .....	.....	6,661 (2,696)

**Note:** Area sizes may not sum due to rounding.

We present brief descriptions of all units, and reasons why they meet the definition of critical habitat for Ocmulgee skullcap, below.

**Unit 1: Columbia/Richmond**

Unit 1 consists of four subunits comprising 641 ac (259 ha) in Columbia and Richmond Counties, Georgia, and Aiken and Edgefield Counties, South Carolina. This unit consists of land owned by Richmond County (4 percent), the State of South Carolina (13 percent), and private landowners (83 percent), with 35 percent of Unit 1 held in a conservation easement. All subunits are located near Interstate 20 along the Savannah River and the South Carolina-Georgia State border.

Subunit 1a consists of 106 ac (43 ha) in Columbia County, Georgia. This subunit lies on the west side of the Savannah River, just north of the City of Augusta. Richmond County owns and manages 28 ac (11.3 ha) in this subunit, and the other 78 ac (31.7 ha) are privately owned. The essential physical or biological feature concerning intact forested habitat is degraded in this subunit, which is adjacent to developed areas. Special management considerations or protection may be required in Subunit 1a to address and alleviate impacts from stressors that have led to the loss or degradation of the habitat, including urbanization and commercial development and nonnative, invasive species (see Special Management Considerations or Protection, above). Special management considerations related to developed areas that would benefit the habitat in this subunit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap, and control or removal of nonnative, invasive species.

Subunit 1b consists of 117 ac (47 ha) in Richmond County, Georgia, on lands in private ownership. This subunit lies on the west side of the Savannah River, just north of the City of Augusta. The essential physical or biological feature concerning intact forested habitat is degraded in this subunit, which is adjacent to developed areas. Special management considerations or

protection may be required in Subunit 1b to address and alleviate impacts from stressors that have led to the loss or degradation of the habitat, including urbanization and commercial development and nonnative, invasive species (see Special Management Considerations or Protection, above). Special management considerations related to developed areas that would benefit the habitat in this subunit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap, and control or removal of nonnative, invasive species.

Subunit 1c consists of 334 ac (135 ha) in Aiken and Edgefield Counties, South Carolina. This subunit lies on the east side of the Savannah River, just north of the City of Augusta. The Nature Conservancy owns and manages the 224-ac (90-ha) Greystone Preserve for conservation in this subunit, and the remaining 110 ac (45 ha) are in private ownership. Special management considerations or protection may be required within Subunit 1c to alleviate impacts from stressors that have led to the loss and degradation of the habitat, including urbanization and residential and commercial development; nonnative, invasive species; and herbivory by deer. Special management considerations related to encroachment of nonnative, invasive species and herbivory by deer that would benefit the habitat in this subunit include, but are not limited to, removal of nonnative, invasive species via prescribed burning or mechanical or chemical treatments; restoration of forest conditions; and increased harvest/hunting or exclusion of white-tailed deer. In addition, special management considerations related to developed areas that would benefit the habitat in this subunit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap; native vegetation restoration in right-of-way and transmission line vegetation maintenance areas (edge effect); and removal of nonnative, invasive species.

Subunit 1d consists of 84 ac (34 ha) in Aiken County, South Carolina. This subunit lies on the east side of the Savannah River, just east of the City of Augusta. The South Carolina Department of Natural Resources owns and manages the 84-ac (34-ha) Savannah River Bluffs Heritage Preserve for conservation in this subunit. Special management considerations or protection may be required within Subunit 1d to alleviate impacts from stressors that have led to the loss and degradation of the habitat, including nonnative, invasive species and herbivory by deer. Special management considerations related to encroachment of nonnative, invasive species and herbivory by deer that would benefit the habitat in this subunit include, but are not limited to, removal of nonnative, invasive species via prescribed burning or mechanical or chemical treatments; restoration of forest conditions; and increased harvest/hunting or exclusion of white-tailed deer.

**Unit 2: Barney Bluff**

Unit 2 consists of 415 ac (168 ha) in the southeast portion of Richmond County, Georgia. This unit lies to the west of the Savannah River south of the City of Augusta on land in private ownership. Special management considerations or protection may be required within Unit 2 to alleviate impacts from stressors that have led to the degradation of the habitat, including urbanization and development, erosion due to logging practices that do not properly implement BMPs, and herbivory by deer. Such special management or protection may include conservation efforts to reduce deer browsing through hunting/harvest or exclusion. Special management or protection to reduce erosion may also include habitat restoration efforts and implementation of State-approved BMPs for silviculture or logging activities. In addition, special management considerations related to developed areas that would benefit the habitat in this unit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap.

**Unit 3: Burke North**

Unit 3 consists of 526 ac (213 ha) in the northwestern portion of Burke County, Georgia. The unit lies to the west of the Savannah River on land in private ownership. A conservation easement is in place on 9 ac (3.6 ha) of private land within the unit. Special management considerations or protection may be required within Unit 3 to alleviate impacts from stressors that have led to the loss or degradation of the habitat, including the effects of silviculture and logging that do not properly implement BMPs, as well as herbivory by deer. Such special management or protection may include conservation efforts to reduce deer browsing through hunting/harvest or exclusion. Special management or protection may also include habitat restoration efforts and implementation of State-approved BMPs for silviculture or logging activities.

**Unit 4: Burke South**

Unit 4 consists of 976 ac (395 ha) in the western portion of Burke County, Georgia. This unit lies west of the Savannah River on lands owned by the Georgia Department of Natural Resources (199 ac (80 ha) on the Yuchi Wildlife Management Area), and on lands in private ownership (777 ac (314 ha)). Special management considerations or protection may be required within Unit 4 to alleviate impacts from stressors that have led to the degradation of the habitat, including urbanization and development, and herbivory by deer. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments, and to reduce deer browsing through hunting/harvest or exclusion. In addition, special management considerations related to developed areas that would benefit the habitat in this unit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap. Special management or protection may also include habitat restoration efforts.

**Unit 5: Prescott Lakes**

Unit 5 consists of 81 ac (33 ha) in the northern portion of Screven County, Georgia. This unit is adjacent to the main stem of the Savannah River and lies on lands in private ownership.

Special management considerations or protection may be required within Unit 5 to alleviate impacts from stressors that have led to the loss or degradation of the habitat, including land conversion to agriculture and herbivory by deer. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments, and to reduce deer browsing through hunting/harvest or exclusion. Special management or protection may also include habitat restoration efforts.

**Unit 6: Bolingbroke Rest Area**

Unit 6 consists of 338 ac (137 ha) in southern Monroe County, Georgia. This unit falls on lands in private ownership adjacent to the main stem of the Ocmulgee River, north of the city of Macon. Special management considerations or protection may be required within Unit 6 to alleviate impacts from stressors that have led to the loss or degradation of the habitat, including commercial development, silviculture and logging activities without properly implemented BMPs, road maintenance, and herbivory by deer. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments, and to reduce deer browsing through hunting/harvest or exclusion. Special management or protection may also include habitat restoration efforts and implementation of State-approved BMPs for silviculture and logging activities. In addition, special management considerations related to developed areas that would benefit the habitat in this unit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap.

**Unit 7: River North Bluff**

Unit 7 consists of 115 ac (46 ha) in the northern corner of Bibb County, Georgia. This unit is adjacent to the main stem of the Ocmulgee River, north of the city of Macon. This unit contains land owned by the Georgia Department of Natural Resources (10 ac (4 ha) on the Echeconnee Wildlife Management Area), and lands in private ownership (105 ac (42 ha)). Special management considerations or protection may be required within Unit 7 to alleviate impacts from stressors that have led to the degradation of the habitat, including competition and encroachment by nonnative, invasive species. In some cases, these threats are being addressed

or coordinated with our partners and landowners to implement needed actions. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments. Special management or protection may also include habitat restoration efforts.

**Unit 8: Savage Branch**

Unit 8 consists of 115 ac (46 ha) in the northern portion of Bibb County, Georgia. This unit is adjacent to the main stem of the Ocmulgee River, north of the city of Macon, and falls on lands in private ownership. Special management considerations or protection may be required within Unit 8 to alleviate impacts from stressors that have led to the loss or degradation of the habitat, including urbanization and development and nonnative, invasive species. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments. In addition, special management considerations related to developed areas that would benefit the habitat in this unit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap. Special management or protection may also include habitat restoration efforts.

**Unit 9: Adjoins Robins Air Force Base**

Unit 9 consists of 231 ac (93 ha) in western Houston County, Georgia. This unit is adjacent to Robins Air Force Base and the main stem of the Ocmulgee River. All lands in this unit are in private ownership. Special management considerations or protection may be required within Unit 9 to alleviate impacts from stressors that have led to the degradation of the habitat, including urbanization and development and nonnative, invasive species. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments. In addition, special management considerations related to developed areas that would benefit the habitat in this unit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap. Special management or protection may also include habitat restoration efforts.

**Unit 10: Trib Richland Creek**

Unit 10 consists of 340 ac (138 ha) in eastern Twiggs County, Georgia. This unit lies east of Robins Air Force Base and along a tributary of the Ocmulgee River. The unit falls on lands leased by the Georgia Department of Natural Resources (242 ac (98 ha) on the Ocmulgee Wildlife Management Area), and lands in private ownership (98 ac (40 ha)). Special management considerations or protection may be required within Unit 10 to alleviate impacts from stressors that have led to the loss or degradation of the habitat, including land conversion to agriculture and herbivory by deer. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such special management or protection may include conservation efforts to reduce deer browsing through hunting/harvest or exclusion. Special management or protection related to land conversion may also include consideration of Ocmulgee skullcap in agriculture conversion plans and habitat restoration efforts in affected field/forest edges.

**Unit 11: Oaky Woods North**

Unit 11 consists of 657 ac (266 ha) in western Houston County, Georgia. This unit lies adjacent to the county line, along a tributary of the Ocmulgee River. The unit falls on lands owned by the Georgia Department of Natural Resources (228 ac (92 ha) on the Oaky Woods Wildlife Management Area) and lands in private ownership (429 ac (174 ha)). Special management considerations or protection may be required within Unit 11 to alleviate impacts from stressors that have led to the degradation of the habitat, including limited effects of nonnative, invasive species and herbivory by deer. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments, and to reduce deer browsing through hunting/harvest or exclusion. Special management or protection may also include habitat restoration efforts.

**Unit 12: Crooked Creek**

Unit 12 consists of 205 ac (83 ha) in southeastern Twiggs County, Georgia. This unit is located south of Highway 96, and along a tributary of the Ocmulgee River. The unit falls on lands leased by the Georgia Department of

Natural Resources (201 ac (81 ha) on the Ocmulgee Wildlife Management Area) and on lands in private ownership (4 ac (1.6 ha)). Special management considerations or protection may be required within Unit 12 to alleviate impacts from stressors that have led to the degradation of the habitat, including nonnative, invasive species and herbivory by deer. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such special management or protection may include continued conservation efforts to reduce deer browsing through hunting/harvest or exclusion. Special management or protection may also include habitat restoration efforts.

**Unit 13: Shellstone Creek**

Unit 13 consists of 160 ac (65 ha) in southeastern Twiggs County, Georgia. This unit lies east of Unit 12, along a tributary of the Ocmulgee River. The unit falls on lands leased by the Georgia Department of Natural Resources (15 ac (6 ha) on the Ocmulgee Wildlife Management Area) and on lands in private ownership (145 ac (59 ha)). Special management considerations or protection may be required within Unit 13 to alleviate impacts from stressors that have led to the loss or degradation of the habitat, including forest conversion to agriculture; residential development; nonnative, invasive species; and herbivory by deer. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments, and to reduce deer browsing through hunting/harvest or exclusion. Special management or protection related to land conversion may also include consideration of Ocmulgee skullcap in agriculture conversion plans and habitat restoration efforts in affected field/forest edges. Special management or protection may also include habitat restoration efforts.

**Unit 14: Oaky Woods South**

Unit 14 consists of 363 ac (147 ha) in western Houston County, Georgia. This unit is west of units 15 and 16, and along a tributary of the Ocmulgee River. This unit falls on lands leased by the Georgia Department of Natural Resources (84 ac (34 ha) on the Oaky Woods Wildlife Management Area), and on lands in private ownership (279 ac (113 ha)). Special management

considerations or protection may be required within Unit 14 to alleviate impacts from stressors that have led to the loss or degradation of the habitat, including urbanization and commercial development. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such special management or protection may include considerations related to developed areas that would benefit the habitat in this unit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap. Special management or protection may also include habitat restoration efforts.

**Unit 15: Dry Creek**

Unit 15 consists of 330 ac (133 ha) in western Houston and northern Pulaski Counties, Georgia. This unit is adjacent to the county line, and along a tributary of the Ocmulgee River. This unit falls on lands leased by the Georgia Department of Natural Resources (50 ac (20 ha) on the Ocmulgee Wildlife Management Area), and lands in private ownership (280 ac (113 ha)). Special management considerations or protection may be required within Unit 15 to alleviate impacts from stressors that have led to the degradation of the habitat, including nonnative, invasive species and herbivory by deer. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments, and to reduce deer browsing through hunting/harvest or exclusion. Special management or protection may also include habitat restoration efforts.

