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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R4–ES–2026–0892; FXES1111090FEDR–267–FF09E21000]

RIN 1018–BI19

Endangered and Threatened Wildlife and Plants; Threatened Species Status with Section 4(d) Rule for Ciliate-leaf Tickseed

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to list the ciliate-leaf tickseed (*Coreopsis integrifolia*), a plant species from Florida, Georgia, and South Carolina as a threatened species with protective regulations under section 4(d) of the Endangered Species Act of 1973, as amended (Act). This determination also serves as our 12-month finding on a petition to list the ciliate-leaf tickseed. After a review of the best scientific and commercial data available, we find that listing the species is warranted. If we finalize this rule as proposed, it would add this species to the List of Endangered and Threatened Plants and extend the Act's protections to the species.

DATES: Comments will be accepted on or before [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. eastern time on the closing date. We must receive requests for a public hearing, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE

FEDERAL REGISTER].

To ensure your comment is received and considered, you must submit it using one of the methods identified in the **ADDRESSES** section of this document. Comments submitted through any method not authorized in this document, or sent to an address not listed here, will not be considered.

ADDRESSES: *Comment submission:* All submissions must include the docket number (FWS–R4–ES–2026–0892) of this document. You must submit comments using one of the following methods:

(1) *Electronically*: Go to the Federal eRulemaking Portal: https://www.regulations.gov. In the Search box, enter FWS–R4–ES–2026–0892, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on "Comment." Please ensure that you have found the correct document before submitting your comments.

(2) U.S. mail Public Comments Processing, Attn: Docket No. FWS–R4–ES–2026–0892, Policy and Regulations Branch, U.S. Fish and Wildlife Service, MS: PRB (JAO/3W), 5275 Leesburg Pike, Falls Church, VA 22041–3803.

Comments submitted through any method not authorized in this document, or sent to an address not listed here, will not be considered. We will not accept comments via email, fax, or hand delivery. We are not required to consider comments that are submitted after the comment period ends or that are submitted via a method outside of these instructions. Comments containing profanity, vulgarity, threats, or other inappropriate content will not be considered.

We will post all comments on https://www.regulations.gov. This generally means that we will post any personal information you provide us (see **Information Requested**, below, for more information).

Availability of supporting materials: Supporting materials, such as the species status assessment report, are available at https://www.regulations.gov at Docket No. FWS–R4–ES–2026–0892.

FOR FURTHER INFORMATION CONTACT: Peter Maholland, Field Supervisor, Georgia Ecological Services Field Office; 706–535–2099; peter_maholland@fws.gov. 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. Please see Docket No. FWS–R4–ES–2026–0892 on https://www.regulations.gov for a document that summarizes this proposed rule.

SUPPLEMENTARY INFORMATION:

Executive Summary

Why we need to publish a rule. Under the Act (16 U.S.C. 1531 et seq.), 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 an endangered species 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 ciliate-leaf tickseed meets the definition of a threatened species; therefore, we are proposing to list it as such. Listing a species as an endangered or threatened species 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. We propose the listing of the ciliate-leaf tickseed as a threatened species with a rule pursuant to section 4(d) of the Act.

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 ciliate-leaf tickseed meets the Act's definition of a threatened species due to the following threats: the loss or reductions of plants, stems, flowering, seed production, and dispersal from ongoing and expected effects of rights-of-way maintenance (Factor A); and the expected loss of plants and occupied habitat from future urban development (Factor A) and inundation and saltwater intrusion of wetland habitats from sea level rise (SLR) (Factor E). These threats are all exacerbated by the ongoing and expected effects of agriculture, recreation, invasive species, and drought (Factors A and E).

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.

Information Requested

We intend that any final action resulting from this proposed rule will be based on the best scientific and commercial data available and be as accurate and as effective as possible. Therefore, we request comments or information from other governmental agencies, Native American Tribes, the scientific community, industry, or any other interested parties concerning this proposed rule. We particularly seek comments concerning:

(1) The species' biology, range, and population trends, including:

(a) Biological or ecological requirements of the species, including habitat requirements for nutrition, reproduction, or pollination;

(b) Genetics and taxonomy;

(c) Historical and current range, including distribution patterns and the locations of any additional populations of this species;

(d) Historical and current population levels, and current and projected trends; and

(e) Past and ongoing conservation measures for the species, its habitat, or both.

(2) Threats and conservation actions affecting the species, including:

(a) Factors that may be affecting the continued existence of the species, which may include habitat modification or destruction, overutilization, disease, predation, the inadequacy of existing regulatory mechanisms, or other natural or manmade factors;

(b) Biological, commercial trade, or other relevant data concerning any threats (or lack thereof) to this species; and

(c) Existing regulations or conservation actions that may be addressing threats to this species.

(3) Additional information concerning the historical and current status of this species.

(4) Information to assist us with issuing protective regulations under section 4(d) of the Act ("4(d) rule") that may be necessary and advisable to provide for the conservation of the ciliate-leaf tickseed. In particular, we seek information concerning:

(a) The extent to which we should include any of the Act's section 9 prohibitions in the 4(d) rule;

(b) Whether we should consider any additional or different exceptions from the prohibitions in the 4(d) rule;

(c) Impacts (conservation and economic) associated with implementing the 4(d) rule;

(d) How frequently and in what geographical areas are activities that we propose to regulate under the 4(d) rule (e.g., sale, import, export) currently occurring;

(e) Whether there are other laws currently in place beyond what we describe in the economic considerations document that regulate the activities or "take" prohibited in the proposed 4(d) rule;

(f) Any entities likely to request section 10(a)(1)(A) permits for conducting activities that we propose to continue to prohibit;

(g) Data available on the time and economic costs of obtaining section 10(a)(1)(A) permits in accordance with 50 CFR 17.72;

(h) Any other entities not addressed in this proposed rule that may be affected by the 4(d) rule; and

(i) Comments and suggestions regarding additional guidance and methods that we could provide or use, respectively, to streamline the implementation of this proposed 4(d) rule.

Please include any supplemental information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Please note that submissions merely stating support for, or opposition to, the action under consideration without providing supporting information, although noted, do not provide substantial information necessary to support a determination, as section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made solely on the basis of the best scientific and commercial data available.

You must submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**.

If you submit information via https://www.regulations.gov, your entire submission—including any personal identifying information—will be posted on the website. If your submission is made via a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on https://www.regulations.gov.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on https://www.regulations.gov.

Our final determination may differ from this proposal because we will consider all comments we receive during the comment period as well as any information that may become available after this proposal. Based on the new information we receive, we may conclude that the species is endangered instead of threatened, or we may conclude that the species does not warrant listing as either an endangered species or a threatened species. In addition, we may change the parameters of the prohibitions or the exceptions

to those prohibitions in the protective regulations issued under section 4(d) of the Act if we conclude it is appropriate in light of comments and new information received. For example, we may expand the prohibitions if we conclude that the protective regulation as a whole, including those additional prohibitions, is necessary and advisable to provide for the conservation of the species. Conversely, we may establish additional or different exceptions to the prohibitions in the final rule if we conclude that the activities would facilitate or are compatible with the conservation and recovery of the species. In our final rule, we will clearly explain our rationale and the basis for our final decision, including why we made changes, if any, that differ from this proposal.

Public Hearing

Section 4(b)(5) of the Act provides for a public hearing on this proposal, if requested. Requests must be received by the date specified in **DATES**. Such requests must be sent to the address shown in **FOR FURTHER INFORMATION CONTACT**. We will schedule a public hearing on this proposal, if requested, and announce the date, time, and place of the hearing, as well as how to obtain reasonable accommodations, in the *Federal Register* and local newspapers at least 15 days before the hearing. We may hold the public hearing in person or virtually via webinar. We will announce any public hearing on our website, in addition to the *Federal Register*. The use of virtual public hearings is consistent with our regulations at 50 CFR 424.16(c)(3).

Previous Federal Actions

On April 20, 2010, the Service was petitioned to list 404 aquatic species, including the ciliate-leaf tickseed, in the Southeastern United States under the Act (Center for Biological Diversity 2010, entire). In response to the petition, the Service completed a partial 90-day finding on September 27, 2011 (76 FR 59836), in which we announced our finding that the petition contained substantial information indicating that listing may be warranted for the ciliate-leaf tickseed. This document constitutes our 12-

month warranted petition finding and our proposed listing rule for the ciliate-leaf tickseed.

Peer Review

A species status assessment (SSA) team prepared an SSA report for the ciliate-leaf tickseed. 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 with the National Marine Fisheries Service (NMFS) on peer review that 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 in listing and recovery actions under the Act (https://www.fws.gov/sites/default/files/documents/peer-review-policy-directors-memo-2016-08-22.pdf), we solicited independent scientific review of the information contained in the ciliate-leaf tickseed SSA report. We sent the SSA report to four independent peer reviewers and received four responses. The peer reviews can be found at https://www.regulations.gov under Docket No. FWS–R4–ES–2026–0892. In preparing this proposed rule, we incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this proposed rule.

Summary of Peer Reviewer Comments

As discussed in **Peer Review**, above, we received comments from four peer reviewers on the draft SSA report. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the contents of the SSA report. As a result of conducting the peer review prior to this proposed rule, we have already incorporated all applicable comments in version 1.0 of the SSA report, which is the foundation for the rule.

The peer reviewers provided additional information, clarifications, and recommendations pertaining to our analysis of the ciliate-leaf tickseed's current and future condition. We either incorporated or clarified substantive comments in version 1.0 of the SSA report or address them below. In addition to substantive comments on the SSA report, we received several comments requesting the inclusion of additional biological information about the ciliate-leaf tickseed. Those comments were incorporated in the SSA report where applicable and are not summarized here.

(1) Comment: One reviewer questioned the timing and importance of periodic flooding to the ciliate-leaf tickseed, and whether we took into account the climate change models used for the evaluation of species representation.

Our response: The best scientific and commercial data available on the ciliate-leaf tickseed indicate that periodic flooding is an important factor in maintaining saturated soils and open forest canopy conditions needed by the ciliate-leaf tickseed (see **Background**, below), but do not indicate whether the timing or seasonality of flooding is important. We assume that the ciliate-leaf tickseed is adapted to the historical and natural flooding regimes of the wetlands, rivers, and streams within its range in the Southeastern United States and that impacts to the species from floods would be greatest in the fall months during flowering and seed set (see *Sea Level Rise and Drought*, below). We have information that indicates annual precipitation and fall flood events are projected to increase in the future within the species' range (Neupane et al. 2018, pp. 2237, 2240). However, our representation evaluation and the models we used to evaluate future resiliency did not evaluate changes to flood regimes and potential impacts to the ciliate-leaf tickseed (see *Current Condition* and *Future Condition*, below). The ciliate-leaf tickseed is adapted to flood events and likely has some tolerance to varying flood regimes. We note that the reviewer did not identify or provide specific climate models or supporting information for us to consider.

(2) Comment: One reviewer suggested that we consider the spatial extent and distribution of stems within populations in our evaluation of catastrophic events (redundancy) because a population with one patch of stems may be more vulnerable to catastrophic events than a population with multiple stem patches. The reviewer also suggested that we consider the number of flowering stems within populations in our evaluation of population resiliency because populations with a larger fraction of flowering stems may have greater resiliency than those with more overall stems.

Our response: As recommended by the reviewer, we initially considered the patchy distribution of stems and the incidence of flowering within populations as ciliate-leaf tickseed population resiliency metrics. However, this information has not been collected for most ciliate-leaf tickseed populations, limiting its utility for evaluating resiliency consistently across populations. Instead, we incorporated stem abundance in our resiliency evaluation because this information was available; it is important to the species' resiliency; and we could evaluate it consistently across all 50 extant ciliate-leaf tickseed populations. To clarify, we evaluate the risk of catastrophic loss (redundancy) at the species level by considering the distribution of populations across the landscape, among other things, and not at the population level as the reviewer suggested (see *Analytical Framework* and *Species Needs*, below).