**Unit 16: James Dykes Memorial**

Unit 16 consists of 515 ac (208 ha) in eastern Bleckley County and northern Pulaski County, Georgia. This unit is adjacent to the main stem of the Ocmulgee River, west of the City of Cochran. This unit falls on lands owned by the Georgia Department of Natural Resources (497 ac (201 ha) on the Ocmulgee Wildlife Management Area), and on lands in private ownership (18 ac (7.3 ha)). Special management considerations or protection may be required within Unit 16 to alleviate impacts from stressors that have led to the loss or degradation of the habitat, including land conversion to agriculture; nonnative, invasive species;

and herbivory by deer. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Such special management or protection may include conservation efforts to reduce or control nonnative, invasive plants via prescribed burning or mechanical or chemical treatments, and to reduce deer browsing through hunting/harvest or exclusion. Special management or protection related to land conversion may also include consideration of Ocmulgee skullcap in agriculture conversion plans and habitat restoration efforts in affected field/forest edges. Special management or protection may also include habitat restoration efforts.

#### Unit 17: South Shellstone Creek

Unit 17 consists of 403 ac (163 ha) in eastern Bleckley County, Georgia. This unit is adjacent to a tributary of the Ocmulgee River, north of the City of Cochran. This unit falls on lands owned by the Georgia Department of Natural Resources (4 ac (1.6 ha)) and on lands in private ownership (399 ac (161 ha)). Special management considerations or protection may be required within Unit 17 to alleviate impacts from stressors that have led to the loss or degradation of the habitat, including land conversion to agriculture. In some cases, these threats are being addressed or coordinated with our partners and landowners to implement needed actions. Special management or protection related to land conversion may also include consideration of Ocmulgee skullcap in agriculture conversion plans and habitat restoration efforts in affected field/forest edges. Special management or protection may also include habitat restoration efforts.

#### Unit 18: Jordan Creek

Unit 18 consists of 250 ac (101 ha) in northern Pulaski County, Georgia. This unit is adjacent to a tributary of the Ocmulgee River, north of the City of Hawkinsville. The unit falls on lands in private ownership. Special management considerations or protection may be required within Unit 18 to alleviate impacts from stressors that have led to the degradation of the habitat, including limited urbanization and development. In addition, special management considerations related to developed areas that would benefit the habitat in this unit include, but are not limited to, review of county development plans and other projects considering land use changes with recommendations to avoid areas occupied by Ocmulgee skullcap. Special management or protection may also include habitat restoration efforts.

### *Effects of Critical Habitat Designation*

#### Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species.

Destruction or adverse modification means a direct or indirect alteration that appreciably diminishes the value of critical habitat as a whole for the conservation of a listed species (50 CFR 402.02).

Compliance with the requirements of section 7(a)(2) is documented through our issuance of:

- (1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or
- (2) A biological opinion for Federal actions that may affect, and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define “reasonable and prudent alternatives” (at 50 CFR 402.02) as alternative actions identified during consultation that:

- (1) Can be implemented in a manner consistent with the intended purpose of the action,
- (2) Can be implemented consistent with the scope of the Federal agency’s legal authority and jurisdiction,
- (3) Are economically and technologically feasible, and
- (4) Would, in the Service Director’s opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 set forth requirements for Federal agencies to reinstate consultation. Reinitiation of consultation is required and shall be requested by the Federal agency, where

discretionary Federal involvement or control over the action has been retained or is authorized by law and: (1) if the amount or extent of taking specified in the incidental take statement is exceeded; (2) if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) if the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or (4) if a new species is listed or critical habitat designated that may be affected by the identified action. As provided in 50 CFR 402.16, the requirement to reinstate consultations for new species listings or critical habitat designation does not apply to certain agency actions (e.g., land management plans issued by the Bureau of Land Management in certain circumstances).

#### Destruction or Adverse Modification of Critical Habitat

The key factor related to the destruction or adverse modification determination is whether implementation of the proposed Federal action directly or indirectly alters the designated critical habitat in a way that appreciably diminishes the value of the critical habitat as a whole for the conservation of the listed species. As discussed above, the role of critical habitat is to support physical or biological features essential to the conservation of a listed species and provide for the conservation of the species.

Section 4(b)(8) of the Act requires that our **Federal Register** notices “shall, to the maximum extent practicable also include a brief description and evaluation of those activities (whether public or private) which, in the opinion of the Secretary, if undertaken may adversely modify [critical] habitat, or may be affected by such designation.” Activities that may be affected by designation of critical habitat for the Ocmulgee skullcap include those that may affect the physical or biological features of the Ocmulgee skullcap’s critical habitat (see Physical or Biological Features Essential to the Conservation of the Species).

#### *Exemptions*

##### Application of Section 4(a)(3) of the Act

The Sikes Act Improvement Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the

conservation and management of natural resources to complete an integrated natural resources management plan (INRMP) by November 17, 2001. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found on the base. Each INRMP includes:

(1) An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;

(2) A statement of goals and priorities;

(3) A detailed description of management actions to be implemented to provide for these ecological needs; and

(4) A monitoring and adaptive management plan.

Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management; fish and wildlife habitat enhancement or modification; wetland protection, enhancement, and restoration where necessary to support fish and wildlife; and enforcement of applicable natural resource laws.

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) provides that the Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense (DoD), or designated for its use, that are subject to an INRMP prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.

We consult with the military on the development and implementation of INRMPs for installations with listed species. We analyzed INRMPs developed by military installations located within the range of the critical habitat designation for Ocmulgee skullcap to determine if they meet the criteria for exemption from critical habitat under section 4(a)(3) of the Act. The following areas are DoD lands with completed, Service-approved INRMPs within the critical habitat designation.

#### Approved INRMPs

##### Robins Air Force Base, 224 ac (91 ha)

Robins Air Force Base (AFB) has an approved INRMP. The U.S. Air Force is committed to working closely with the Service and the Georgia Department of Natural Resources to continually refine

the existing INRMP as part of the Sike's Act INRMP review process.

Robins AFB completed an INRMP in 2017, which serves as the principal management plan governing all natural resource activities on the installation (Robins AFB INRMP 2017, entire). The 2017 INRMP includes benefits for Ocmulgee skullcap through: (1) control or elimination of competing, nonnative vegetation (mowing or hand clearing during winter months when Ocmulgee skullcap is dormant); (2) limiting recreational and other activities that may impact the species near Ocmulgee skullcap locations; and (3) promoting natural regeneration of the dominant plant species in upland hardwood bluff forest communities. Further, Robins AFB environmental staff review projects and enforce existing regulations and orders that, through their implementation, avoid and minimize impacts to natural resources, including Ocmulgee skullcap and its habitat. In addition, Robins AFB INRMP provides protection to forested habitat for Ocmulgee skullcap by implementing forest management activities, designating stream and wetland protection zones, and engaging in public outreach and education. Robins AFB INRMP specifies periodic monitoring of the distribution and abundance of the Ocmulgee skullcap populations on the base.

Based on the above considerations, and in accordance with section 4(a)(3)(B)(i) of the Act, we have determined that the identified lands are subject to the Robins AFB INRMP and that conservation efforts identified in the INRMP will provide a benefit to Ocmulgee skullcap. Therefore, lands within this installation are exempt from critical habitat designation under section 4(a)(3) of the Act. We are not including approximately 224 ac (91 ha) of forested habitat on Robins AFB in this final critical habitat designation because of this exemption.

#### *Consideration of Impacts Under Section 4(b)(2) of the Act*

Section 4(b)(2) of the Act states that the Secretary shall designate and make revisions to critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat based on economic impacts, impacts on national security, or any other relevant impacts. Exclusion decisions are governed by the regulations at 50 CFR 424.19 and the Policy Regarding Implementation of

Section 4(b)(2) of the Endangered Species Act (hereafter, the “2016 Policy”; 81 FR 7226, February 11, 2016)—both of which were developed jointly with the National Marine Fisheries Service (NMFS). We also refer to a 2008 Department of the Interior Solicitor's opinion entitled, “The Secretary's Authority to Exclude Areas from a Critical Habitat Designation under Section 4(b)(2) of the Endangered Species Act” (M–37016). We explain each decision to exclude areas, as well as decisions not to exclude, to demonstrate that the decision is reasonable.

The Secretary may exclude any particular area if she determines that the benefits of such exclusion outweigh the benefits of including such area as part of the critical habitat, unless she determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making the determination to exclude a particular area, the statute on its face, as well as the legislative history, are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor. In this final rule, we are not excluding any areas from critical habitat.

#### Exclusions Based on Economic Impacts

Section 4(b)(2) of the Act and its implementing regulations require that we consider the economic impact that may result from a designation of critical habitat. In order to consider economic impacts, we prepared an incremental effects memorandum (IEM) and screening analysis which, together with our narrative and interpretation of effects, we consider our economic analysis of the critical habitat designation and related factors (Industrial Economics, Inc. 2021). The analysis, dated February 12, 2021, was made available for public review from June 22, 2022, through August 22, 2022 (87 FR 37378). The economic analysis addresses probable economic impacts of critical habitat designation for Ocmulgee skullcap. Following the close of the comment period, we reviewed and evaluated all information submitted during the comment period that may pertain to our consideration of the probable incremental economic impacts of this critical habitat designation. We did not receive any comments or information related to the economic impacts of the critical habitat designation. Additional information relevant to the probable incremental economic impacts of critical habitat designation for the Ocmulgee skullcap

is summarized below and available in the screening analysis for the Ocmulgee skullcap, available at <https://www.regulations.gov>.

The full description of the findings from the economic analysis are outlined in the June 22, 2022, proposed rule (87 FR 37378). The critical habitat designation for the Ocmulgee skullcap totals approximately 6,661 ac (2,696 ha) in 10 Georgia counties and 2 South Carolina counties. All 18 designated critical habitat units are considered occupied because they contain current (1999–2020) occurrences of Ocmulgee skullcap. We are not designating any units of unoccupied habitat. In occupied areas, any actions that may affect the species or its habitat would also affect designated critical habitat, and it is unlikely that any additional conservation efforts would be recommended to address the adverse modification standard over and above those recommended as necessary to avoid jeopardizing the continued existence of the Ocmulgee skullcap. Therefore, the potential incremental economic effects of the critical habitat designation are expected to be limited to administrative costs and minor costs of conservation efforts. Administrative costs include the additional effort from the Service and the Federal action agency to consider critical habitat for Ocmulgee skullcap in a section 7 consultation that already considers the presence of Ocmulgee skullcap.

The probable incremental economic impacts of the Ocmulgee skullcap critical habitat designation are expected to be limited to additional administrative effort and minor costs of conservation efforts resulting from a small number of future section 7 consultations (Industrial Economics, Inc. 2020, entire). The analysis projects that approximately 73 section 7 consultations (approximately 1 formal consultation, 2 informal consultations, and 70 technical assistance efforts including species lists) will occur annually in the critical habitat areas, based on the previous consultation history in the area. The annual costs to the Service and other action agencies are estimated at approximately \$39,700. Units 1, 3, 4, and 7 are projected to have the highest number of consultations with six or more per unit. At approximately \$10,000 per formal programmatic consultation, the burden resulting from the designation of critical habitat for Ocmulgee skullcap, based on the anticipated annual number of consultations and associated consultation costs, is not expected to exceed \$39,700 in most years (Industrial Economics, Inc. 2020, pp. 1–2, 11, 13).

The designation is unlikely to trigger additional requirements under State or local regulations. Thus, the annual administrative burden is relatively low. As discussed above, we considered the economic impacts of the critical habitat designation, and the Secretary is not exercising her discretion to exclude any areas from this designation of critical habitat for the Ocmulgee skullcap based on economic impacts.

#### Exclusions Based on Impacts on National Security and Homeland Security

In preparing this rule, we determined that there are no lands within the designated critical habitat for the Ocmulgee skullcap that are owned or managed by the DoD or Department of Homeland Security, and, therefore, we anticipate no impact on national security or homeland security. We did not receive any additional information during the public comment period for the proposed designation regarding impacts of the designation on national security or homeland security that would support excluding any specific areas from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19, as well as the 2016 Policy.

#### Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts on national security as discussed above. To identify other relevant impacts that may affect the exclusion analysis, we consider a number of factors, including whether there are permitted conservation plans covering the species in the area such as HCPs, conservation benefit agreements, safe harbor agreements, or candidate conservation agreements with assurances, or whether there are non-permitted conservation agreements and partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at whether Tribal conservation plans or partnerships, Tribal resources, or government-to-government relationships of the United States with Tribal entities may be affected by the designation. We also consider any State, local, social, or other impacts that might occur because of the designation.

We are not excluding any areas from critical habitat. In preparing this final rule, we have determined that there are currently no HCPs or other management plans for Ocmulgee skullcap, and the designation does not include any Tribal

lands or trust resources. We anticipate no impact on Tribal lands, partnerships, or permitted plans from this final critical habitat designation. We did not receive any additional information during the public comment period for the proposed rule regarding other relevant impacts to support excluding any specific areas from the final critical habitat designation under authority of section 4(b)(2) and our implementing regulations at 50 CFR 424.19, as well as the 2016 Policy. Accordingly, the Secretary is not exercising her discretion to exclude any areas from this designation based on other relevant impacts.

#### Required Determinations

##### Regulatory Planning and Review (Executive Orders 12866, 13563, and 14094)

Executive Order 14094 reaffirms the principles of E.O. 12866 and E.O. 13563 and states that regulatory analysis should facilitate agency efforts to develop regulations that serve the public interest, advance statutory objectives, and are consistent with E.O. 12866 and E.O. 13563. Regulatory analysis, as practicable and appropriate, shall recognize distributive impacts and equity, to the extent permitted by law. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this rule in a manner consistent with these requirements.

Executive Order 12866, as reaffirmed by E.O. 13563 and E.O. 14094, provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget will review all significant rules. OIRA has determined that this rule is not significant.

##### Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA; 5 U.S.C. 801 *et seq.*), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will

not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations such as independent nonprofit organizations; small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents; and small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than \$5 million in annual sales, general and heavy construction businesses with less than \$27.5 million in annual business, special trade contractors doing less than \$11.5 million in annual business, and agricultural businesses with annual sales less than \$750,000. To determine if potential economic impacts to these small entities are significant, we considered the types of activities that might trigger regulatory impacts under this designation as well as types of project modifications that may result. In general, the term “significant economic impact” is meant to apply to a typical small business firm’s business operations.

Under the RFA, as amended, and as understood in light of recent court decisions, Federal agencies are required to evaluate the potential incremental impacts of rulemaking on those entities directly regulated by the rulemaking itself; in other words, the RFA does not require agencies to evaluate the potential impacts to indirectly regulated entities. The regulatory mechanism through which critical habitat protections are realized is section 7 of the Act, which requires Federal agencies, in consultation with the Service, to ensure that any action authorized, funded, or carried out by the agency is not likely to destroy or adversely modify critical habitat. Therefore, under section 7, only Federal action agencies are directly subject to the specific regulatory requirement (avoiding destruction and adverse modification) imposed by critical habitat designation. Consequently, it is our position that only Federal action agencies will be directly regulated by this designation. The RFA does not require evaluation of the potential impacts to entities not directly regulated. Moreover, Federal agencies

are not small entities. Therefore, because no small entities will be directly regulated by this rulemaking, we certify that this critical habitat designation will not have a significant economic impact on a substantial number of small entities.

During the development of this final rule, we reviewed and evaluated all information submitted during the comment period on the proposed rule (87 FR 37378; June 22, 2022) that may pertain to our consideration of the probable incremental economic impacts of this critical habitat designation. Based on this information, we affirm our certification that this critical habitat designation will not have a significant economic impact on a substantial number of small entities, and a regulatory flexibility analysis is not required.

#### Energy Supply, Distribution, or Use— Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare statements of energy effects “to the extent permitted by law” when undertaking actions identified as significant energy actions (66 FR 28355; May 22, 2001). E.O. 13211 defines a “significant energy action” as an action that (i) is a significant regulatory action under E.O. 12866 or E.O. 14094 (88 FR 21879; Apr. 11, 2023); and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy. This rule is not a significant regulatory action under E.O. 12866 or 14094. Therefore, this action is not a significant energy action, and there is no requirement to prepare a statement of energy effects for this action.

#### Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following finding:

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or Tribal governments, or the private sector, and includes both “Federal intergovernmental mandates” and “Federal private sector mandates.” These terms are defined in 2 U.S.C. 658(5)–(7). “Federal intergovernmental mandate” includes a regulation that “would impose an enforceable duty upon State, local, or Tribal governments” with two exceptions. It excludes “a condition of Federal assistance.” It also excludes “a duty

arising from participation in a voluntary Federal program,” unless the regulation “relates to a then-existing Federal program under which \$500,000,000 or more is provided annually to State, local, and Tribal governments under entitlement authority,” if the provision would “increase the stringency of conditions of assistance” or “place caps upon, or otherwise decrease, the Federal Government’s responsibility to provide funding,” and the State, local, or Tribal governments “lack authority” to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. “Federal private sector mandate” includes a regulation that “would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.”

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions are not likely to destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) We do not believe that this rule will significantly or uniquely affect small governments because, apart from privately owned lands, the lands designated as critical habitat are owned by Richmond County (in the State of Georgia) and the States of Georgia and South Carolina. These governments do not fit the definition of “small governmental jurisdiction,” nor does the designation of critical habitat impose an obligation on State or local



governments. Small governments will be affected only to the extent that any programs having Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the designated critical habitat. In addition, this rule will not produce a Federal mandate of \$200 million or greater in any year; that is, it is not a “significant regulatory action” under the Unfunded Mandates Reform Act. Therefore, a Small Government Agency Plan is not required.

#### Takings—Executive Order 12630

In accordance with E.O. 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for Ocmulgee skullcap in a takings implications assessment. The Act does not authorize us to regulate private actions on private lands or confiscate private property as a result of critical habitat designation. Designation of critical habitat does not affect land ownership, or establish any closures, or restrictions on use of or access to the designated areas. Furthermore, the designation of critical habitat does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. However, Federal agencies are prohibited from carrying out, funding, or authorizing actions that would destroy or adversely modify critical habitat. A takings implications assessment has been completed and concludes that this designation of critical habitat for the Ocmulgee skullcap does not pose significant takings implications for lands within or affected by the designation.

#### Federalism—Executive Order 13132

In accordance with E.O. 13132 (Federalism), this rule does not have significant Federalism effects. A federalism summary impact statement is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of this critical habitat designation with, appropriate State resource agencies. From a federalism perspective, the designation of critical habitat directly affects only the responsibilities of Federal agencies. The Act imposes no other duties with respect to critical habitat, either for States and local governments, or for anyone else. As a result, this final rule

does not have substantial direct effects either on the States, or on the relationship between the national government and the States, or on the distribution of powers and responsibilities among the various levels of government. The designation may have some benefit to these governments because the areas that contain the features essential to the conservation of the species are more clearly defined, and the physical or biological features of the habitat necessary for the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist State and local governments in long-range planning because they no longer have to wait for case-by-case section 7 consultations to occur.

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) of the Act will be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

#### Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule will not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We are designating critical habitat in accordance with the provisions of the Act. To assist the public in understanding the habitat needs of the species, this final rule identifies the physical or biological features essential to the conservation of the species. The designated areas of critical habitat are presented on maps, and the rule provides several options for the interested public to obtain more detailed location information, if desired.

#### Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain information collection requirements, and a submission to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) is not required. We may not conduct or sponsor and you are not required to respond to a

collection of information unless it displays a currently valid OMB control number.

#### National Environmental Policy Act (42 U.S.C. 4321 et seq.)

Regulations adopted pursuant to section 4(a) of the Act are exempt from the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*) and do not require an environmental analysis under NEPA. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This includes listing, delisting, and reclassification rules, as well as critical habitat designations. In a line of cases starting with *Douglas County v. Babbitt*, 48 F.3d 1495 (9th Cir. 1995), the courts have upheld this position.

#### Government-to-Government Relationship With Tribes

In accordance with the President’s memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951, May 4, 1994), Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments), the President’s memorandum of November 30, 2022 (Uniform Standards for Tribal Consultation; 87 FR 74479, December 5, 2022), and the Department of the Interior’s manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with federally recognized Tribes and Alaska Native Corporations (ANCs) on a government-to-government basis. In accordance with Secretaries’ Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We have coordinated with the Catawba Tribe regarding the SSA that informed this listing determination and critical habitat designation and provided the Tribe with an opportunity to review the SSA report. We informed the Catawba Tribe of the proposed rule publication and opportunity to comment. We have determined that no Tribal lands fall within the boundaries of the critical habitat designation for the Ocmulgee skullcap, so no Tribal lands will be affected by the designation.

References Cited

A complete list of references cited in this rulemaking is available on the internet at <https://www.regulations.gov> and upon request from the Georgia Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this final rule are the staff members of the Fish and Wildlife Service’s Species Assessment Team and the Georgia Ecological Services Field Office.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Plants, Reporting and recordkeeping requirements, Transportation, Wildlife.

Regulation Promulgation

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

**PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS**

■ 1. The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 1531–1544; and 4201–4245, unless otherwise noted.

■ 2. In § 17.12, in paragraph (h), amend the List of Endangered and Threatened Plants by adding an entry for “*Scutellaria ocmulgee*” in alphabetical order under FLOWERING PLANTS to read as follows:

**§ 17.12 Endangered and threatened plants.**

\* \* \* \* \*  
(h) \* \* \*

Scientific name	Common name	Where listed	Status	Listing citations and applicable rules
FLOWERING PLANTS				
*	*	*	*	*
<i>Scutellaria ocmulgee</i>	Ocmulgee skullcap .....	Wherever found .....	E	89 [INSERT FEDERAL REGISTER PAGE WHERE DOCUMENT BEGINS], 10/30/2024; 50 CFR 17.96(a). <sup>CH</sup>
*	*	*	*	*

■ 3. In § 17.96, amend paragraph (a) by adding an entry for “Family Lamiaceae: *Scutellaria ocmulgee* (Ocmulgee skullcap)” following the entry for “Family Lamiaceae: *Monardella viminea* (willow monardella)”, to read as follows:

**§ 17.96 Critical habitat—plants.**

(a) Flowering plants.

\* \* \* \* \*

Family Lamiaceae: *Scutellaria ocmulgee* (Ocmulgee skullcap)

(1) Critical habitat units are depicted for Bibb, Bleckley, Burke, Columbia, Houston, Monroe, Pulaski, Richmond, Screven, and Twiggs Counties in Georgia, and Aiken and Edgefield Counties in South Carolina, on the maps in this entry.

(2) Within these areas, the physical or biological features essential to the conservation of Ocmulgee skullcap consist of the following components:

(i) River bluffs with steep and/or shallow soils that are subject to localized disturbances that limit the

accumulation of leaf litter and competition within the Upper Gulf Coastal Plain and Piedmont of Georgia.

(ii) Well-drained soils that are buffered or circumneutral (pH between 6.5 and 7.5) generally within regions underlain or otherwise influenced by limestone or marl.

(iii) A mature, mixed-level canopy with spatial heterogeneity, providing mottled shade and often including with a rich diversity of grasses and forbs characterizing the herbaceous layer.

(iv) Intact forested habitat that is ecologically functional (*i.e.*, with mature canopy and discrete disturbances) and buffered by surrounding habitat to impede the invasion of competitors.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on November 29, 2024.

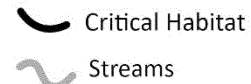
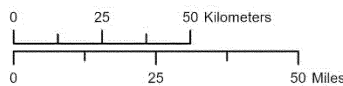
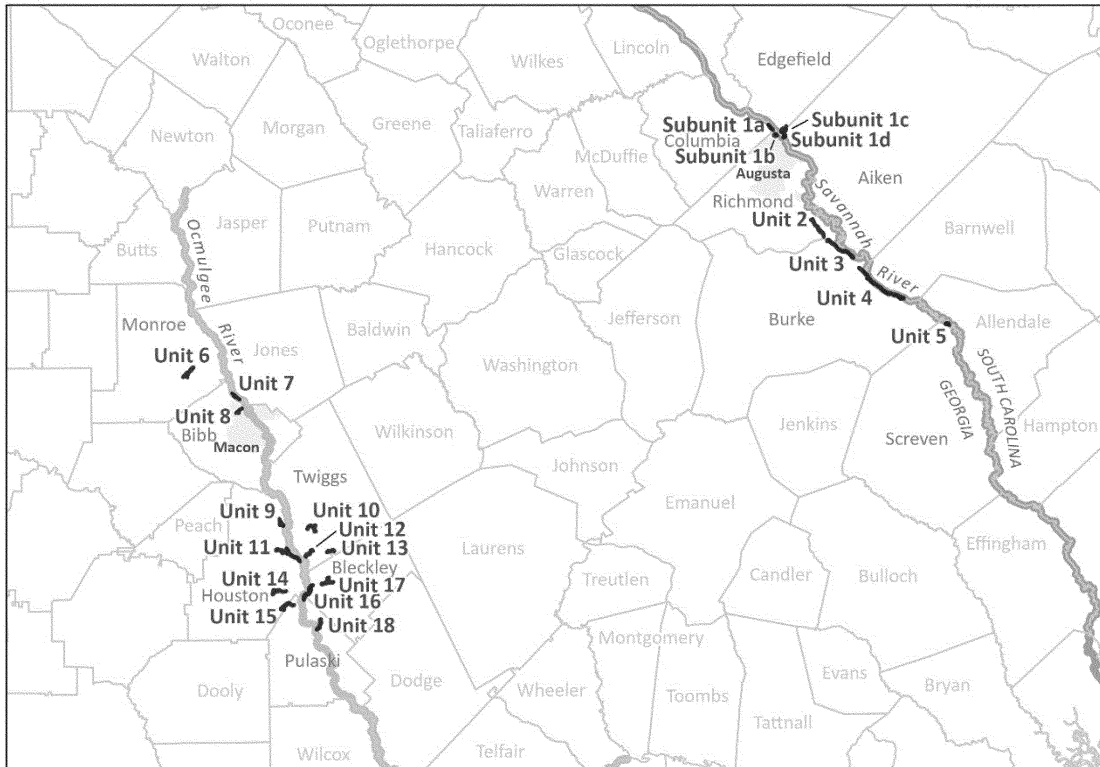
(4) Data layers defining map units were created using ArcMap version 10.6 (Environmental Systems Research

Institute, Inc.), a geographic information systems program on a base of USA Topo Maps. Critical habitat units were then mapped using North American Datum (NAD) 1983, Universal Transverse Mercator (UTM) Zone 17N coordinates. The maps in this entry, as modified by any accompanying regulatory text, establish the boundaries of the critical habitat designation. The coordinates or plot points or both on which each map is based are available to the public at the Service’s internet site at <https://www.fws.gov/office/georgia-ecological-services/library>, at <https://www.regulations.gov> at Docket No. FWS–R4–ES–2021–0059, and at the field office responsible for this designation. You may obtain field office location information by contacting one of the Service regional offices, the addresses of which are listed at 50 CFR 2.2.