(3) Comment: One reviewer suggested that the ciliate-leaf tickseed's current condition may have overall low redundancy, not the overall moderate redundancy identified in the SSA report, because the majority of ciliate-leaf tickseed populations (30) have low resiliency and less than a third of populations in representation unit 2 (RU2) have moderate and high resiliency.

Our response: In our evaluation of the ciliate-leaf tickseed's current redundancy, we considered the number of populations with moderate or high resiliency and their distribution across the landscape when evaluating the species' risk of catastrophic loss

(see *Analytical Framework* and *Species Needs*, below). However, we did not change the species' level of redundancy to low, as suggested by the reviewer, for the following reasons: the populations with moderate or high resiliency are widely distributed across the species' range to reduce the risk of catastrophic loss; the inherent risk of catastrophic loss is low for this species; and the additional 28 populations with low resiliency across the species' range (26 in RU2) still provide redundancy to the species although they contribute less to the ciliate-leaf tickseed's overall viability. Therefore, we consider the ciliate-leaf tickseed's current level of redundancy to be moderate (see *Current Condition*, below).

(4) Comment: One reviewer stated that they would expect some synergistic effect of SLR, urban development, and drought to the ciliate-leaf tickseed if those threats co-occur in ciliate-leaf tickseed populations.

Our response: The reviewer did not provide what the potential synergistic effect of these stressors would be; however, we considered the cumulative effect of SLR, urban development, and drought on ciliate-leaf tickseed populations and whether these stressors may act synergistically to the ciliate-leaf tickseed. We discussed the potential for a synergistic effect from these and other stressors to accelerate a decline in population resiliency in the SSA report (Service 2024, pp. 23–24). Since the negative effects of SLR are lethal to ciliate-leaf tickseed populations, we consider the projected extirpation of populations in our evaluation to assess the ciliate-leaf tickseed's future condition under three plausible future scenarios (see *Future Condition*, below) sufficient to address potential synergistic 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 the identified threats and conservation actions on the species (see *Analytical Framework*, below).

(5) Comment: One reviewer agreed with our analysis that invasive plants are not a current threat to the ciliate-leaf tickseed. However, the reviewer considers invasive plants to be a future threat to the ciliate-leaf tickseed in Florida given their experience with other watersheds and native and rare plants that have mostly been displaced by invasive plants such as heavenly bamboo (*Nandina domestica*) and Japanese climbing fern (*Lygodium japonicum*).

Our response: We agree with the reviewer that invasive plants are a potential future threat to the ciliate-leaf tickseed. However, the best information available for the species does not indicate that invasive plants will become a major influencing factor to the ciliate-leaf tickseed in the future mainly because the majority of ciliate-leaf tickseed populations occur in rights-of-way that are managed to minimize the invasion and spread of invasive plants.

I. Proposed Listing Determination

Background

Species Description and Habitat Information

A thorough review of the taxonomy, life history, and ecology of the ciliate-leaf tickseed (hereafter, "tickseed") is presented in the SSA report (Service 2024, pp. 5–14, 24–46). The tickseed is a perennial plant in the sunflower family (*Asteraceae*) and is endemic to the Coastal Plain wetlands of Florida, Georgia, and South Carolina at elevations ranging between 12 to 292 feet (ft) (3.7 to 89.5 meters (m)). The species was first described in 1811; its current range is similar to its known historical range (Poiret 1811, p. 353; Chafin 2019, pp. 39–41; Service 2024, pp. 7–14).

The tickseed is a naturally occurring tetraploid species, meaning it has four sets of chromosomes most likely derived from the same species (autopolyploidy) (Smith 1976, p. 201; Cosner and Crawford 1994, p. 355). The only study of the tickseed's genetic diversity found the species has a relatively high level of genetic diversity within the

Coreopsis genus, similar to what would be expected for a widely distributed plant species (Cosner and Crawford 1994, entire). Populations with the highest levels of genetic diversity occur along the Chipola River in Florida (Cosner and Crawford 1994, p. 351). The fact that the species is a tetraploid likely contributes to its high level of genetic diversity. Almost half of the genetic diversity occurred between populations (instead of within them) and spatially distant populations tended to be the most genetically distant (Cosner and Crawford 1994, p. 354). The high degree of population differentiation may indicate low levels of gene flow between populations (Cosner and Crawford 1994, p. 354). While informative, the study was limited to a small portion of the species' current range in Florida and southwestern Georgia and may not be representative of the species' rangewide genetic diversity (Cosner and Crawford 1994, pp. 353–355). The potential for hybridization with other co-occurring *Coreopsis* species is low since most are diploid species (two sets of chromosomes), and the tickseed would only produce viable offspring with other tetraploid species (Smith 1976, p. 201).

Tickseed plants are approximately 16 to 28 inches (in) (40 to 70 centimeters (cm)) tall and grow from a network of rhizomes (underground stems). Leaves are oval, up to 2.75 in (7 cm) long, and slightly hairy with ciliate hairs along the leaf margins that inspired the ciliate-leaf part of the common name (Chafin 2019, p. 39). Adult plants flower in the fall months and produce showy flower heads (inflorescences) with yellow ray flowers and tiny, purple disk flowers. Stems may have up to five flower heads, but a single terminal flower head is most common (Chafin 2019, p. 39; Service 2023a, p. 4). Based on the biology of a closely related species, *Coreopsis lanceolata*, tickseed flower heads have the potential to produce up to 100 or more seeds each (Banovetz 1992, p. 25). Fruits have scalloped wings, two bristles on the tip, and are 0.5 cm (0.2 in) long, flattened and seed-like (Chafin 2019, p. 39).

The tickseed has four life stages: seeds, seedlings, vegetative plants, and reproductive plants (Service 2024, pp. 6–11). Tickseed plants reproduce vegetatively by clonal growth (rhizomes) and sexually by flower, fruit, and seed production. Plants typically occur in patches presumably formed by clonal growth and appear to be long-lived. Tickseed populations comprise one or more patches and it is not possible to distinguish individuals (genets) within patches or seedlings from new clonal growth of adult plants in the field. The generation time (how fast individuals in a population are replaced) of tickseed and other clonal plants is difficult to determine, but the average age at first breeding can serve as a proxy for many species even though it may be an underestimate for clonal plants (Compagnoni et al. 2021, p. 2; Klimešová et al. 2021, p. 1240; Jonasson et al. 2022, p. 49). Since plants may flower in their first 1 to 2 years, we estimate a 5-to-10-year generation time for the tickseed.

Based on field observations and expert opinion, flowering occurs every year within populations, with approximately 80 to 90 percent of stems flowering in a given year (Service 2023a, pp. 3–4). Within the species' range, flowering occurs from June to November, with seed production following in October through December (Service 2023a, p. 7; Service 2024, pp. 18–20). In general, tickseed stems die back after flowering and enter a period of dormancy beginning in November and lasting until February. However, plants in the southernmost portion of the range (Florida) may not become dormant in milder climates. Seed germination likely occurs from February to April at the beginning of the growing season for adults.

Based on an assessment of native *Coreopsis* species, we assume most of the viable seeds produced in a given year will germinate after exposure to light and are capable of becoming flowering adults within the first year after maturation (Norcini and Aldrich 2008, p. 1879; Service 2023a, pp. 2–3; Service 2024, p. 20). Based on *C. lanceolata,* it is likely that viable seeds that do not germinate in the first year persist in

the seed bank for several years (Banovetz 1992, p. 37). We have no information on the amount and frequency of tickseed seedling recruitment within populations.

The tickseed requires pollinators for seed production because plants are self-incompatible, meaning that pollen from different individuals (genets) is needed to produce viable seeds, similar to other *Coreopsis* species (Cosner 1988, p. 31; Siqueira 2003, p. iii). The number of viable seeds produced by each flower can be very low and, in some populations, may be reduced by a lack of cross pollination and self-incompatibility (Service 2023a, p. 4). If plant patches or populations have stems (ramets) composed of one individual (genet), they will not produce seeds unless pollinators provide pollen from a different individual in a nearby patch or population. The benefit of clonal growth is that an individual (genet) can live for a long time and persist through climate conditions that are unfavorable for seedling establishment (Eriksson 1994, entire; Eriksson 1996, pp. 248, 251–253; Mitton and Grant 1996, p. 28). The disadvantage of clonal growth (ramets) is that it contributes nothing to a population's genetic diversity or effective size and does not reduce extinction risk (Tepedino 2012, entire). The advantage of sexual reproduction (genets) is that it does increase a population's genetic diversity, effective size, and reduces the risk of extinction (Tepedino 2012, entire). Therefore, the tickseed's propensity for clonal growth may inaccurately represent the amount of population-level genetic diversity (Tepedino 2012, entire).

Based on field observations and surrogate *Coreopsis* species, the primary pollinators are likely a diverse assemblage of generalist bees (Buckley 2011, pp. 45–51; Chafin 2020, p. 1; Ulyshen 2024, pp. 1–3; Service 2024, pp. 20–21). Forests, forest edges, and low-density residential areas generally provide suitable foraging habitat for generalist bees whereas wetlands, marshes, and areas that receive regular pesticide use (pine plantations, some agricultural crops) are generally less suitable with fewer pollinators (Janvier et al. 2022 Ulyshen 2024, pp. 1–3).

The tickseed requires fresh water and saturated soils; the species is often associated with limestone soils but is not restricted to them. The tickseed occupies a variety of wetland features including: the banks, floodplains, and silt bars of blackwater streams; forested low bluffs adjacent to floodplains; edges of swamp forests; rocky limestone riverbanks; marl forests; and pine flatwoods. The species does not appear to tolerate salt water or brackish water (Service 2024, p. 20). The tickseed occurs in mid-successional wetland habitats (i.e., wetlands sufficiently free of woody vegetation and competing understory vegetation to provide space, open midstory conditions, and full to partial sunlight to allow for germination, growth, and reproduction) (Service 2024, pp. 11–14). Mid-successional habitat conditions are maintained by regular seasonal peak flows or periodic disturbance regimes from floods, fire, and storms that the tickseed appears to tolerate and are consistent with the habitat's natural, historical disturbance regime. Plants have multiple adaptations to the natural disturbance regime of wetland habitats—they have a strong ability to persist in place through clonal growth and disperse across land and along waterways; seeds with their barbed seedcoats can hitchhike on mammals, and seeds and stems likely disperse downstream along waterways (Service 2023a, p. 2; Service 2024, pp. 11–12, 24).

However, intense or frequent, or permanent disturbances can cause negative individual- or population-level effects, particularly in the fall months during the flowering and seed production life stages of the plant (Service 2024, pp. 12, 15–18). Severe impacts to flowering and seed production occur in intensively managed habitats such as road rights-of-way (ROWs) that are mowed or sprayed with herbicides multiple times a year. The tickseed's ability to disperse and recolonize in highly modified habitats with altered hydrology is likely considerably reduced.

Range, Distribution, Abundance, and Trends of the Tickseed

The current range of the tickseed spans three states in the Southeastern United States (Florida, Georgia, and South Carolina) (Service 2024, pp. 7–8). There are 50 extant (currently occupied) tickseed populations, referred to as analytical units (AUs) in the SSA report. In the SSA report, we delineated populations based on NatureServe criteria for water and land dispersal distances, which are grouped by plant locations connected by suitable habitat and generally less than 6.2 miles (mi) (10 kilometers (km)) and 1.2 mi (2 km) from each other along waterways and over land, respectively (NatureServe 2020, pp. 5–13; Service 2024, pp. 24–25). We know of 53 tickseed populations, and we consider 50 of those to be extant (currently occupied). Three populations, one in each of the three States, are considered historical (may no longer be extant) based on lack of detection in recent surveys and have not been observed in more than 20 years. Two of the historical populations were in road ROWs and at least one (in Florida) may be extirpated due to road ROW management impacts (Rosner-Katz 2023, entire). We did not include the three historical populations in our analysis of the tickseed's current and future condition in the SSA report.

The species' current range is similar to its known historical range (Poiret 1811, p. 353; Chafin 2019, pp. 39–41; Service 2024, pp. 5–8). Across its range, tickseed is found in three level-III ecoregions (Middle Atlantic Coastal Plain, Southern Coastal Plain, and Southeastern Plains; hereafter referred to as representative units (RUs) 1, 2, and 3, respectively) (Service 2024, pp. 7–8, 24–36). RU1 contains 6 populations in South Carolina, RU2 contains 37 populations in Georgia and Florida, and RU3 contains 7 populations in Georgia and Florida (Service 2024, pp. 24–36, appendix C).

As mentioned above, the tickseed is a clonal species and we cannot distinguish individuals (genets) or seedlings from clonally produced stems (ramets) within populations; therefore, we only provide an estimate of stem abundance within each population in the SSA report. Stem abundance ranges from 1 to 400,000 stems within the

50 extant populations (Service 2024, pp. 7–8). We are not able to evaluate population trends because we lack regular survey and monitoring information.

The tickseed occurs on private (43 populations), State (6 populations), and Federal (1 population) lands. There are 10 extant populations (20 percent) in natural habitat (outside of ROWs) and 40 populations (80 percent) in ROWs, mainly in wet roadside ditches within paved road ROWs (34 populations) and a handful (6 populations) in wet ditches or wetlands within utility or dirt road ROWs with lower management frequency and disturbance intensity than paved road ROWs (Service 2024, pp. 15–18, 25–28, appendices A, B). There are 6 tickseed populations that have some habitat protections on Federal or State lands and occur in ROWs (Service 2024, pp. 22–23, appendix B) and are subject to ROW operation and maintenance (23 CFR 1.23; 23 CFR 710.405) and habitat protections otherwise afforded to the species on these lands. Management of road ROWs varies among Federal, State, local and other entities depending on the road type and jurisdiction; utilities manage their ROWs. Where the tickseed occurs, ROWs on private and State lands are owned by state or local governments.

The tickseed is generally not afforded protections or conservation measures in ROWs; however, State DOTs can designate environmentally sensitive areas in road ROWs they manage and apply seasonal restrictions and special management practices to conserve species of concern such as tickseed (Georgia Department of Transportation (GDOT) 2023, p. 3; Service 2024, pp. 22–23).

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.

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 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 as far into the future as the U.S. Fish and Wildlife Service and National Marine Fisheries Service (hereafter, the Services) can make reasonably reliable 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 scientific and commercial data available 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 proposed for listing 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 the tickseed’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' future condition, including responses to positive and negative environmental and anthropogenic influences. Throughout all of these stages, we used the best scientific and commercial data available 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–2026–0892 on https://www.regulations.gov.

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.

The following is a summary of the SSA and the best information available that have informed this decision. The majority of tickseed populations were revisited or discovered in 2022 and 2023 (Service 2024, pp. 7, 24).

Individual Needs

Tickseed individuals need access to fresh water; adequate soil moisture and soil saturation year-round; suitable soils; and access to full or partial sunlight to establish, grow, and flower (Service 2023a, pp. 1–6; Service 2024, pp. 11–14). Soils in occupied areas range from fine, sandy loams to deep muck, but are consistently saturated, uncompacted, and often high in calcium content. While the species' specific soil requirements are unknown, the tickseed is often associated with but is not restricted to limestone soils (Chafin 2019, p. 39). An open canopy (partial to no shade from woody vegetation above) is needed to provide full or partial sunlight to plants (Service 2023, pp.

1–5). Bees and other appropriate pollinators are needed for seed production (Service 2024, pp. 10–13; Ulyshen et al. 2023, entire; Ulyshen 2024, pp. 1–3).

Individuals need certain habitat factors, including: mild climate conditions (no hard frost); mid-stage successional wetland habitats; and some kind of periodic disturbance (flooding, mowing, fire, etc.) to maintain the habitat's successional stage and partial to open canopy (see **Background**, above; Service 2023a, p. 4; Service 2024, pp. 7–13).

Population Needs

To have adequate resiliency, tickseed populations need recruitment, survivorship, and reproduction at rates able to sustain populations and withstand stochastic events. Individuals must be replaced through either sexual or asexual reproduction, and offspring must survive to reproductive age. Over the long term, tickseed populations require cross pollination, sexual reproduction, and sufficient seedling establishment to maintain genetic diversity (Service 2024, pp. 11–14).

At the population level, the tickseed has all the same habitat requirements as individual plants, but they must be present at a scale that can support a large number of stems, multiple stem patches, and an area to expand and provide for connectivity between stem patches. Larger populations are more likely to attract pollinators required for cross pollination, which is needed to maintain population-level genetic diversity. The need for cross-pollination requires surrounding habitat to be suitable to support adequate populations of pollinator species (see **Background**, above).

While the number of individuals or amount of habitat needed for tickseed populations to have adequate resiliency is unknown, we assume that tickseed populations have high resiliency if they contain a large number of stems, occur in natural habitats (not in ROWs), are connected by suitable habitat conditions with adequate hydrology and the appropriate successional stage and disturbance regime (Service 2024, pp. 8–14). We

assume that the tickseed is not adapted to disturbance in ROWs that exceeds its natural disturbance regime and the impact to population resiliency is associated with the frequency and severity of annual and seasonal disturbance in ROWs (see Road Rights-of-Way, below).

Species Needs

To maintain viability, the tickseed should have a sufficient number of populations with high or moderate resiliency that are well distributed and represent the ecological settings where it is found throughout its geographic range. Suitable habitat must be available, and the number and distribution of populations with adequate resiliency must be sufficient for the species to withstand catastrophic events. Redundancy improves with increasing numbers of populations with adequate resiliency and their connectivity across the range. Representation improves with increased genetic diversity or more diverse environmental conditions within and among populations. The tickseed occupies three RUs (ecoregions) and may have high genetic variability and low levels of connectivity (gene flow) between populations (see **Background**, above; Cosner and Crawford 1994, p. 354; Service 2024, pp. 5–6, 31–36). Morphological variability across the range has not been documented.

In summary, individual tickseed plants require mid-successional wetlands with saturated soils, limited shade for light, moisture, and growth, and pollinators for seed production. Populations must have sufficient size and resiliency to withstand stochastic events; they also must have sufficient seed production, an adequate amount of suitable habitat, a pollinator community, and connectivity with other populations. For species viability, the tickseed must have populations with adequate resiliency that are well distributed across its range and sufficient genetic or ecological diversity to adapt to changing conditions. The SSA report provides additional detail on the species' individual-, population-, and species-level needs (Service 2024, pp. 7–14, 29–36).

Influencing Factors (Threats/Stressors/Risk Factors)

In the SSA report, we evaluated influencing factors and other actions that can positively or negatively affect the tickseed at the individual, population, or species levels, either currently or into the future (Service 2024, pp. 15–24). In this proposed rule, we discuss in detail only those influencing factors that could meaningfully impact the status of the species. Road ROWs, utility ROWs, urban development, agriculture, recreation, invasive species, and SLR and drought are all factors that influence or could influence the tickseed's viability. Those factors that are not known to meaningfully impact the status of the species, such as disease, predation, overutilization, fire, and water management are not discussed here but are evaluated in the SSA report (Service 2024, pp. 11–22).

Road Rights-of-Way

Seventy-four percent (37 populations) of the 50 known extant tickseed populations are in maintained road ROWs (Service 2024, pp. 15–17). Of these, all but one population are entirely within the road ROW. One of the three historical populations was in a road ROW (in Florida) and may be extirpated due to road ROW management impacts (Rosner-Katz 2023, entire). Tickseed populations in road ROWs were likely present in the habitat prior to road construction and the road ROWs directly encroached on the habitat and caused habitat degradation and fragmentation and hydrologic alteration from the road and ROW management.

Road ROW management and construction activities include regular vegetation management (mowing, application of herbicides, removal of brush and trees), and periodic construction including resurfacing, widening, and the repair or replacement of bridges or culverts (Service 2023a, pp. 9–11). Road ROW vegetation management practices may result in mixed impacts—both negative and positive—on the tickseed (Service 2024, pp. 15–17, appendix A). Positive impacts include stimulating clonal growth resulting in more stems (ramets). Negative impacts include plant damage,

mortality, the loss of a tickseed population, the loss of seed production, and the possible introduction of invasive plants. Fall mowing during flowering and seed production results in the loss of most or all sexual reproduction as well as the species' dispersal ability and exerts the strongest negative effects to the tickseed's pollinators (Service 2023a, pp. 4, 8; Service 2024, pp. 10–11; Ulyshen et al. 2023, entire; Ulyshen 2024, pp. 1–3). We assume that road ROWs across the tickseed's range are mowed two to three times a year due to safety concerns (e.g., driver sight distance), based on the mowing schedule of the Georgia Department of Transportation (GDOT) (Veeramachaneni 2024, entire). While we do not know the tickseed's ability to sexually reproduce under various mowing schedules, we assume that the tickseed is not adapted to sexually reproduce when disturbance in ROWs exceeds its natural disturbance regime; negative impacts increase with mowing frequency, and fall mowing results in the strongest negative impacts to plants and populations within ROWs. Thus, these negative impacts are compounded over time in road ROWs that are mowed multiple times every year, strongly impacting the species' ability to sexually reproduce. We acknowledge the species can still vegetatively reproduce by clonal growth under various mowing schedules in ROWs; however, sexual reproduction allows a population to increase genetic diversity, effective size, and reduces the risk of extinction that is necessary for long-term population health (see **Background**; Tepedino 2012, entire).

Herbicides are used primarily to control woody vegetation within the ROW and potentially have negative effects on tickseed plants if they are foliar sprayed indiscriminately; these chemicals are often formulated to control woody vegetation but are likely not safe for the tickseed and other wildflowers (PennState Extension 2016, pp. 7, 10, 15–16; Service 2023a, p. 9).

Mowing or mechanical removal of competing vegetation can be beneficial to tickseed when it mimics the natural disturbance processes, such as seasonal peak flows

and periodic floods, fire, and storms, that maintain open canopy conditions to support the species' light needs (see **Background**, above). Mowing also stimulates clonal growth and generally results in more stems within a patch or population. However, as discussed above, clonal growth is not sufficient to maintain long-term population health.

In addition to regular road ROW management activities, tickseed plants may also be impacted by periodic road construction including resurfacing, widening, or the repair or replacement of bridges or culverts. The heavy equipment used in construction can crush plants and compact soil both in staging areas and along the route to be repaved, or tickseed plants, populations, and habitat may be directly lost. There is also the potential for the introduction of pollutants or invasive plants through either the equipment used or any fill dirt needed for the project, as well as additional hydrologic alteration from bridge and culvert removal or replacement.

Despite potential compatibility with vegetation management practices, conversion of tickseed habitat to road ROWs has been extensive and continues to limit and/or degrade habitat in tickseed populations. We incorporated the current levels and effects of this stressor in our evaluation of current and future resiliency (Service 2024, pp. 25–46).

Utility Rights-of-Way

Three out of 50 (6 percent) extant tickseed populations, and 1 historical population, are located in utility ROWs associated with powerlines and pipelines (Service 2024, pp. 15–19). The three extant populations are within a gas pipeline ROW in Georgia, and one historical population is in a powerline ROW in South Carolina. Several other populations occur in areas managed for both road and utility ROWs.