(5) Index map follows: Figure 1 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (5)

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**Critical Habitat Index Map for Ocmulgee Skullcap (*Scutellaria ocmulgee*)**



(6) Unit 1: Columbia/Richmond; Columbia and Richmond Counties, Georgia, and Aiken and Edgefield Counties, South Carolina.

(i) Unit 1 includes four subunits:

(A) Subunit 1a consists of 106 acres (ac) (43 hectares (ha)) in Columbia County, Georgia. The lands in this subunit are owned and managed by

Richmond County (28 ac (11.3 ha)) and privately owned (78 ac (31.7 ha)).

(B) Subunit 1b consists of 117 ac (47 ha) in Richmond County, Georgia. The lands in this subunit are privately owned.

(C) Subunit 1c consists of 334 ac (135 ha) in Aiken and Edgefield Counties, South Carolina. The lands in this subunit are privately owned.

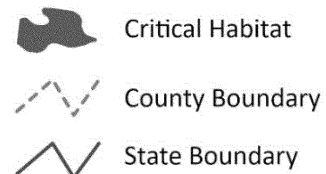
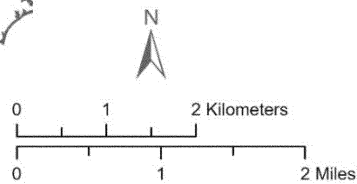
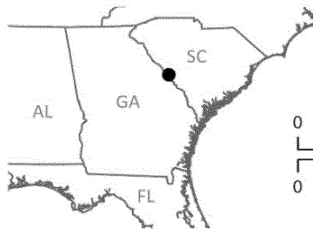
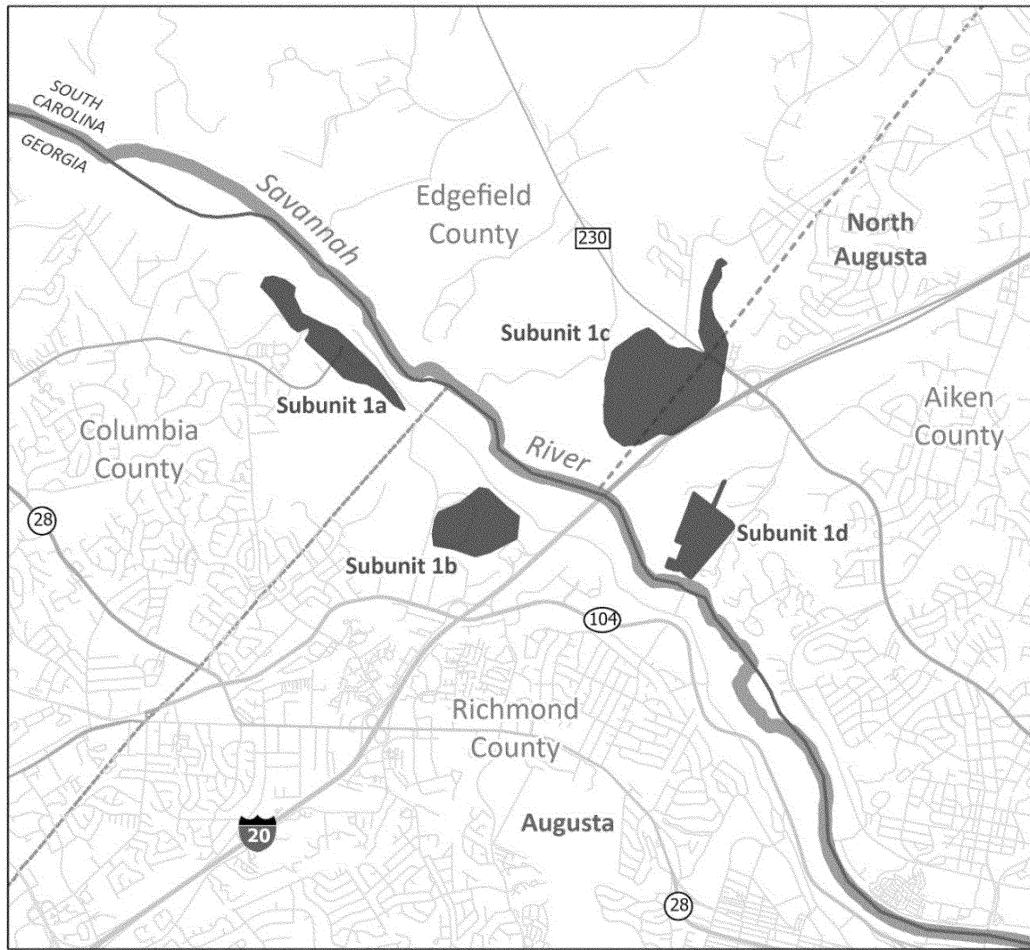
(D) Subunit 1d consists of 84 ac (34 ha) in Aiken County, South Carolina. The lands in this subunit are owned and managed by the State of South Carolina and include the Savannah River Bluffs Heritage Preserve.

(ii) Map of Unit 1 follows:

Figure 2 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (6)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 1, Columbia/Richmond**

Georgia - Columbia and Richmond Counties South Carolina - Edgefield and Aiken Counties

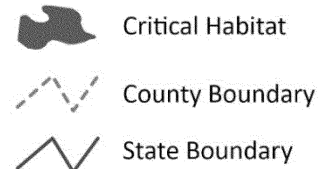
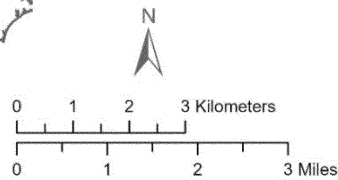
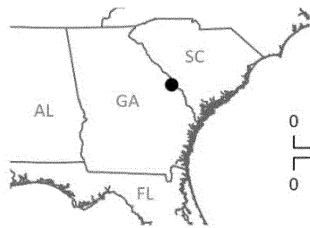
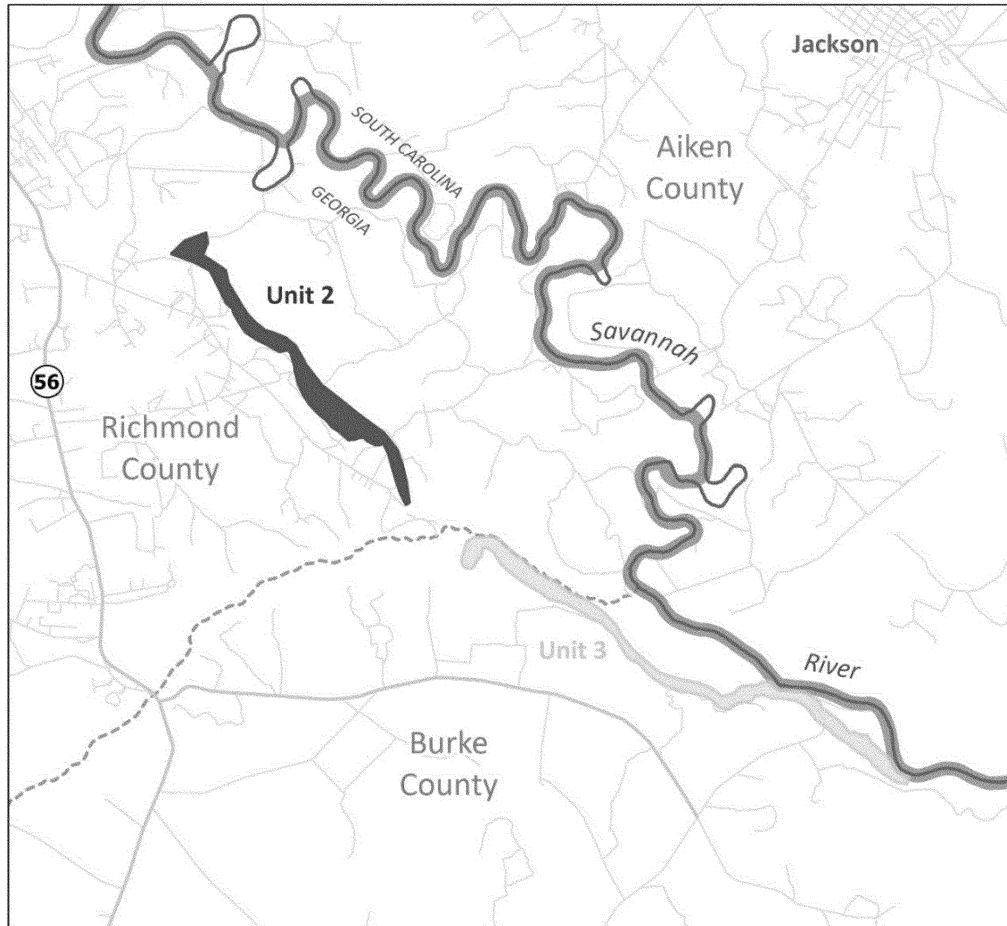


(7) Unit 2: Barney Bluff; Richmond County, Georgia.  
(i) Unit 2 consists of 415 ac (168 ha) in Richmond County, Georgia, and is

composed of lands in private ownership.  
(ii) Map of Unit 2 follows:

Figure 3 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (7)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 2, Barney Bluff, Richmond County, GA**



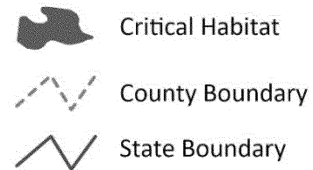
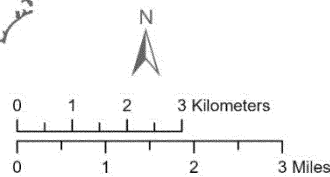
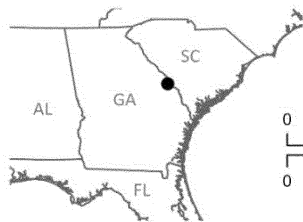
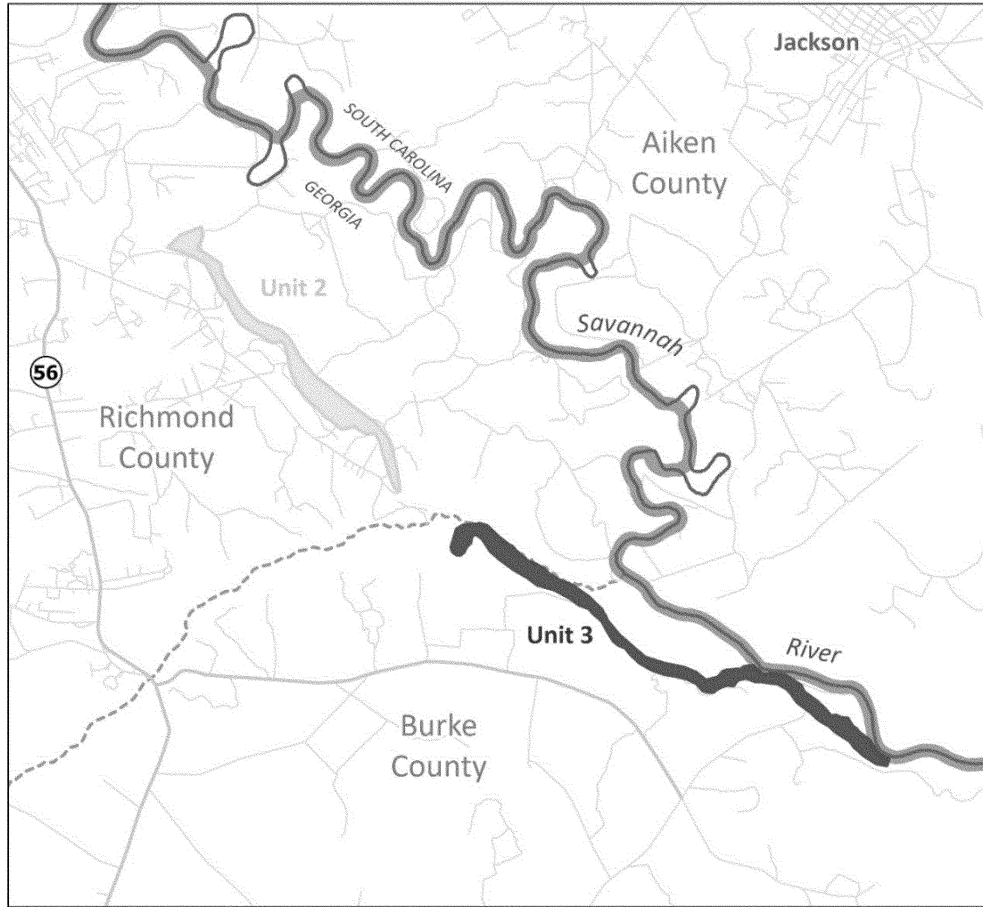
(8) Unit 3: Burke North; Burke County, Georgia.  
(i) Unit 3 consists of 526 ac (213 ha) in Burke County, Georgia, and is

composed of lands in private ownership.