Similar to road ROWs, the tickseed was likely present prior to utility construction, and the utility ROWs directly encroached on the habitat or have caused habitat degradation and fragmentation and hydrologic alteration. Utility ROWs are subject to the same vegetation management practices as roadsides (mowing, herbicide application, and

removal of brush and trees), though often with a lower frequency and disturbance intensity than road ROWs. Various utility companies manage the tickseed utility ROWs and may implement different maintenance schedules. In general, gas pipelines are mowed once annually; powerlines are mowed every 6 years, and herbicide is applied restrictively to remove woody vegetation every 2 years. Mowing and herbicide use may occur at any time during the growing season (Ozier 2024, entire).

Utility ROWs are also subject to repair and replacement projects and may be co-located with other ROWs. As stated above (see Road Rights-of-Way), utility ROW management practices maintain the open habitat required by tickseed, but they can also result in plant damage or loss, soil compaction, hydrologic alteration, and the possible introduction of invasive plants. We assume that utility ROW maintenance activities result in an overall negative impact to tickseed; however, impacts are not as severe as those in road ROWs because of the lower frequency and disturbance intensity. We incorporated the current levels and effects of this stressor in our evaluation of current and future resiliency (Service 2024, pp. 25–46).

Urban Development

There are 5 tickseed populations located on private lands in natural habitats (not ROWs) and 37 populations in road ROWs, representing 84 percent of tickseed populations that may be subject to urban development (Service 2024, pp. 15–22, appendix B). Urban development includes residential and commercial development, but the primary stressor to the tickseed related to urban development is future widening of existing roads and ROWs. The planning and development of new roads and road widening are associated with expanding residential and commercial development; as the human population grows, roadways may be expanded or improved to accommodate the increase in traffic (Cervero 2003, p. 146; Service 2024, p. 18).

We are not aware of any populations lost to urban development and

urban development is currently not a significant influence on the tickseed's viability. Residential and commercial development are not directly impacting tickseed populations and only slight increases in this type of development are projected in the tickseed's wetland habitat in the future (Service 2024, pp. 17–19, 24–46). However, we expect urban development to indirectly impact the tickseed in the future from road widening needed to accommodate county urban growth projections, particularly in the growing metro area of Jacksonville, Florida, and surrounding counties in Florida and Georgia. Road widening projects have the potential to result in the loss of tickseed plants and populations growing in the affected ROW; other negative impacts of urban development are similar to those described above (see Road Rights-of-Way).

An example of the infrastructure improvement projects needed to support the urban development in the growing metro area of Jacksonville, Florida, is the proposed road widening project along Georgia State Route 40 in Camden County, Georgia (GDOT 2022, entire). We expect this one proposed project will negatively impact three tickseed populations located within the Georgia State Route 40 road ROW (Service 2024, pp. 17–19). In addition to road widening and maintenance, we expect more bridge and culvert replacement projects where the tickseed occurs in road ROWs.

See additional discussion of urban development under *Future Condition*, below. We incorporated the current levels and effects of this stressor in our evaluation of current resiliency, and we projected increases in this stressor in our evaluation of future resiliency (Service 2024, pp. 25–46).

Agriculture

Agriculture, including silviculture, occur within the tickseed's range and may have reduced the amount of tickseed suitable habitat, although we have no documented extirpations of tickseed populations as a result of this stressor (Florida Natural Areas Inventory (FNAI) 2023, p. 44; Service 2023a, p. 9). Five tickseed populations (9 percent)

are directly adjacent to agricultural lands and the negative effects of agricultural practices to these populations from heavy equipment has been documented in tickseed habitat and can result in plant damage and mortality, a high degree of soil disturbance, and the possible introduction of invasive plants (Apoorva and Kundlas 2024, entire).

Mowing, herbicide use, and extensive hydrologic alteration through impoundments, diversion of runoff, or pumping for irrigation may also occur in agricultural areas (Service 2023a, p. 9; Apoorva and Kundlas 2024, entire) with similar negative and positive effects to the tickseed (see Road Rights-of-Way, above). Pesticides may also be used to control agricultural pests and have the potential to negatively impact the pollinators tickseeds need for sexual reproduction. However, for pollinator-dependent crops (e.g., cotton), management must be pollinator-friendly for at least a portion of the growing season and that can be beneficial for tickseed seed production (Pires et al. 2014, entire; Service 2023a, p. 9).

We incorporated the current levels and effects of this stressor in our evaluation of current resiliency, and we projected increases in this stressor in our evaluation of future resiliency (Service 2024, pp. 25–46).

Recreation

Four tickseed populations (8 percent) have experienced some recreational use along trails, boat landings, bridges, or roads in some areas. Activities such as hiking, biking, horseback riding, and off-highway vehicle (OHV) use can result in plant damage, lower reproduction, and soil compaction (Service 2023a, p. 10; Service 2024, pp. 19–20). One population in Florida may have fewer stems from the impacts of recreational use or maintenance of a boat ramp (FNAI 2023, p. 12). Some recreational use, particularly horseback riding, has the potential to introduce invasive plants in tickseed populations. Any of these impacts can reduce the abundance of stems and seeds produced in a

population. We incorporated the current levels and effects of this stressor in our evaluation of current and future resiliency (Service 2024, pp. 25–46).

Invasive Species

Invasive plants and feral hogs (*Sus scrofa*) affect some tickseed populations. Invasive plants such as Asian spiderwort (*Murdannia keisak*), Chinese tallow (*Triadica sebifera*), and Japanese climbing fern (*Lygodium japonicum*) are reported within four tickseed populations (8 percent) (Service 2024, p. 20). Currently, their abundance within tickseed populations is low. However, there is the potential for invasive plants to increase in the future, particularly from previously described threats such as road and utility ROWs, urban development, agriculture, and recreation. In the Southeastern region of the United States, invasive plants are considered one of highest risks to rare plants (Radcliffe et al. 2023, p. 28).

Feral hogs are present in one tickseed population in South Carolina and resulted in substantial damage to tickseed plants from their rooting behavior (Bradley 2018, p. 32; Service 2024, p. 19). Feral hog rooting can vary depending on the location and habitat, ranging from light disturbance to large excavations (FeralHog 2019, entire). Rooting impacts can reduce the abundance of stems and seeds produced in a population. We incorporated the current levels and effects of this stressor in our evaluation of current and future resiliency (Service 2024, pp. 25–46).

Sea Level Rise and Drought

In the Southeastern United States, several models have projected an overall increase in annual precipitation, temperature, and fall flood events, with variable rainfall characterized by heavy downpours and droughts becoming more common (Neupane et al. 2018, pp. 2240, 2237; Burkett and Kusler 2000, p. 314; National Oceanic and Atmospheric Administration (NOAA) National Centers for Environmental Information 2022a, b, c, entire). Warming is expected to be greatest in the summer and is predicted to

increase drought frequency (Carter et al. 2018, p. 775). Wetlands most likely to be affected by SLR include low-elevation coastal wetlands; all tickseed populations occur in these types of wetlands (Burkett and Kusler 2000, pp. 313, 315). Low-elevation coastal wetlands have the potential to become inundated with salt water either temporarily or permanently depending on the timeframe and projected SLR (Carter et al. 2018, p. 775). Under natural hydrologic conditions, the salinity gradient in coastal wetlands, tidal rivers, and estuaries can be expected to move inland in response to SLR over time; however, inland migration may not be possible or may be severely restricted in rivers, streams, and wetlands with barriers such as dikes and levees (Burkett and Kusler 2000, pp. 313, 315).

Specific impacts of SLR on the tickseed are not well understood; however, we expect saltwater intrusion and inundation from SLR to be most impactful to the species. Freshwater availability and hydrologic function will likely play an important role in maintaining suitable habitat conditions for the tickseed. Saltwater intrusion will likely displace plant species such as tickseed that are not tolerant of increased salinity (Carter et al. 2018, p. 775). The effects of SLR are expected to occur later in time than future urban development (see *Future Condition*, below). Tickseed populations along the Coastal Plain in eastern Florida, Georgia, and South Carolina are particularly vulnerable to SLR given their low elevation, proximity to brackish water, and lack of major barriers to saltwater intrusion (St. Marys River Management Committee 2003, pp. a–j, 1–5; South Carolina DNR 2005, p. 1; South Carolina DNR 2020, entire; City of New Smyrna Beach 2024, entire; Dams of the World 2025, pp. 2, 7). The tickseed populations in western Florida are less vulnerable to SLR given their higher elevation despite the lack of barriers to saltwater intrusion along the Chipola River, a free-flowing river following the removal of the Dead Lake Dam in 1987 (Hill et al. 1994, entire).

At this time, SLR has not been a detectable factor in reducing the tickseed's viability because saltwater intrusion has not occurred in the habitats where the species is

present. Consequently, for the current condition analysis in the SSA report, it is considered a minor influencing factor. However, SLR is projected to increase in the future (see *Future Condition*, below). Therefore, we incorporated the projected increases in this stressor in our evaluation of future resiliency (Service 2024, pp. 37–46).

The availability of saturated soils required by the tickseed may be reduced under drought conditions. The tickseed's clonal growth strategy may buffer the negative effects of flooding and drought if connected stems can distribute water and nutrients across an environmental gradient (Wang et al. 2020, entire). The clonal growth pattern is also beneficial to reduce erosion during flood events (Gong et al. 2023, entire). Drought is projected to increase in the future (see *Future Condition*, below). Therefore, we incorporated the projected increases in this stressor in our evaluation of future resiliency (Service 2024, pp. 37–46). The best scientific and commercial data available indicate the species appears to tolerate hurricanes (FNAI 2023, pp. 19, 24; Service 2023a, p. 9); therefore, we did not carry hurricanes forward in our analysis.

Conservation Efforts and Regulatory Mechanisms

There are no conservation efforts currently being implemented specifically to benefit the tickseed. There are 10 extant populations located in natural habitat (outside of ROWs) and 6 located in road or utility ROWs with lower frequency and disturbance intensity of management (e.g., recreational dirt roads or gas pipelines) (Service 2024, pp. 17–28, appendix B). Five of these 16 populations are located on protected lands in Florida (Choctawhatchee Water Management Area, Ralph E. Simmons State Forest); Georgia (Clayhole Swamp Wildlife Management Area); and South Carolina (Edisto Wildlife Management Area, Ernest F. Hollings ACE Basin National Wildlife Refuge). Two populations are partially protected on State lands (Upper Chipola River Water Management Area in Florida and Givhans Ferry State Park in South Carolina). The remaining nine populations are on private lands and are not formally protected.

Therefore, we did not report the landownership of the populations in ROWs with higher frequency and disturbance intensity of management (defined as high-risk ROW, see *Current Condition* and *Future Condition*, below).

There are Federal regulatory mechanisms on the Ernest F. Hollings ACE Basin National Wildlife Refuge that provide tickseed protections from collection, disturbance, and removal (50 CFR §§27.21 and 27.51). There are State regulatory mechanisms in Florida and Georgia where the tickseed is a State-listed species (Service 2024, pp. 21–22). In Florida, the tickseed is an endangered species protected under Florida Statute 581.185 and the Preservation of Native Flora of Florida Act (5B–40), which provides protection from removal on public lands and private lands without written permission by landowner and a permit by the Department of Agriculture and Consumer Services; and protections for the sale, offering for transporting, carrying, or conveying of a protected species (Preservation of native flora of Florida 2021 Florida Statutes Title XXXV Chapter 581 Section 185). In Georgia, the tickseed is a threatened species protected under the Georgia Wildflower Preservation Act (Georgia Code 12-6-170) that affords protections on public lands from cutting, digging, pulling, or removing unless authorized by the Georgia Department of Natural Resources and private lands without written permission by landowner; and protections for the sale, transporting, carrying, or conveying of a protected species without tag or permit and harvest on public lands (Wildflower Preservation Act of 1973 Georgia Code Title 12 Chapter 6 Article 3 section 12-6-170). There are no State regulatory mechanisms in South Carolina. The tickseed is currently protected under the Lacey Act (16 U.S.C. 3372). Violation of relevant Federal laws, treaties, regulations, and State laws (e.g., Florida, Georgia) is also a violation of the Lacey Act.

Georgia and South Carolina State Wildlife Action Plans (SWAPs) identify the tickseed as a priority species of conservation concern, but SWAPs do not require States

to implement conservation actions or guarantee funding (Georgia Department of Natural Resources (DNR) 2015, p. 165; South Carolina DNR 2015, pp. 2–10). The benefit for tickseed as a priority species in the SWAPs is that partners prioritize and coordinate on conservation actions for the species as evidenced by the current rescue and salvage efforts by the Georgia Plant Conservation Alliance at three tickseed populations in a road ROW on Highway 40 in Georgia prior to a planned road widening project (see Urban Development, above; Radcliffe et al. 2023, entire).

Indirect protections for the tickseed may be afforded by voluntary agriculture best management practices (BMPs) in all three states that include maintaining vegetated buffers along riparian areas and wetlands to reduce nutrient runoff and sedimentation from adjacent agricultural practices. Published BMPs in Florida, Georgia, and South Carolina recommend a minimum riparian buffer for perennial streams and wetlands of 33 to 300 ft (10 to 91 m) in Florida; 39 to 98 ft (12 to 30 m) in Georgia, and 39 to 79 ft (12 to 24 m) in South Carolina (Florida Forest Service 2008, p. 43; Florida Department of Agricultural and Consumer Services 2015, p. 52; Georgia Soil and Water Conservation Commission 2013, p. 98; Georgia Forestry Commission 2019, p. 9; South Carolina Forestry Commission 2024, p. 10).

Cumulative Effects

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. Road and utility ROWs, urban development, agriculture, recreation, invasive species, and SLR and drought are all factors that influence or could influence the species' viability. These factors also have the potential to act cumulatively to impact tickseed viability and their cumulative impacts

were considered in our characterization of the species' current and future condition in the SSA report. 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.

Current Condition

In our SSA report, we evaluate current condition by examining current levels of resiliency in the 50 extant tickseed populations and the tickseed's redundancy and representation. Here, we summarize our evaluation of the current condition for resiliency, redundancy, and representation. Additional detail regarding our analysis is provided in the SSA report (Service 2024, pp. 24–37).

Resiliency

We describe the resiliency for each of the 50 populations in terms of the demographic (stem abundance) and habitat factors (ecological setting and suitable habitat needed by the tickseed for which information is available (Service 2024, pp. 24–36). We developed a categorical model to estimate resiliency for the range of demographic and habitat conditions in each population. In a categorical model, we first identify demographic or habitat factors that contribute to the species' resiliency; typically, these factors align with the individual resource needs and population-level needs we identified in the SSA analysis. We then defined threshold values for each identified demographic or habitat factor that represent high, moderate, or low levels of that factor. Finally, we evaluate whether the current levels of each demographic or habitat factor in a population fall within the predetermined thresholds for a high, moderate, or low score for the category; we then average these scores for each category to develop an overall current resiliency score for each population. For some populations (5), we reduced the overall

resiliency score by one point where stressors such as recreation and feral hogs are present and negatively impacting resiliency.

For the tickseed, our categorical model assessed the resiliency of each population by evaluating (1) stem abundance; (2) the ecological setting and disturbance regime, a proxy for habitat condition that evaluates land use and disturbance levels including road and utility ROWs; and (3) the percentage of suitable habitat within a population that approximates the availability of pollinator habitat and hydrologic function within populations (see table 1). We selected these demographic and habitat factors based on their importance to the species' resiliency and because we could evaluate them relatively consistently across all 50 populations.

Table 1—Current Condition Resiliency Metrics for Tickseed Populations

Resiliency Condition Category (Score)	Abundance of stems (2X)	Ecological Setting (1X)	Percent suitable habitat in the population area (1X)
High (3)	Greater than 5,000	Natural habitat with a natural low-risk disturbance regime	Greater than 75%
Moderate (2)	500–5,000	ROW with a moderate-risk disturbance regime (utility ROW, dirt roads)	Between 75–50%
Low (1)	Less than 500 stems	ROW with a high-risk disturbance regime (paved roads)	Less than 50%

Resiliency categories, thresholds, and scores were established based on the best information available and professional opinions of species experts. Stem abundance information is based on field observations and estimates provided by State natural heritage programs. Ecological setting (natural habitat, ROW) and disturbance levels are based on spatial analysis, field reports, State natural heritage program data, and correspondence with GDOT and utility companies. Suitable habitat and suitable

landcover types for the tickseed and its pollinators are based on data provided by the 2021 National Landcover Cover Dataset in conjunction with the LANDFIRE 2022 Existing Vegetation Type dataset (LANDFIRE 2022, entire; Dewitz and U.S. Geological Survey (USGS) 2023, entire), correspondence with pollinator experts, and peer reviewed information (Janvier et al. 2022, entire; Ulyshen 2024, entire). Presence of stressors that reduced the overall resiliency score (feral hog damage, recreation) are based on field observations and State natural heritage programs data.

We applied equal weight (1x) to the two habitat factors (the ecological setting and disturbance regime, and the percentage of suitable habitat) and applied double weight (2x) to the demographic factor (stem abundance) because of its equal importance to population resiliency as the two habitat factors. We calculated an overall resiliency score using the three factors and subtracted one point to account for population-level impacts from other stressors, where applicable.

The populations with higher overall resiliency are at less risk from potential stochastic events, such as climatic variation, than populations with lower overall resiliency. Our SSA report provides additional detail regarding the methodology we used to evaluate resiliency for each of the 50 populations (Service 2024, pp. 25–28).

There are 50 tickseed populations, and when measured against the metrics outlined in our categorical model, 10 percent of them (5) have high resiliency, 30 percent (15) have moderate resiliency, and 60 percent (30) have low resiliency (see table 2, below; Service 2024, pp. 29–31). The 20 populations with high and moderate resiliency generally have moderate or high stem abundance, a high or moderate percentage of suitable habitat, and a range of scores for ecological setting conditions (see table 2, below). The 20 populations with high or moderate resiliency are at less risk from potential stochastic events, such as climatic variation, than populations with low

resiliency. The 20 populations with high or moderate resiliency are distributed across the species' range (present in all 3 RUs); of these, 12 populations are in ROWs (table 2).

The 30 populations with low resiliency are distributed across the species' range; however, the majority are concentrated in RU2. Most low resiliency populations (28) are in ROWs and have a combination of low to moderate stem abundance and low scores for percent suitable habitat and ecological setting conditions. The two low resiliency populations not in ROWs have low abundance and stressors (recreation) that reduce their overall resiliency score. Low resiliency populations in ROWs may be at higher risk of extirpation from the negative impacts of ROW management (direct loss of plants and reduced sexual reproduction). Since the species is clonal, it is possible that some of the low resiliency populations may be made up almost entirely of one individual (genet). However, eight of the low resiliency populations in RU2 with moderate stem abundance (approximately 500 or more stems) provide connectivity between high and moderate resiliency populations and may contribute to redundancy at the RU and species levels (Service 2024, p. 35).

Table 2—Current Condition Resiliency Summary for Tickseed Populations

Resiliency Condition Category	Extant Populations	Populations in ROW	Populations Not in ROW
High	5 (10%)	1 (2%)	4 (8%)
Moderate	15 (30%)	11 (22%)	4 (8%)
Low	30 (60%)	28 (56%)	2 (4%)
Range-wide total	50 (100%)	40 (80%)	10 (20%)

Redundancy

Redundancy describes the number and distribution of populations, such that the greater the number and the wider the distribution of the populations, the better tickseed can withstand catastrophic events. For tickseed, we describe redundancy in terms of the number and distribution of populations with high and moderate resiliency across the species' current range. The plausibility of catastrophic events also influences species'

redundancy; if catastrophic events are unlikely within the range of the species, catastrophic risk is inherently lower. We identified prolonged drought conditions as a plausible catastrophic event that may affect one or more populations simultaneously. In the future, severe storms that may result in sudden or prolonged inundation of saltwater is a plausible catastrophic event that may affect one or more populations simultaneously.

The tickseed's redundancy is characterized by 20 populations with high or moderate resiliency distributed across its range; populations are separated by distances up to 60 mi (97 km) along the Coastal Plain of Florida, Georgia, and South Carolina, and distances of approximately 160 mi (258 km) for the more isolated populations in RU3 in the panhandle of Florida and southwestern Georgia. Populations assessed to have high or moderate resiliency are present in all three States and all three RUs. Four of the five high resiliency populations occur in RU2, the fifth occurs in RU3. All three RUs contain at least four moderate resiliency populations. Thus, the 20 moderate-to-high resiliency populations and their distribution help spread the risk of catastrophic loss over a larger geographic area and contribute to the species' ability to withstand catastrophic events. Additionally, eight low resiliency populations with moderate stem counts (e.g., approximately 500 or more stems) contribute to overall redundancy (Service 2024, p. 35). We determined three populations are historical and may no longer be extant; two historical populations were in ROWs and the one in RU2 may be extirpated because of road ROW management practices (Rosner-Katz 2023, entire; Service 2024, p. 16). Based on these considerations, the tickseed currently has moderate levels of redundancy.

Representation

The tickseed exhibits some ecological and genetic diversity that supports the species adaptive capacity to both near- and long-term changes in its environment. Ecological diversity is characterized by the three level-III ecoregions (Middle Atlantic Coastal Plain, Southeastern Plains, and Southern Coastal Plain), and different wetland

habitats the tickseed occupies across its range (see **Background**, above). While there is very little morphological variability across the range, high genetic diversity was documented in populations located in RU3 (Southeastern Plains). Based on these considerations, and the fact that each RU has multiple populations with moderate or high resiliency, the tickseed currently has moderate levels of representation.

Future Condition

In our SSA report, we forecasted the resiliency of tickseed populations and the species' redundancy and representation to end-of-century (2100) using a range of plausible future scenarios. For our analysis of tickseed's future conditions, we constructed three future scenarios focused on changes in influencing factors (threats/stressors). We consider the driving factors of tickseed's viability to be two separate, but interconnected influences—the effects of anthropogenic activity related to loss of habitat from stressors that include urban development, and the effects of SLR and drought influencing the hydrologic condition and amount of fresh water available in the species' habitat. We relied on urban development, SLR, and drought projections out to 2100, the timeframe for which they were available. We evaluated future condition at three different timesteps—2040, 2070, and 2100. We selected these influences based on their importance to the species' resiliency and because we could evaluate them relatively consistently across all 50 extant populations. We are not aware of current or planned conservation efforts for the species, so we did not include any in the analysis. By examining a range of plausible future scenarios, we conclude that the actual future condition will likely fall somewhere within these projected scenarios. Detailed descriptions of each scenario are available in the SSA report (Service 2024, pp. 37–40).

The three scenarios are meant to account for uncertainty by covering a breadth of future conditions that could plausibly occur within the tickseed's range. The 75-year timeframe is a time period for which we can reasonably project future conditions based

on the best available models across the species' range, and assess the tickseed's response to those conditions (Sweet et al. 2022, pp. 20-27; IPCC 2023, pp. 68-69).