(ii) Map of Unit 3 follows:

Figure 4 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (8)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 3, Burke North, Burke County, Georgia**



(9) Unit 4: Burke South; Burke County, Georgia.

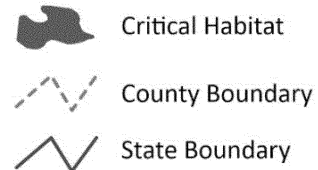
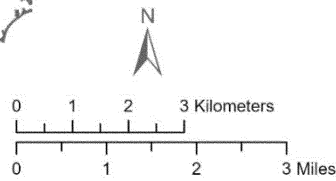
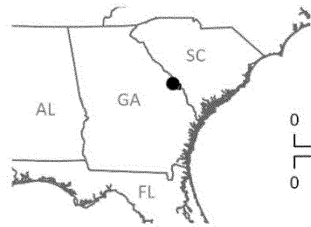
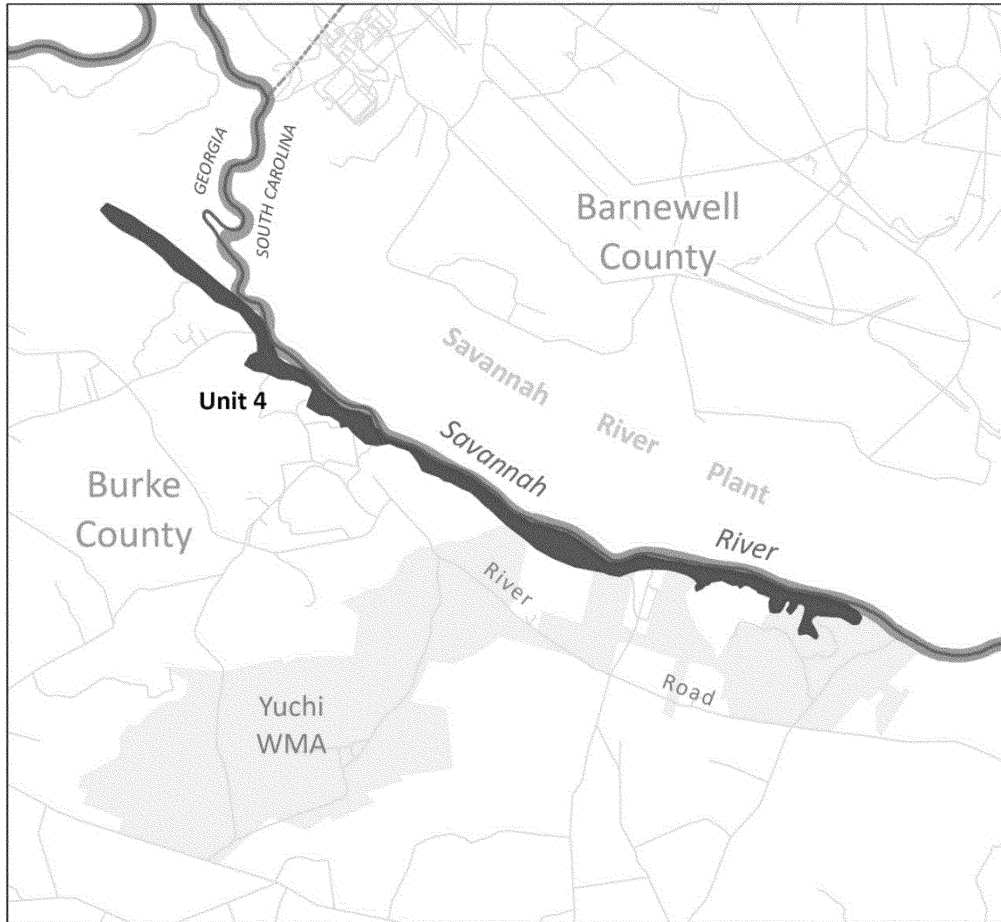
(i) Unit 4 consists of 976 ac (395 ha) in Burke County, Georgia, and is

composed of lands in State (199 ac (80 ha)) and private (777 ac (314 ha)) ownership.

(ii) Map of Unit 4 follows:

Figure 5 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (9)(ii)

### Critical Habitat for Ocmulgee skullcap Unit 4, Burke South, Burke County, Georgia

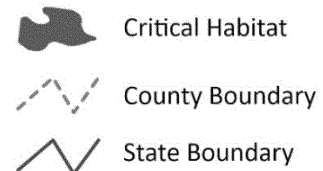
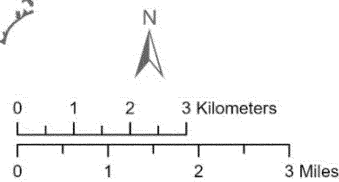
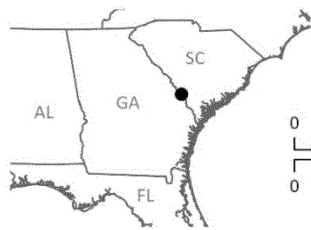
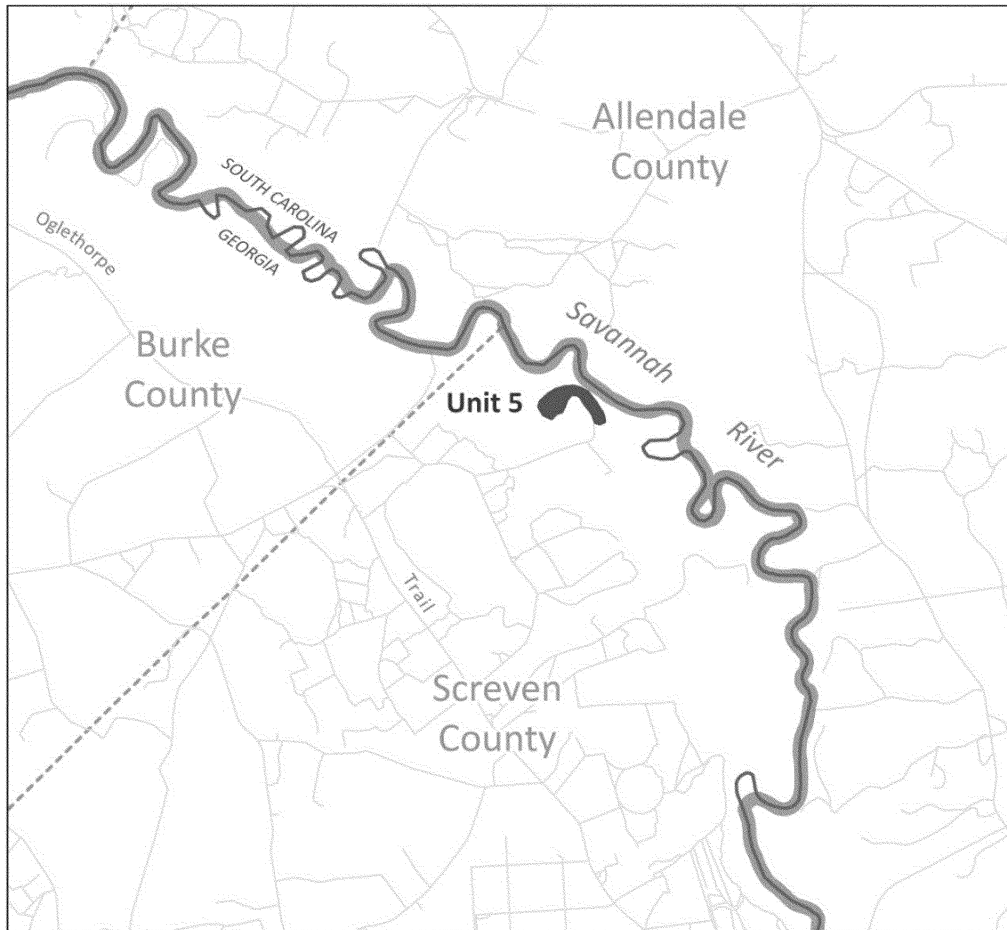


(10) Unit 5: Prescott Lakes; Screven County, Georgia.  
(i) Unit 5 consists of 81 ac (33 ha) in Screven County, Georgia, and is

composed of lands in private ownership.  
(ii) Map of Unit 5 follows:

Figure 6 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (10)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 5, Prescott Lakes, Screven County, Georgia**



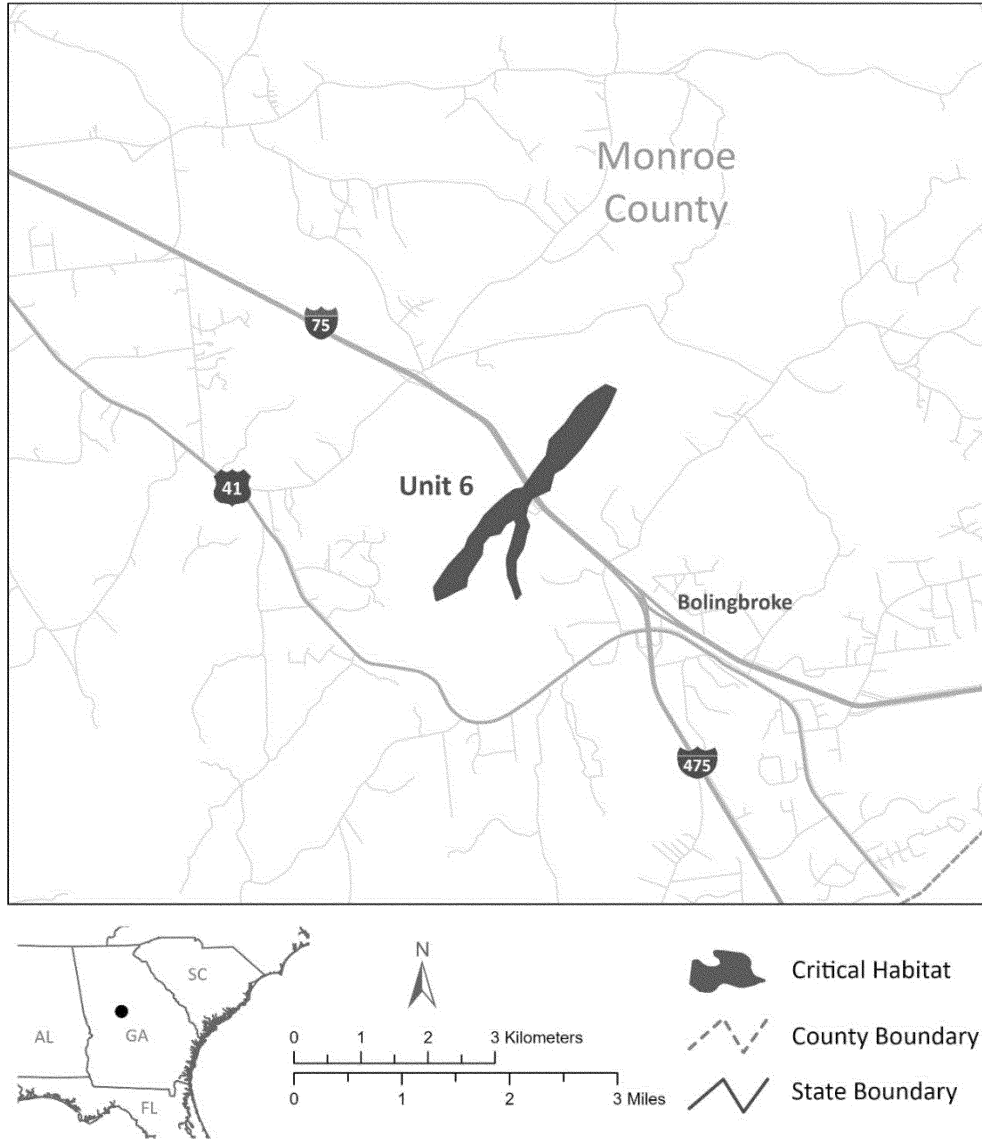
(11) Unit 6: Bolingbroke Rest Area; Monroe County, Georgia.  
(i) Unit 6 consists of 338 ac (137 ha) in Monroe County, Georgia, and is

composed of lands in private ownership.  
(ii) Map of Unit 6 follows:

Figure 7 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (11)(ii)



**Critical Habitat for Ocmulgee skullcap  
Unit 6, Bolingbroke Rest Area, Monroe County, Georgia**



(12) Unit 7: River North Bluff; Bibb County, Georgia.