Methods for Scenarios A, B, and C

We consider urban development as a surrogate for anthropogenic activities that include residential and commercial development as well as impacts from road construction (e.g., widening, bridge replacements) and ROW management. For urban development, we evaluated the projected loss in each population area using the FUTURES urban growth model that predicts the likelihood an area will urbanize out to 2100 (Petrasova et al. 2023, entire). In Scenarios A and B, we evaluated low and high rates of development, respectively, at the population level; in Scenario C, we evaluated the high development rate at a broader, county level (Service 2024, pp. 39–41). We evaluated county-level growth projections because future growth surrounding population centers may lead to additional road maintenance and widening near tickseed populations that may not be evident at the population level. This analysis does not assume that future development will occur uniformly throughout the county or exclusively at the edges of existing urban centers. Rather, the county-level analysis was used to capture the potential for growth and associated infrastructure development to occur outside the areas represented by individual population-level projections. We considered the urban development effects that occurred prior to the effects of SLR as part of our cumulative effects analysis (Service 2024, pp. 38–40, appendix H). A county-level analysis is relevant to road ROW widening, construction and management because county governments plan and fund road projects, in part, based on growth projections (Evans 2021, entire; Florida Construction News 2024, entire; South Carolina DOT 2024, entire).

For SLR, we used future climate models in combination with forecasted changes in SLR and projected drought conditions out to 2100. For SLR, we calculated the amount and percent of projected SLR within populations using the NOAA Sea Level Rise Marsh

Migration model (Office for Coastal Management 2024, entire). In Scenarios A and B, we evaluated the model's intermediate and high SLR scenarios, respectively. The SLR scenarios are paired with two different carbon emission scenarios developed by the Intergovernmental Panel on Climate Change (IPCC)—a stabilization emission scenario (B2) using Representative Concentration Pathway (RCP) 4.5 for the intermediate SLR scenario, and a rising greenhouse gas emissions scenario (A1B) using RCP8.5 for the high SLR scenario (IPCC 2000, pp. 28, 30–35, 40, 45–47, 70–73, 114; Sweet et al. 2022, entire). In accordance with E.O. 13563 ("Restoring Gold Standard Science"), we consider our future scenarios to bookend the range of plausible outcomes for the tickseed; we do not preferentially select one future scenario or one RCP emission scenario in our evaluation of the tickseed's status.

For drought, we evaluated the frequency of future drought conditions within each RU by comparing the projected maximum number of consecutive dry days and the number of dry days per year to the historical baseline (1970–1999). We evaluated future drought conditions under RCP4.5 and RCP8.5. Based on the results, tickseed habitat will likely experience minor changes in drought frequency from the historical baseline that are not likely to impact the hydrologic condition or freshwater availability in the species' habitat (Service 2024, pp. 40–43, appendix F). Therefore, we did not incorporate the potential effects of drought into our three future condition scenarios. The scenarios we evaluated for the tickseed, bookending the range of plausible outcomes, are as follows and discussed in more detail in the SSA report (Service 2024, pp. 37–40):

- *Scenario A*: projected low rates of urban development at the population level; and intermediate SLR, emissions follow RCP4.5.
- *Scenario B*: projected high rates of urban development at the population level; and high SLR, emissions follow RCP8.5.

- *Scenario C*: projected high rates of urban development at the county level; and high SLR, emissions follow RCP8.5.

To calculate the tickseed's future condition, we used the results of our current condition analysis as the baseline. We did not have reliable projections for the other influencing factors (invasive species, recreation, agriculture and the demographic factor (stem abundance) to include in the three future scenarios. Instead, we relied on the future projections of the increasing effects from urban development and SLR to provide an indirect assessment of stem abundance. We also added two more condition categories to our future condition evaluation, very low resiliency and extirpated; populations in either category do not contribute to species' overall viability. Populations with very low resiliency are less able to withstand stochastic events than those in low condition due to fewer number of stems, percent suitable habitat, hydrologic function, and pollinator availability. Populations in the extirpated category are those unlikely to withstand a stochastic event and may be considered functionally extirpated although they may contain some stems and suitable habitat. We describe our ruleset for each scenario below. Refer to the SSA report for full descriptions of the future scenarios (Service 2024, pp. 37–40).

Scenarios A and B

The ruleset for Scenarios A and B is as follows:

If the combined percent population area loss from SLR and urban development is projected to be:

- Between 25 and 50 percent, we reduced the current condition category by one resiliency category (e.g., moderate to low, low to very low) to calculate the future condition category.

- Between 50 and 75 percent, we reduced the current condition category by two resiliency categories (e.g., moderate to very low) or to very low for populations in low current condition (low to very low).
- Greater than 75 percent, we assumed the population will be extirpated regardless of the current condition category.

Scenario C

The ruleset for Scenario C is as follows:

- We applied the same ruleset of population area loss for SLR at the population level as Scenarios A and B, above; and
- For populations with an ecological setting habitat factor of high-risk ROW in current condition (includes populations in paved road ROWs), if county-level urban development is projected in one or more future timesteps out to 2100, then we reduced the overall population resiliency condition by one category (e.g., moderate to low, low to very low).

Results of Scenarios A, B, and C

Under Scenario A, intermediate SLR is expected to increase over time in two RUs (RU1 and RU2) along the east coast of Florida, Georgia, and South Carolina. The low rate of urban development at the population level is expected to be insignificant and alone does not affect population resiliency scores. By 2100, SLR results in the extirpation of two populations, one in South Carolina (RU1) and one in Georgia (RU2); associated population area loss of more than 25 percent impacts another seven populations in RU1 and RU2 (Service 2024, pp. 41–46, appendix I). Resiliency decreases in eight populations—two high resiliency populations (in RU2) will drop to moderate resiliency and extirpated; three moderate resiliency populations (in RU1 and RU2) will drop to low resiliency, very low resiliency, and extirpated; and three low resiliency populations (in RU2) will drop to very low resiliency (see table 3, below; Service 2024, appendix D).

Population resiliency is not expected to change for populations in the panhandle of Florida and southwestern Georgia (RU3) because populations are located in natural habitats outside of ROWs and in counties that have no projected urban growth or SLR.

Overall, the number of high and moderate resiliency populations drops from 20 (current condition) to 15 by 2100, and these populations are projected to be at a lower risk from potential stochastic events than the 33 populations with low or very low resiliency. Declines in resiliency are expected along the east coast (in RU1 and RU2) over time, primarily due to intermediate SLR, whereas resiliency is not expected to decline in RU3. With fewer moderate and high resiliency populations, redundancy is expected to decline; however, the species' distribution across the range remains similar to current conditions and we expect multiple moderate or high resiliency populations to be present in each RU. The number of low resiliency populations in RU2 with moderate stem abundance that provide connectivity and may contribute to redundancy drops from eight (current condition) to five. Representation remains moderate and similar to current conditions in terms of moderate or high resiliency populations within represented ecoregions.

Under Scenario B, high SLR is expected to increase over time in two RUs (RU1 and RU2) along the east coast of Florida, Georgia, and South Carolina resulting in greater impacts than Scenario A. The high rate of urban development at the population level is expected to be minor and alone does not affect population resiliency scores. By 2100, SLR results in the extirpation of seven populations—two in South Carolina (RU1), and five in Georgia (RU2); associated population area loss of more than 25 percent impacts another nine populations in RU1 and RU2 (Service 2024, pp. 41–46, appendix I). Resiliency decreases in 16 populations—2 high resiliency populations (RU2) will drop to low resiliency and extirpated; 5 moderate resiliency populations (RU1 and RU2) will drop to low resiliency and extirpated; and 9 low resiliency populations (RU2) will drop to

very low resiliency and extirpated (see table 3, below; Service 2024, appendix D). Population resiliency is not expected to change for populations in the panhandle of Florida and southwestern Georgia (RU3) as explained in Scenario A.

Overall, the number of high and moderate resiliency populations drops from 20 (current condition) to 13 by 2100, and these populations are projected to be at a lower risk from potential stochastic events than the 30 populations with low or very low resiliency. Declines in resiliency are expected along the east coast (in RU1 and RU2) over time, primarily due to high SLR, whereas resiliency is not expected to decline in RU3. With fewer moderate or high resiliency populations, redundancy is expected to decline; however, the species' distribution across the range remains similar to current conditions and we expect multiple moderate or high resiliency populations to be present in each RU. The number of low resiliency populations in RU2 with moderate stem abundance that provide connectivity and may contribute to redundancy drops from eight (current condition) to three. Representation remains moderate and similar to current conditions in terms of moderate or high resiliency populations within represented ecoregions. The difference between Scenarios A and B is the result of greater SLR impacts between the intermediate and high SLR projections.

Under Scenario C, high SLR is expected to increase over time in two RUs (RU1 and RU2) along the east coast of Florida, Georgia, and South Carolina. Urban development at the county level is expected to increase in RU1 and RU2, particularly in counties near Jacksonville, Florida (in RU2) (see Urban Development, above). The combined effect of high SLR and urban development results in greater impacts than Scenarios A and B. By 2100, SLR results in the extirpation of seven populations—two in South Carolina (RU1), and five in Georgia (RU2), as in Scenario B (Service 2024, pp. 41–46, appendix I). Resiliency decreases in 36 populations—2 high resiliency populations (RU2) will drop to low resiliency and extirpated; 7 moderate resiliency

populations (RU1 and RU2) will drop to low resiliency and extirpated; and 27 low resiliency populations (RU2) will drop to very low resiliency and extirpated (see table 3, below; Service 2024, appendix D). Population resiliency is not expected to change for populations in the panhandle of Florida and southwestern Georgia (RU3), as explained in Scenario A.

Overall, the number of high and moderate resiliency populations drops from 20 (current condition) to 11 by 2100, and these populations are projected to be at less risk from potential stochastic events, than the 32 populations with low or very low resiliency. Declines in resiliency are expected along the east coast (in RU1 and RU2) over time, due to the combined effect of high SLR and urban development, whereas resiliency is not expected to decline in RU3. With fewer moderate and high resiliency populations, almost half the number from current condition (20) by 2100, redundancy declines, and we consider the species to have low redundancy. The number of low resiliency populations in RU2 with moderate stem abundance that provide connectivity and may contribute to redundancy drops from eight (current condition) to one. With fewer moderate and high resiliency populations and a reduced distribution in RU1 and RU2, species' representation is expected to decline from the current moderate level to low. The difference between Scenarios B and C is the result of greater urban development impacts to tickseed populations in high-risk ROWs (paved road ROWs) in counties with future growth. We expect declines in resiliency for all tickseed high-risk ROW populations, primarily due to the risk of road widening, but also bridge and culvert replacements and ongoing road maintenance activities.

Table 3—Summary of Tickseed Resiliency for the Current Condition and Three Future Scenarios

RU	Condition Category	Current	A 2100	B 2100	C 2100
1	High	0	0	0	0
	Moderate	4	2	2	1
	Low	2	2	2	2
	Very Low	0	1	0	1

	Extirpated	0	1	2	2
	Total Extant	6	5	4	4
2	High	4	2	2	2
	Moderate	7	6	4	3
	Low	26	24	19	4
	Very Low	0	4	7	23
	Extirpated	0	1	5	5
	Total Extant	37	36	32	32
3	High	1	1	1	1
	Moderate	4	4	4	4
	Low	2	2	2	2
	Very Low	0	0	0	0
	Extirpated	0	0	0	0
	Total Extant	7	7	7	7

In all three future scenarios, the number of moderate and high resiliency populations in RU1 and RU2 are projected to decline from current conditions. Declines in resiliency were driven by SLR in Scenarios A and B and the combination of SLR and urban development in Scenario C. In Scenario C, the loss of high and moderate resiliency populations and extirpations within RU1 and RU2 indicates a further decline in the species' adaptive capacity (representation) and redundancy. Therefore, the tickseed is at an increased risk of extirpation from catastrophic events. In addition, when populations are extirpated, the species' distribution and connectivity between populations is reduced, further limiting potential gene flow between populations. The resiliency of populations in RU3 is projected to be stable and not change from current condition under the three scenarios because populations are located in natural habitats outside of ROWs and in counties that have no projected urban growth or SLR.