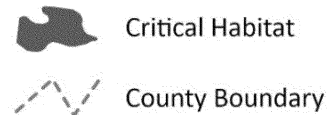
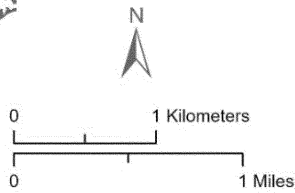
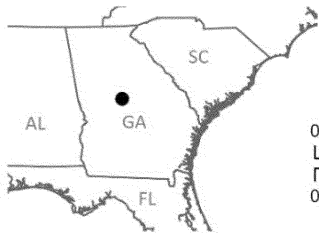
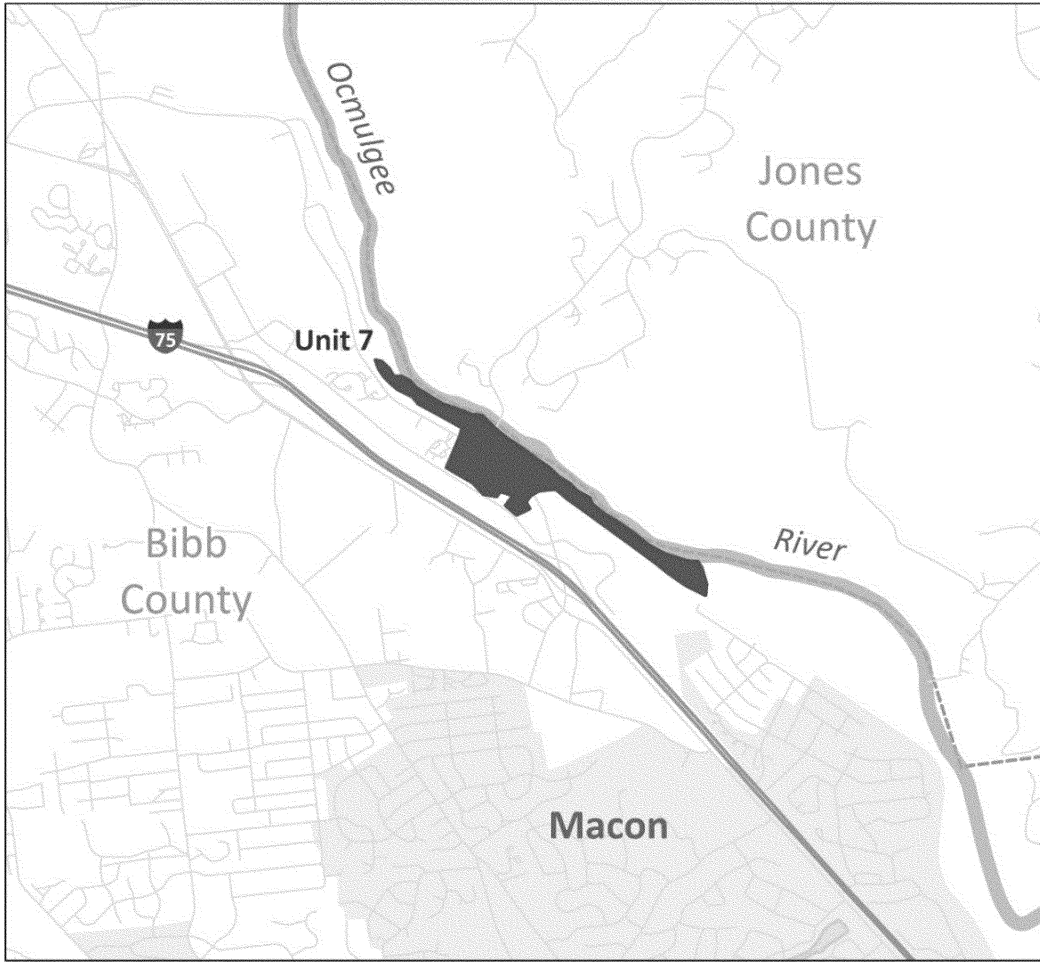
(i) Unit 7 consists of 115 ac (46 ha) in Bibb County, Georgia, and is composed

of lands in State (10 ac (4 ha)) and private (105 ac (42 ha)) ownership.

(ii) Map of Unit 7 follows:

Figure 8 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (12)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 7, River North Bluff, Bibb County, Georgia**

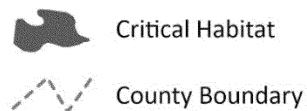
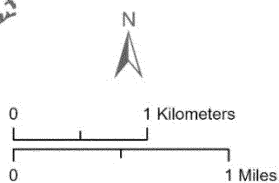
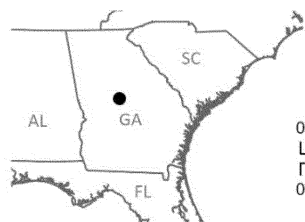
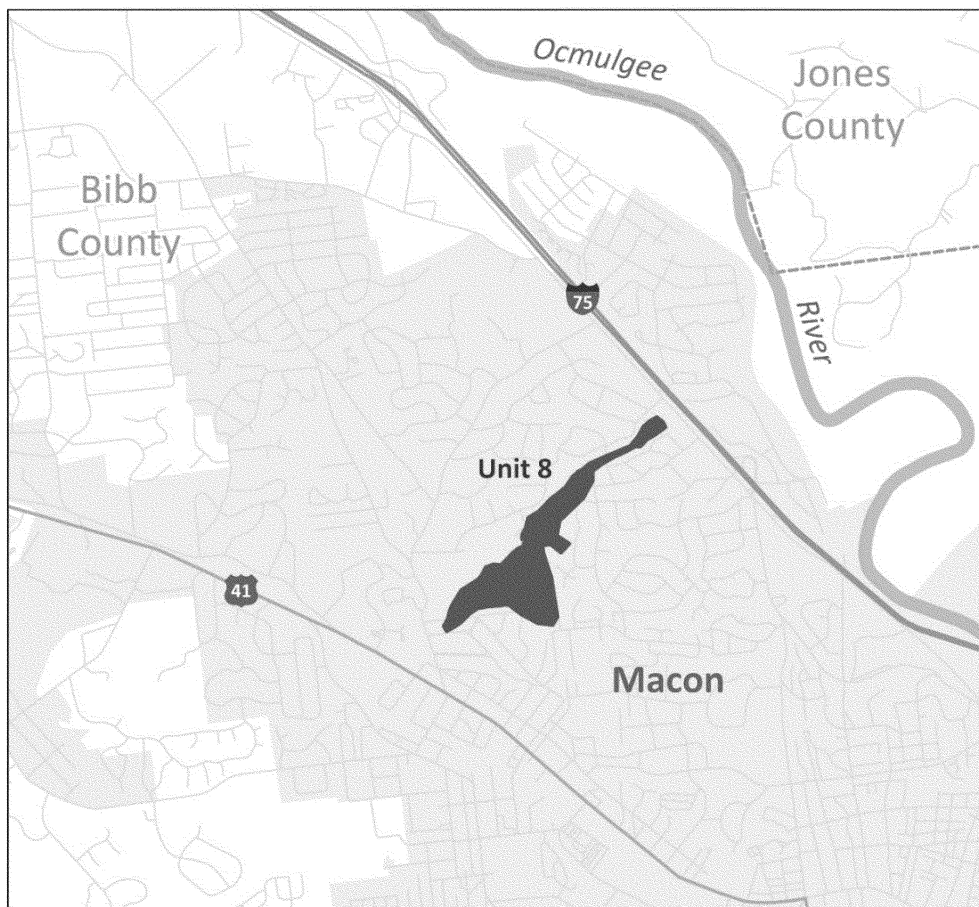


(13) Unit 8: Savage Branch; Bibb County, Georgia.

(i) Unit 8 consists of 115 ac (46 ha) in Bibb County, Georgia, and is composed of lands in private ownership.  
(ii) Map of Unit 8 follows:

Figure 9 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (13)(ii)

### Critical Habitat for Ocmulgee skullcap Unit 8, Savage Branch, Bibb County, Georgia



(14) Unit 9: Adjoins Robins Air Force Base; Houston County, Georgia.

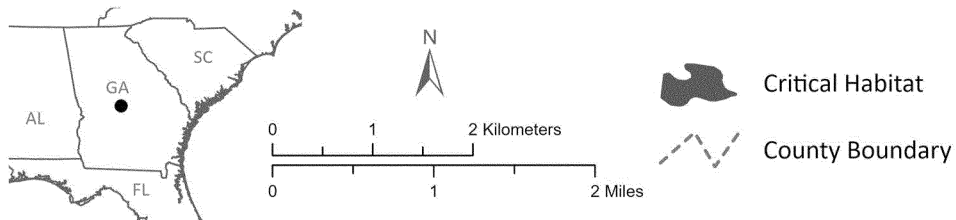
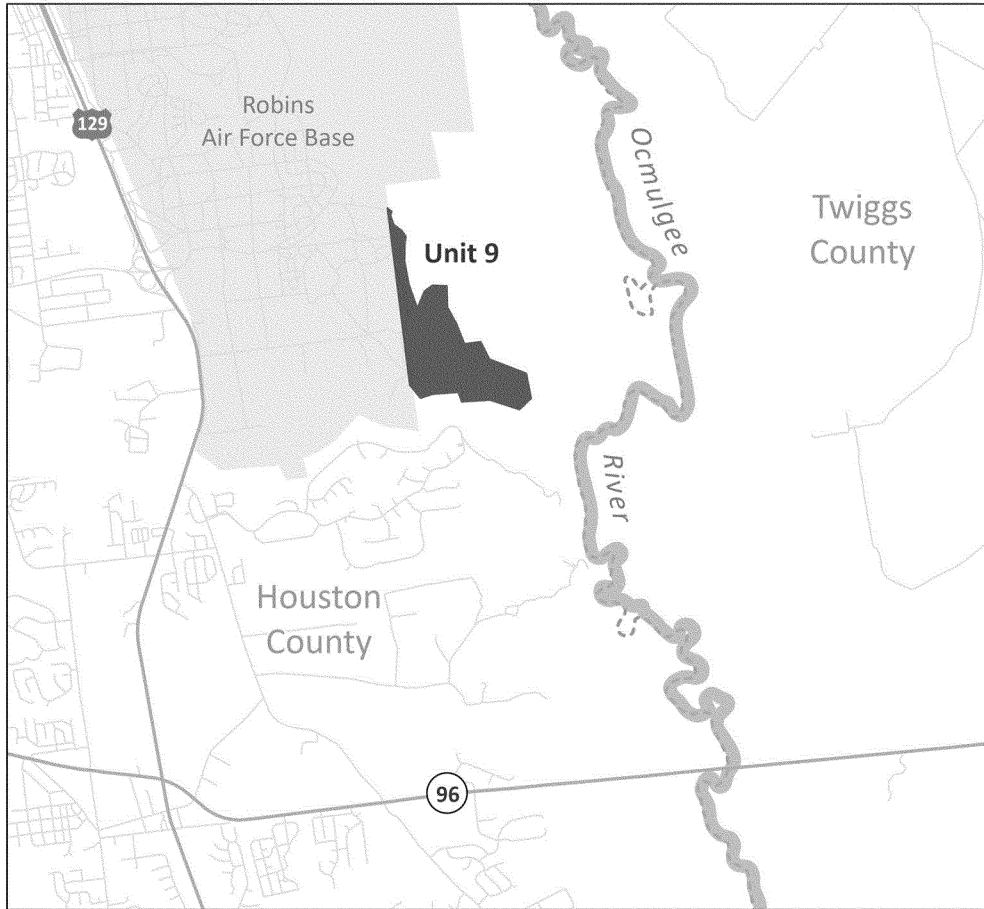
(i) Unit 9 consists of 231 ac (93 ha) in Houston County, Georgia, and is

composed of lands in private ownership.

(ii) Map of Unit 9 follows:

Figure 10 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (14)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 9, Adjoins Robins Air Force Base, Houston County, Georgia**

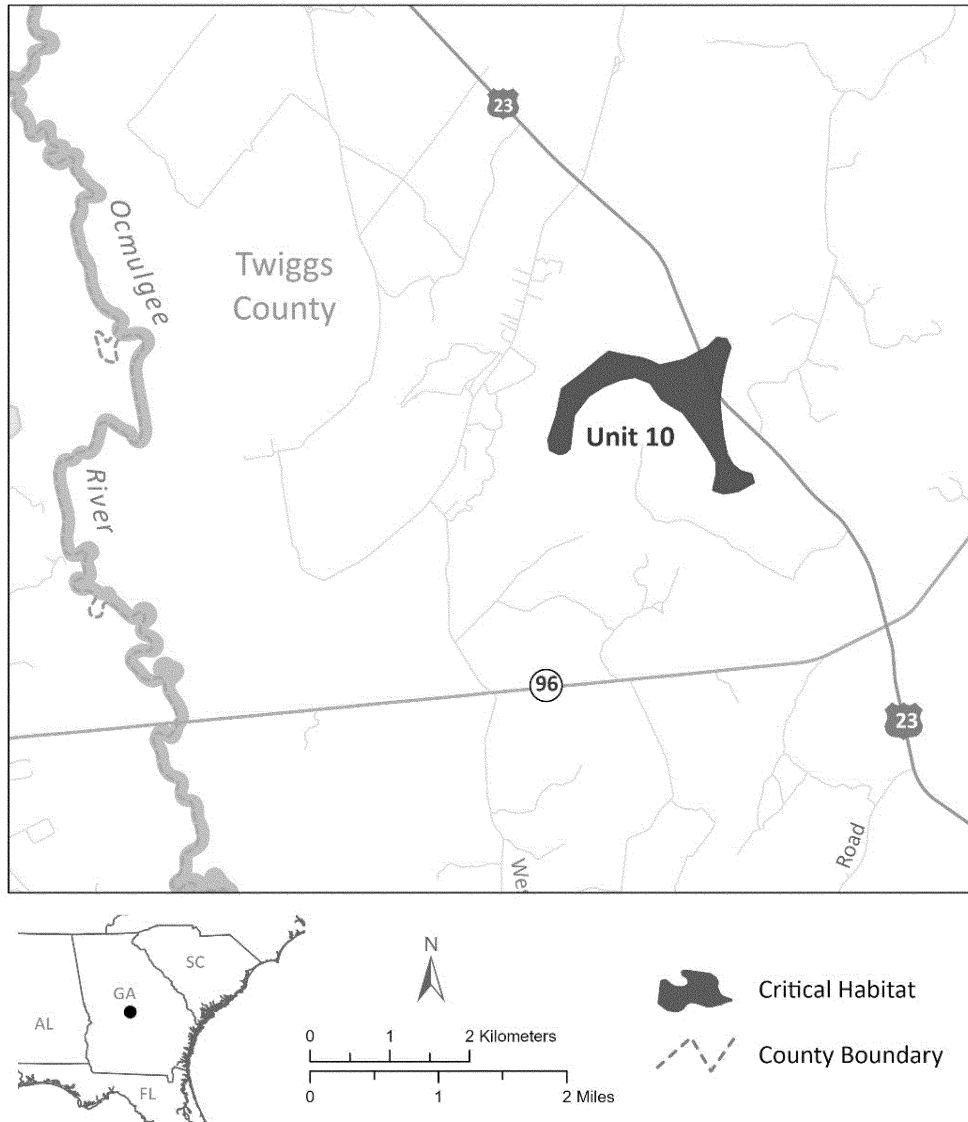


(15) Unit 10: Trib Richland Creek; Twigg County, Georgia.  
(i) Unit 10 consists of 340 ac (138 ha) in Twigg County, Georgia, and is

composed of lands in State (242 ac (98 ha)) and private (98 ac (40 ha)) ownership.  
(ii) Map of Unit 10 follows:

Figure 11 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (15)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 10, Trib Richland Creek, Twiggs County, Georgia**

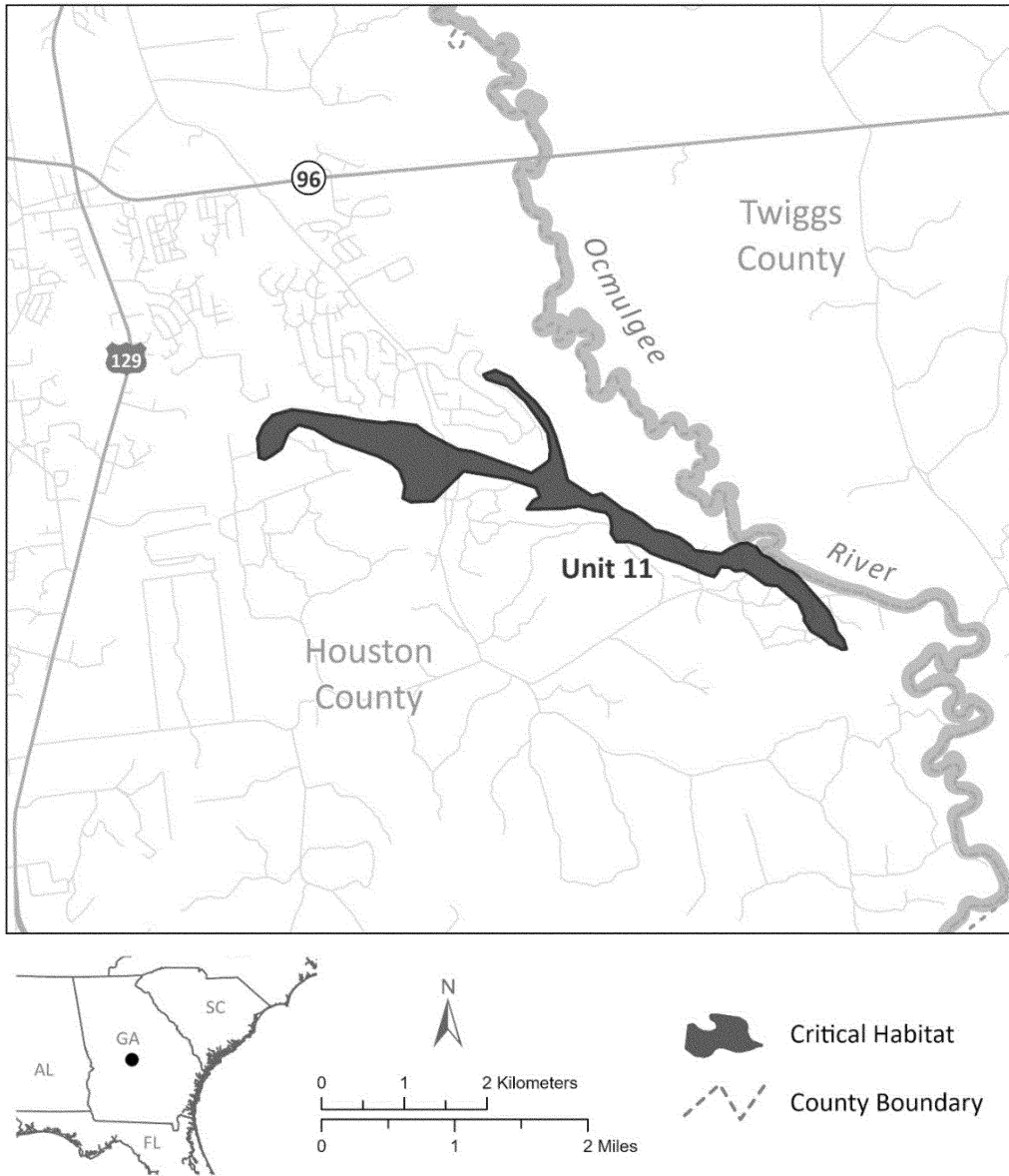


(16) Unit 11: Oaky Woods North;  
Houston County, Georgia.  
(i) Unit 11 consists of 657 ac (266 ha)  
in Houston County, Georgia, and is

composed of lands in State (228 ac (92  
ha)) and private (429 ac (174 ha))  
ownership.  
(ii) Map of Unit 11 follows:

Figure 12 to *Scutellaria ocmulgee*  
(Ocmulgee skullcap) paragraph  
(16)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 11, Oaky Woods North, Houston County, Georgia**



(17) Unit 12: Crooked Creek; Twiggs County, Georgia.

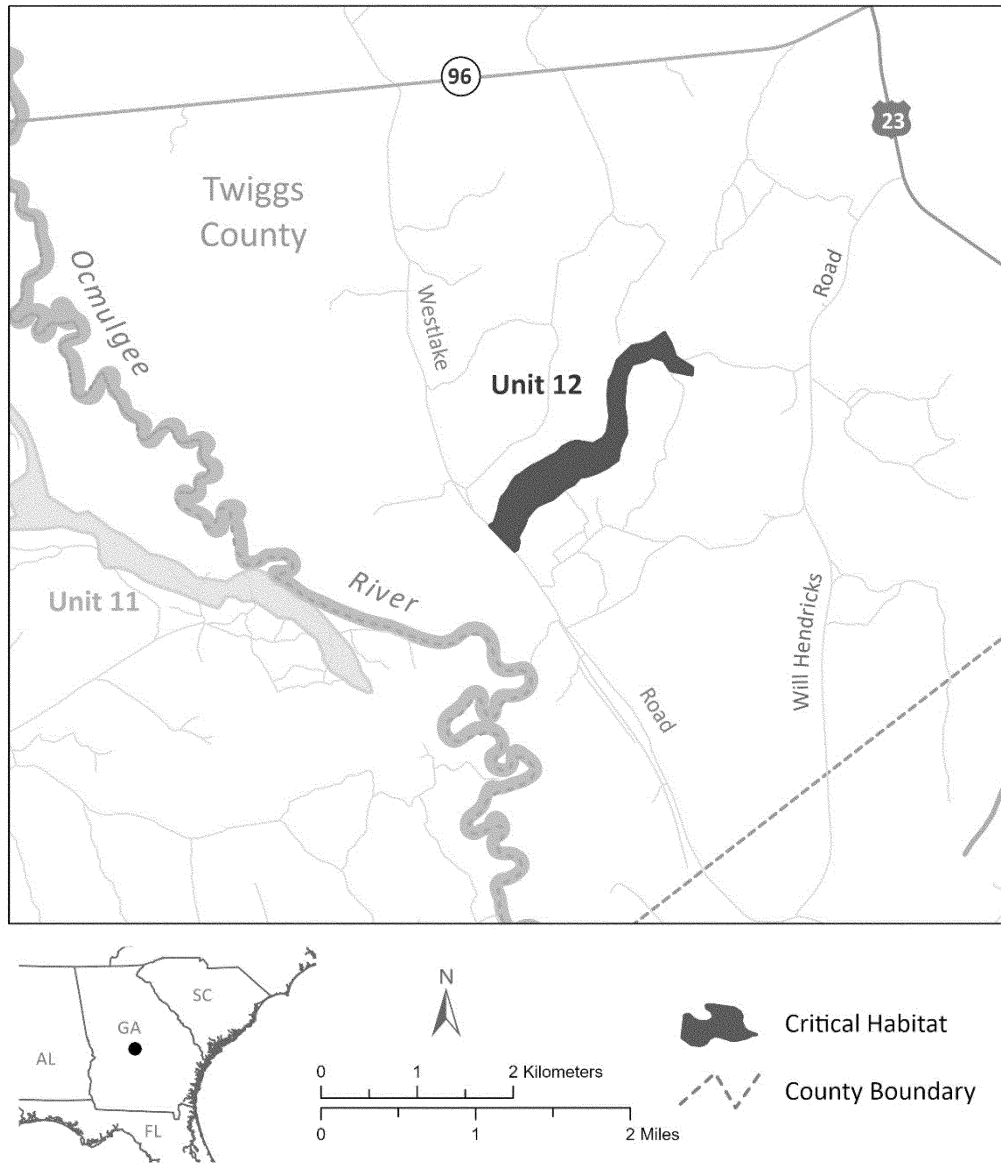
(i) Unit 12 consists of 205 ac (83 ha) in Twiggs County, Georgia, and is

composed of lands in State (201 ac (81 ha)) and private (4 ac (1.6 ha)) ownership.

(ii) Map of Unit 12 follows:

Figure 13 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (17)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 12, Crooked Creek, Twiggs County, Georgia**

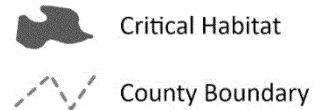
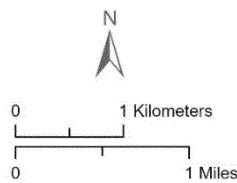
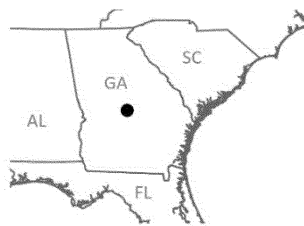
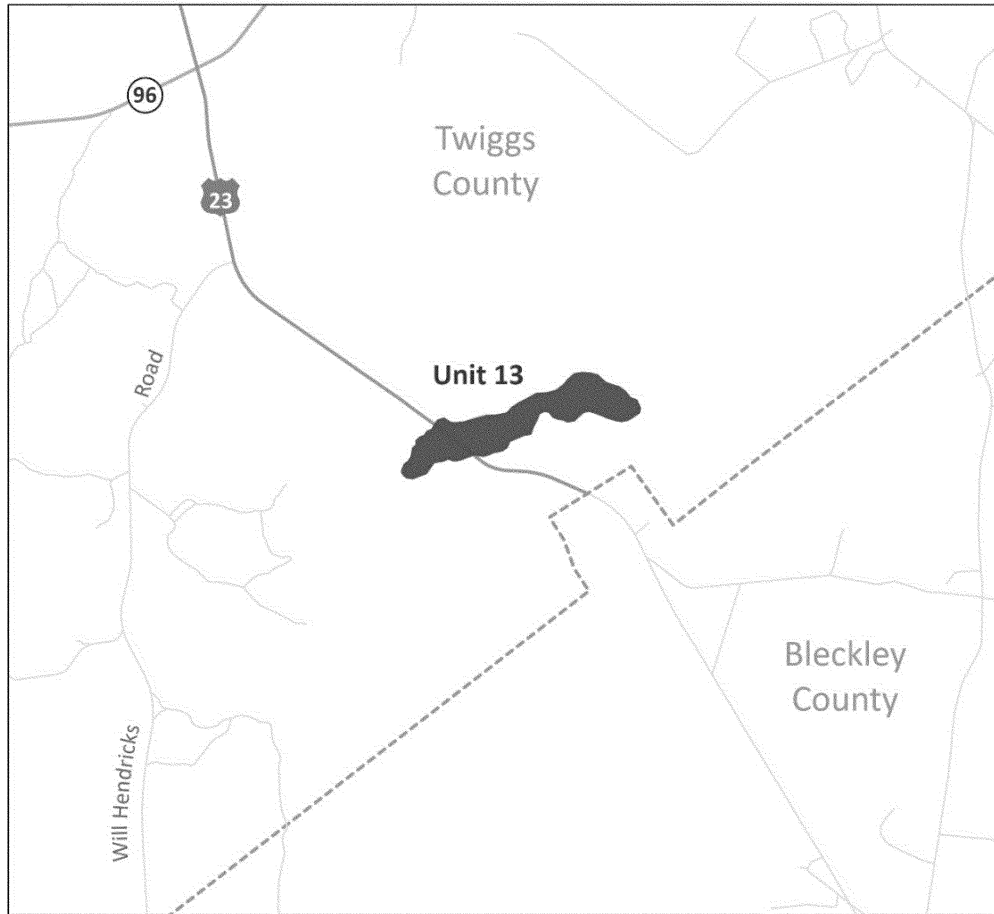