Determination of Status Background

Section 4 of the Act (16 U.S.C. 1533) and our regulations at 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 requires that we determine whether a species meets the definition of 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. We consider these five factors and the species' responses to these factors when making these determinations.

Section 3 of the Act defines endangered species and threatened species. An endangered species is any species which is in danger of extinction throughout all or a significant portion of its range, and a threatened species is any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Both definitions include not only the phrase "throughout all," but also the phrase "or a significant portion of its range." Thus, there are ultimately four bases for listing a species under the Act (in danger of extinction throughout all of its range, in danger of extinction throughout a significant portion of its range, likely to become an endangered species within the foreseeable future throughout all of its range, or likely to become an endangered species within the foreseeable future throughout a significant portion of its range). These four bases are made up of two classifications (i.e., endangered or threatened) and two components (i.e., throughout all of its range or throughout a significant portion of its range).

Beginning in 2001, a number of judicial opinions addressed our interpretation of the phrase "or a significant portion of its range" (the SPR phrase) in the statutory definitions of endangered species and threatened species. In *Defenders of Wildlife* v. *Norton*, 258 F.3d 1136 (9th Cir. 2001) regarding the flat-tailed horned lizard, the court held that the interpretation of the SPR phrase that we had applied in analyzing the status of the flat-tailed horned lizard was unacceptable because it would allow for a species to warrant listing throughout a significant portion of a species' range only when the species "is in danger of extinction everywhere" (id. at 1141). The court held that the SPR phrase

must be given independent meaning from the "throughout all" phrase to avoid making the SPR phrase in the statute superfluous.

In an attempt to address the judicial opinions calling into question our approach to evaluating whether a species was endangered or threatened throughout a significant portion of its range, the Service and NMFS (collectively, "the Services") published a "Final Policy on Interpretation of the Phrase "Significant Portion of Its Range" in the Endangered Species Act's Definitions of "Endangered Species" and "Threatened Species" (hereafter "2014 SPR Policy"; 79 FR 37578, July 1, 2014). The notice of the draft Policy provides more detail about litigation before 2014 regarding the phrase (76 FR 76987, December 9, 2011). The 2014 SPR Policy included four elements:

(1) Consequence—that the consequence of determining that a species warrants listing based on its status in a significant portion of its range is to list the species throughout all of its range;

(2) Significance—a definition of the term "significant";

(3) Range—that the species' "range" is the current range of the species; and

(4) DPS—that, if a [vertebrate] species is endangered or threatened in an SPR and the population in that SPR is a distinct population segment (DPS), the Service will list just the DPS.

Subsequently, two district courts vacated the definition of "significant" contained in the 2014 SPR Policy (*Ctr. for Biological Diversity* v. *Jewell*, 248 F. Supp. 3d 946, 959 (D. Ariz. 2017) ("*CBD v. Jewell*"), and *Desert Survivors* v. *U.S. Dep't. of the Interior*, 321 F. Supp. 3d 1011, 1070-74 (N.D. Cal. 2018) ("*Desert Survivors*")). The courts found that the definition in the 2014 SPR Policy set too high a threshold and rendered the SPR language in the statute superfluous, failing to give it independent meaning from the "throughout all" phrase. In 2020, another court (*Ctr. for Biological Diversity* v. *Everson*, 435 F. Supp. 3d 69 (D.D.C. 2020) ("*Everson*")) also vacated the specific aspect of the

2014 SPR Policy under which, "if the Services determine that a species is threatened throughout all of its range, the Services will not analyze whether the species is endangered in a significant portion of its range" (*id*. at 98). This was an extension of the definition of "significant," which required a stepwise process in which we only considered whether a species may be endangered or threatened throughout a significant portion of its range when the species was not endangered or threatened throughout all of its range. In an extension of the earlier rulings from *CBD* v. *Jewell* and *Desert Survivors*, the court found that this aspect of the definition of the 2014 SPR Policy was not only inconsistent with the statute because it "rendered the 'endangered in a significant portion of its range' basis for listing superfluous," but was also "inconsistent with [Endangered Species Act] principles" and "not a logical outgrowth from the draft policy." Under this ruling, if we find a species is not in danger of extinction throughout all of its range, we must evaluate whether the species is in danger of extinction throughout a significant portion of its range, even in cases where we have determined that the species is likely to become in danger of extinction within the foreseeable future (threatened) throughout all of its range. The remaining three elements of the 2014 SPR Policy remain intact.

In short, the courts have directed that the definition of "significant" must afford the phrase "or a significant portion of its range" an independent meaning from the "throughout all of its range" phrase. Therefore, to determine whether any species warrants listing, we determine for each classification (endangered and threatened) the appropriate component to evaluate (throughout all of its range or throughout a significant portion of its range).

We make this determination based on whether the best scientific and commercial data available indicate that the species has a similar extinction risk in all areas across its range (at a scale that is biologically appropriate for that species). When making a listing determination for a species that has a similar extinction risk *in all areas* across its range,

we determine its regulatory status using the component "throughout all of its range." For example, in some cases there is no way to divide a species' range in a way that is biologically appropriate. This could be because the range is so small that there is only one population or because the species functions as a metapopulation such that effects to one population directly result in effects to another population. On the other hand, when making a listing determination for a species whose extinction risk varies across its range, we determine its regulatory status using the component "throughout a significant portion of its range."

For either classification (endangered or threatened), we consider the five factors and the species' responses to those factors regardless of which component (throughout all of its range or throughout a significant portion of its range) we are evaluating. When assessing whether a species is endangered or threatened throughout a significant portion of its range, we address two questions because we must determine whether there is any portion of the species' range for which both (1) the portion is "significant" and (2) the species is in danger of extinction or likely to become in danger of extinction within the foreseeable future throughout that portion. We may address either question first. Regardless of which question we address first, if we reach a negative answer with respect to the first question that we address, we do not need to evaluate the other question for that portion of the species' range.

Determination of the Ciliate-leaf Tickseed's Status

We propose listing the tickseed as a threatened species because it is not in danger of extinction throughout all or a significant portion of its range, but it is likely to become in danger of extinction within the foreseeable future *throughout a significant portion of its range*. As stated above, when the species has similar extinction risk *in all areas* across its range (at a scale that is biologically appropriate for that species), we determine its classification based upon its regulatory status throughout all of its range. Conversely, if

the extinction risk varies across its range such that the species' regulatory status may be different in a portion of its range, we determine a species' classification based upon its regulatory status throughout a significant portion of its range. Either way, we need to begin by determining the scale that is biologically appropriate for a classification determination for that species. For many species, we can divide its range in an infinite number of ways. As described in *Current Condition*, for the tickseed, we divided the range into three representation units (RU1, RU2, and RU3). We determined that, by itself, any single population is too small to be considered biologically appropriate to evaluate extinction risk for the tickseed. We grouped populations into the three RUs that provide distinct geographic areas of the range each with a similar ecological setting and containing a concentrated grouping of populations. In summary, RUs are the units that provide the appropriate scale to assess extinction risk for the tickseed.

We then evaluated whether the tickseed has a similar risk of extinction within the foreseeable future *in all areas* across its range by assessing its extinction risk within each RU. Our review indicated that the tickseed's extinction risk varies across its range such that its regulatory status may be different in a portion of the range; therefore, we evaluated whether it may be threatened based upon the "throughout a significant portion of its range" component. In undertaking this analysis, we reviewed the best scientific and commercial data available regarding threats to the species, its responses to those threats, and any associated conservation measures. We then assessed the cumulative effects of those threats and conservation measures under the Act's section 4(a)(1) factors. We examined the following threats: road and utility ROWs, urban development, agriculture, recreation, invasive species, and SLR and drought, including cumulative effects.

We identified and evaluated a portion of the range where the tickseed *may* be threatened that includes RU1 and RU2. The tickseed is not likely to become in danger of

extinction within the foreseeable future in the remaining RU (RU3); therefore, we are not including that RU in the portion that we are evaluating for the threatened classification.

First, we explain our reasoning that the tickseed is not likely to become in danger of extinction within the foreseeable future throughout the remainder of the range in RU3. RU3, in the panhandle of Florida and southwestern Georgia, is not impacted by elevated levels of SLR or urban development currently and is not expected to be impacted in the future under our three scenarios. RU3 contains seven extant populations in mostly natural habitat conditions—five populations have adequate resiliency and are sufficiently distributed such that there is a low risk of extinction due to a catastrophic event, and sufficient representation to adapt to ongoing and novel threats, and there are no projected changes to the species within RU3 in the future. Overall, there are no threats acting within RU3 with such magnitude to increase the risk of extinction to the point where the species is likely to become in danger of extinction within the foreseeable future. In summary, we find that the tickseed is not likely to become in danger of extinction within the foreseeable future in RU3, but it *may* be likely to become in danger of extinction within the foreseeable future in a portion of the range—in RU1 and RU2.

For this portion of the range where the tickseed *may* be threatened, we first addressed the tickseed's status. In undertaking this analysis of whether the tickseed is threatened throughout a portion of its range, we reviewed the best scientific and commercial data available regarding threats to the species, its responses to those threats, and any associated conservation measures. We then assessed the cumulative effects of those threats and conservation measures within the foreseeable future under the Act's section 4(a)(1) factors. The statutory difference between an endangered species and a threatened species is the timeframe in which the species becomes in danger of extinction; an endangered species is in danger of extinction while a threatened species is not in danger of extinction but is likely to become so within the foreseeable future. As discussed

above, we examined the following threats: road and utility ROWs, urban development, agriculture, recreation, invasive species, SLR and drought, including cumulative effects.

The tickseed needs to maintain healthy populations with high or moderate resiliency across its range to reduce the risk of extinction. The species has experienced minor reductions in resiliency and redundancy in the past but currently has 20 populations with high (5) or moderate (15) resiliency across its range, and we expect its viability to remain stable in the near term. Across RU1 and RU2, tickseed currently has 43 populations distributed across portions of three states and two ecoregions. Of these, 4 populations have high resiliency, 11 populations have moderate resiliency, and 28 populations have low resiliency. The 15 moderate to high resiliency populations are broadly distributed across RU1 and RU2. The eight populations with low resiliency in RU2 with moderate stem abundance contribute additional redundancy for tickseed's overall viability.

RU1 and RU2 each contain multiple populations with high or moderate resiliency distributed across a large, ecologically diverse area. In RU1, four of the six populations have moderate resiliency and are distributed across the Middle Atlantic Coastal Plain ecoregion. In RU2, there are 11 moderate and high resiliency populations that are distributed across a large area of the Southern Coastal Plain. The other 26 populations in RU2 with low resiliency provide connectivity between moderate or high resiliency populations and the 8 low resiliency populations with moderate stem counts (approximately 500 or more stems) in RU2 contribute additional redundancy to the species. As a result, tickseed currently has sufficient resiliency, redundancy, and representation within each RU to withstand stochastic and catastrophic events and maintain adaptability to environmental change. Although threats (including road and utility ROWs, urban development, agriculture, and recreation) are currently acting on

tickseed and many of those threats are expected to continue into the future, we did not find that tickseed is currently in danger of extinction within either RU.