(18) Unit 13: Shellstone Creek; Twiggs County, Georgia.  
 (i) Unit 13 consists of 160 ac (65 ha) in Twiggs County, Georgia, and is

composed of lands in State (15 ac (6 ha)) and private (145 ac (59 ha)) ownership.  
 (ii) Map of Unit 13 follows:

Figure 14 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (18)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 13, Shellstone Creek, Twiggs County, Georgia**



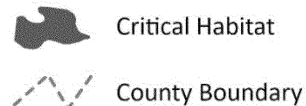
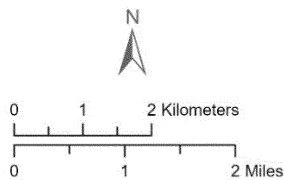
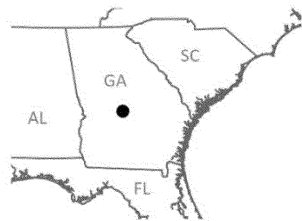
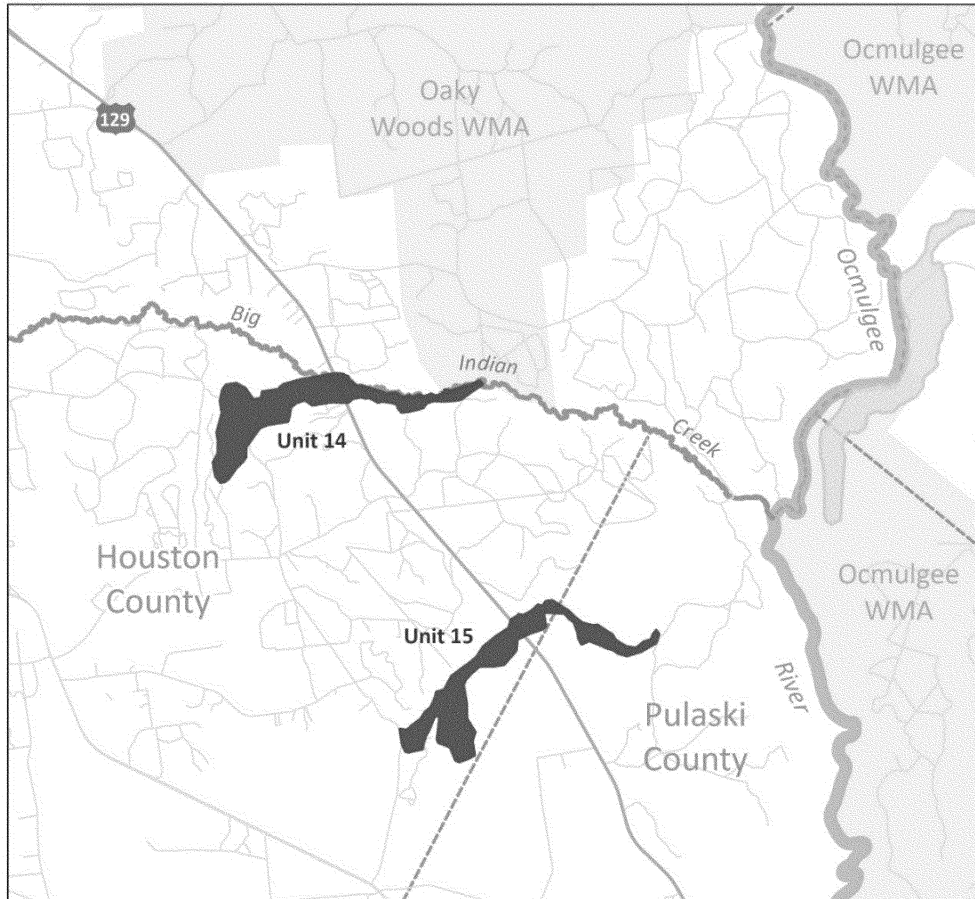
(19) Unit 14: Oaky Woods South; Houston County, Georgia.  
(i) Unit 14 consists of 363 ac (147 ha) in Houston County, Georgia, and is

composed of lands in State (84 ac (34 ha)) and private (279 ac (113 ha)) ownership.  
(ii) Map of Units 14 and 15 follows:

Figure 15 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (19)(ii)



**Critical Habitat for Ocmulgee skullcap**  
**Unit 14, Oaky Woods South, Houston County, Georgia**  
**Unit 15, Dry Creek, Houston and Pulaski Counties, Georgia**



(20) Unit 15: Dry Creek; Houston and Pulaski Counties, Georgia.

(i) Unit 15 consists of 330 ac (133 ha) in Houston and Pulaski Counties, Georgia, and is composed of lands in State (50 ac (20 ha)) and private (280 ac (113 ha)) ownership.

(ii) Map of Unit 15 is provided at paragraph (19)(ii) of this entry.

(21) Unit 16: James Dykes Memorial; Bleckley and Pulaski Counties, Georgia.

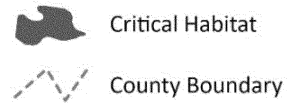
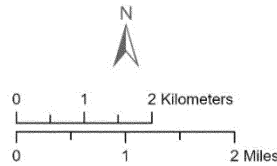
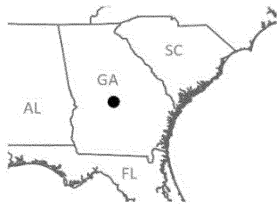
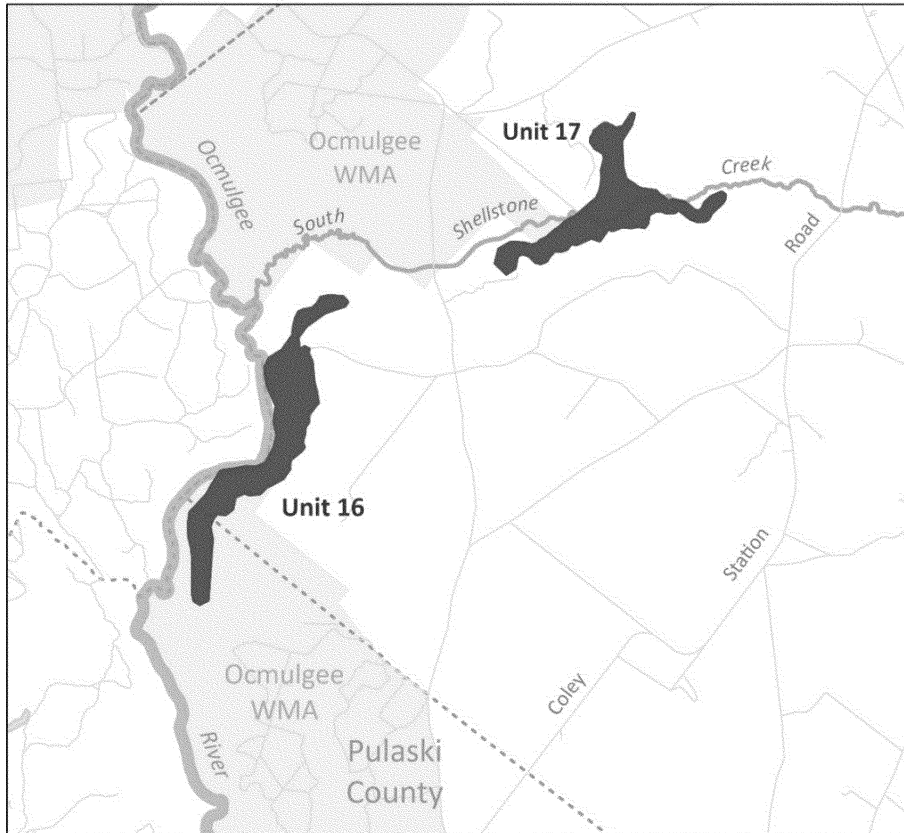
(i) Unit 16 consists of 515 ac (208 ha) in Bleckley and Pulaski Counties, Georgia, and is composed of lands in

State (497 ac (201 ha)) and private (18 ac (7.3 ha)) ownership.

(ii) Map of Units 16 and 17 follows:

Figure 16 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (21)(ii)

**Critical Habitat for Ocmulgee skullcap**  
**Unit 16, James Dykes Memorial, Bleckley and Pulaski Counties, Georgia**  
**Unit 17, South Shellstone Creek, Bleckley County, Georgia**



(22) Unit 17: South Shellstone Creek; Bleckley County, Georgia.

(i) Unit 17 consists of 403 ac (163 ha) in Bleckley County, Georgia, and is composed of lands in State (4 ac (1.6 ha)) and private (399 ac (161 ha)) ownership.

(ii) Map of Unit 17 is provided at paragraph (21)(ii) of this entry.

(23) Unit 18: Jordan Creek; Pulaski County, Georgia.

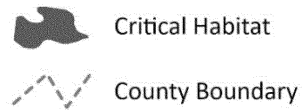
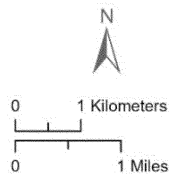
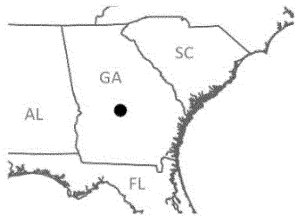
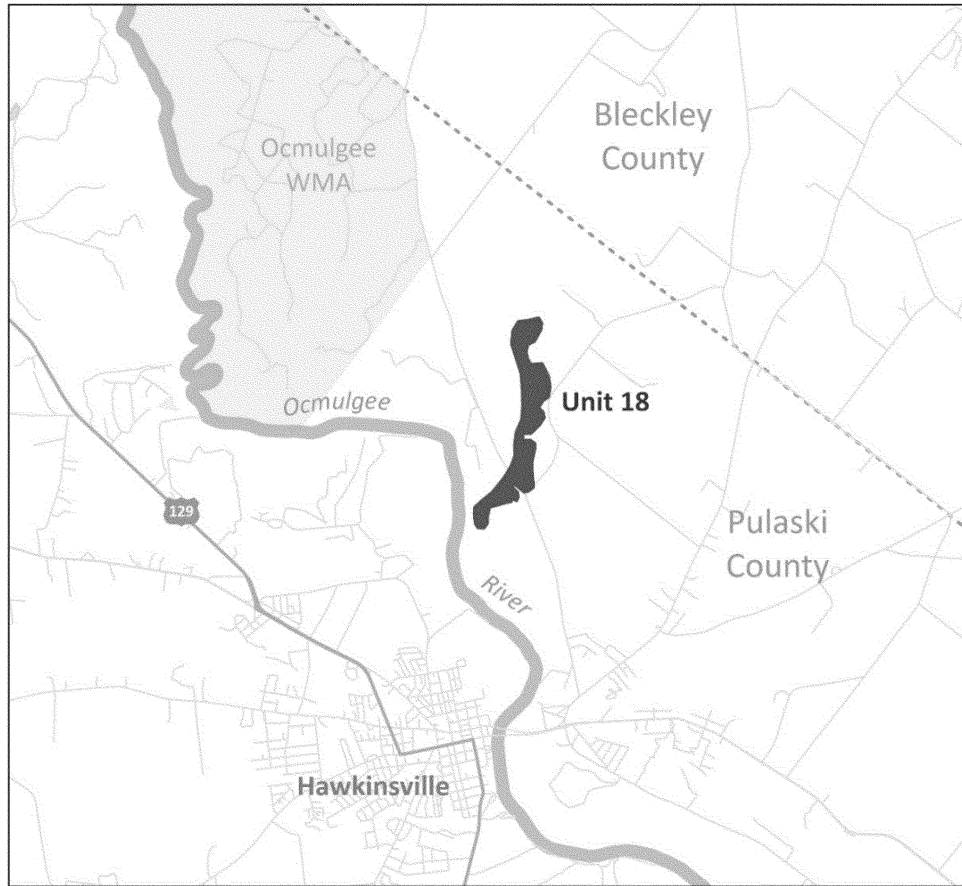
(i) Unit 18 consists of 250 ac (101 ha) in Pulaski County, Georgia, and is

composed of lands in private ownership.

(ii) Map of Unit 18 follows:

Figure 17 to *Scutellaria ocmulgee* (Ocmulgee skullcap) paragraph (23)(ii)

**Critical Habitat for Ocmulgee skullcap  
Unit 18, Jordan Creek, Pulaski County, Georgia**



\* \* \* \* \*

**Martha Williams,**  
*Director, U.S. Fish and Wildlife Service.*  
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BILLING CODE 4333-15-C