While there have been slight declines from the historical number of populations, the tickseed still has multiple, healthy populations with moderate or high resiliency, and, in the near term, the species' viability is expected to be maintained. While some threats are ongoing (including road and utility ROWs, agriculture, recreation, invasive species), the effects to the tickseed are not currently at a magnitude that put the species at risk of extinction in the near term. However, we expect that the effects of SLR and urban development, individually and cumulatively, will reduce resiliency, redundancy, and representation within RU1 and RU2, this portion of the range where the tickseed *may* be threatened within the foreseeable future. The best information available indicates that threats are expected to increase and are not anticipated to be adequately mitigated, thus we expect declines in the number of moderate or high resiliency populations in RU1 and RU2, resulting in an increasing risk of extinction over time. Population resiliency is expected to decline as tickseed plants and population areas are lost to urban development and SLR in combination with the effects from road and utility ROW management that will result in the loss or reduction of tickseed plants, stems, flowering, seed production, and dispersal. These threats are all exacerbated from land use and management practices, recreation, and invasive species in some populations, resulting in tickseed plant and population area loss in RU1 and RU2.

In the foreseeable future, as threats such as SLR and urban development continue to reduce the quality and quantity of the tickseed's habitat, we expect the tickseed to become in danger of extinction. Across all of our future scenario projections, fewer populations will have high and medium resiliency, with increases in the number and distribution of populations with low, very low, or no resiliency (extirpation). Additionally, the number of low resiliency populations with moderate stem abundance

that may contribute to redundancy declines. With increasing threats in the future, tickseed population areas will become smaller, more isolated, and more fragmented, and plants will be less able to sexually reproduce, disperse, and recolonize, so we project overall declines in the resiliency, redundancy, and representation of tickseed in both RU1 and RU2 by 2100.

According to our assessment of plausible future scenarios in the SSA report, the tickseed is likely to become an endangered species within the foreseeable future throughout a significant portion of its range, in RU1 and RU2. Our future scenarios help address future uncertainty by describing plausible outcomes for the primary risk factors to the tickseed out to 2100. Seventy-five years encompasses multiple generations of the tickseed and a time period when stressors are reasonably expected to change, and we can make reasonably reliable projections about the threats and tickseed's response to those threats.

Within the foreseeable future, the tickseed faces significant threats in RU1 and RU2 from SLR and urban development in combination with ROW effects that will likely increase in the future. We expect more of the tickseed's population area to be inundated with salt or brackish water as SLR increases in RU1 and RU2 that impacts the species' access to fresh water. We expect more urban development, particularly in RU2 near the Jacksonville, Florida, metro area, as well as road widening and maintenance, and bridge and culvert replacement projects where the tickseed occurs in high-risk ROWs in RU1 and RU2. Ten of the 15 moderate or high resiliency populations in RU1 and RU2 occur in ROWs and are at risk from future urban development effects. As a result, we expect reductions in freshwater availability, and additional reductions in acreage and hydrologic function needed by the tickseed to support plant populations, successful seed production, dispersal and recolonization processes, and pollinators. While the current level of gene flow between populations is unknown, we expect populations to become more isolated as

population acreage loss and fragmentation occurs, with subsequent declines in the resiliency of the remaining populations as well as the species' redundancy and representation. As a result, we expect the tickseed to become more vulnerable to stochastic and catastrophic events and environmental change.

After evaluating the threats to the tickseed and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we find that urban development (Factor A) and effects from SLR (Factor E) in combination with impacts from road and utility ROW maintenance (Factor A) are the primary threats affecting the species' viability within the foreseeable future. Therefore, we find that the tickseed is not in danger of extinction but is likely to become in danger of extinction within the foreseeable future throughout a portion of its range.

We next addressed whether that portion is "significant." For the purposes of this analysis when considering whether a portion is "significant," we considered its conservation value for the species. Overall, the portion composed of RU1 and RU2 makes up a large proportion of the tickseed's range and contains roughly 67 percent (15,239.5 of 22,583 acres (6,167.5 of 9,139.2 hectares)) of the tickseed's total population area and 86 percent (43 of 50) of extant populations. The portion also contains unique habitat for the species, encompassing all of the species' eastern coastal populations, two Level III ecoregions (Middle Atlantic Coastal Plain and Southern Coastal Plain), including the core of the tickseed's range (RU2) that has a high density of populations relative to its geographic size. Therefore, we consider this portion to be a significant portion of the range. Accordingly, having determined that the tickseed is likely to become in danger of extinction within the foreseeable future within the RU1 and RU2 portion and that the portion is a significant portion of the range, we find the tickseed meets the definition of a threatened species. This does not conflict with the courts' holdings in *Desert Survivors* and *CBD* v. *Jewell*, because, in reaching this conclusion, we did not

apply the aspects of the 2014 SPR Policy, including the definition of "significant" that those court decisions held to be invalid.

In accordance with the court's holding in *Everson*, when we find a species warrants listing as a threatened species, we must also consider whether the species is in danger of extinction throughout a significant portion of its range. We determined that the tickseed is not in danger of extinction throughout a significant portion of its range. To reach this determination, we first assessed whether we can divide the species' range at a biologically appropriate scale. As discussed above, RUs are the units that provide the appropriate scale to assess extinction risk for the tickseed.

We then evaluated whether the tickseed has a similar near-term risk of extinction *in all areas* across its range by assessing the tickseed's extinction risk within each RU. Our review indicated that the tickseed's near-term extinction risk is similar in all areas across its range; therefore, we evaluated whether it may be endangered based upon the "throughout all of its range" component. In undertaking this analysis, we reviewed the best scientific and commercial data available regarding threats to the species, its responses to those threats, and any associated conservation measures. We then assessed the cumulative effects of those threats and conservation measures under the Act's section 4(a)(1) factors.

As discussed above, we found that tickseed currently maintains a similar range and distribution as it did historically. The tickseed currently has 50 extant populations distributed across portions of three States and three RUs (1, 2, and 3) and we assume the loss of three historical populations, one in each RU. While we lack historical stem abundance estimates, it is likely that the species experienced declines in stem abundance due to habitat loss and alteration because 74 percent (37 populations) of the 50 extant tickseed populations are in maintained road ROWs. While some threats are ongoing (including road and utility ROWs, agriculture, recreation, invasive species), the effects to

the tickseed are not currently at a magnitude that put the species in near-term risk of extinction within each RU. The two small RUs—RU1 and RU3—have 6 and 7 extant populations, respectively, compared to the large RU2 with 37 populations. While there are fewer extant populations in both RU1 and RU3, the majority are moderate or high resiliency populations (four and five, respectively) that are well distributed across each RU. The high or moderate resiliency populations typically display a combination of favorable habitat (based on habitat condition, disturbance regime, and hydrologic function) and demographic factors (based on stem abundance) that enable them to adequately withstand environmental and demographic stochasticity. As we mention above, populations in RU3 occur in mostly natural habitat conditions, and despite more impacts to population areas in RU1, the species maintains a sufficient number of moderate or high resiliency populations in RU1, similar to RU3. The tickseed's biological characteristics, particularly its clonal growth habit, its somewhat flexible light requirement of open to partially shaded canopy conditions, and tolerance of natural disturbance regimes confer some tolerance to moderate its response to altered habitat conditions and disturbance regimes from various current stressors. As a result, RU1 and RU3 have sufficient resiliency, redundancy, and representation across their respective six and seven populations to withstand stochastic and catastrophic events and adapt to changes such that tickseed is not in danger of extinction in either RU. RU2 contains the majority of tickseed populations and has the highest density of populations in the species' range. RU2 contains 11 moderate or high resiliency populations that are well-distributed across the RU and among the 26 populations in low resiliency to reduce the risk of catastrophic loss. As a result, RU2 has sufficient resiliency, redundancy, and representation such that tickseed is not in danger of extinction in this RU.

Given the species' needs are being met in many locations and the tickseed has multiple moderate or high resiliency populations in each RU, in the near term, the species

will continue to maintain across its range. The tickseed's current condition, the number and distribution of multiple moderate or high resiliency populations, the low risk of catastrophic loss, and sufficient levels of representation and redundancy in each RU despite road ROWs and other current stressors and factors affecting the species do not warrant endangered status in any of the RUs. After evaluating threats to the species and assessing the cumulative effect of the threats under section 4(a)(1) factors, we conclude that the risk factors acting on the tickseed and its habitat, either singly or in combination, are not of sufficient imminence, scope, or magnitude to indicate the species is in danger of extinction now in any of the RUs. In summary, we determine that the tickseed is not in danger of extinction in any areas across its range (i.e., in no RU). Thus, there is no portion of the range where the tickseed may be endangered.

Determination of Status

Based on the best scientific and commercial data available, we determine that the tickseed meets the Act's definition of a threatened species because it is likely to become in danger of extinction within the foreseeable future throughout a significant portion of its range. Therefore, we propose to list the tickseed as a threatened species in accordance with sections 3(20) 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, foreign governments, 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 directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species unless we determine that such a plan will not promote the conservation of the species. Under section 4(f)(1)(B)(ii), recovery plans must, to the maximum extent practicable, include objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of section 4 of the Act, that the species be removed from the Lists of Endangered and Threatened Wildlife and Plants.

Recovery plans provide a roadmap for us and our partners on methods of enhancing conservation and minimizing threats to listed species, as well as measurable criteria against which to evaluate progress towards recovery and assess the species' likely future condition. However, they are not regulatory documents and do not substitute for the determinations and promulgation of regulations required under section 4(a)(1) of the Act. A decision to revise the status of a species, or to delist a species, is ultimately based on an analysis of the best scientific and commercial data available to determine whether a species is no longer an endangered species or a threatened species, regardless of whether that information differs from the recovery plan.

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 and other experts, including those from Federal and State agencies, Tribes, the academic community, or

nongovernmental organizations) may be established to develop or implement recovery plans. 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 ranges may occur primarily or solely on non-Federal lands. Recovery of these species requires cooperative conservation efforts on private, State, and Tribal lands.

If this species is listed, funding for recovery actions may 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 Florida, Georgia, and South Carolina would be eligible for Federal funds to implement management actions that promote the protection or recovery of the tickseed. Information on our grant programs that are available to aid species recovery can be found at: https://www.fws.gov/service/financial-assistance.

Although the tickseed is only proposed for listing under the Act at this time, please let us know if you are interested in participating in recovery efforts for this species. 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 destroy 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.

In contrast, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of critical habitat proposed to be designated for such species. Although the conference procedures are required only when an action is likely to result in jeopardy or adverse modification, action agencies may voluntarily confer with the Service on actions that may affect species proposed for listing or critical habitat proposed to be designated. In the event that the subject species is listed or the relevant critical habitat is designated, a conference opinion may be adopted as a biological opinion and serve as compliance with section 7(a)(2) of the Act.

Examples of discretionary actions for the tickseed that may be subject to conference and consultation procedures under section 7 are management of Federal lands administered by the Service (Ernest F. Hollings ACE Basin National Wildlife Refuge), as well as actions 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 actions funded by Federal agencies such as 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 Georgia Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**) with any specific questions on section 7 consultation and conference requirements.

Section 9 of the Act provides a specific list of prohibitions for endangered species but does not provide these same prohibitions for threatened species. Instead, pursuant to section 4(d) of the Act, for any species listed as a threatened species, the Secretary must issue protective regulations that are "necessary and advisable to provide for the conservation of such species" (these are referred to as "4(d) rules"). Additional measures for the tickseed are described below (see **Protective Regulations Under Section 4(d) of the Act**, below).

We may issue permits to carry out otherwise prohibited activities involving threatened plants under certain circumstances. Service regulations governing permits for threatened plants are codified at 50 CFR 17.72, and general Service permitting regulations are codified at 50 CFR part 13. With regard to threatened 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.

II. Protective Regulations Under Section 4(d) of the Act

Background

As discussed in **Available Conservation Measures**, section 9 of the Act provides a specific list of prohibitions for endangered species but does not provide these same prohibitions for threatened species. Instead, pursuant to section 4(d) of the Act, for any species listed as a threatened species, the Secretary must issue protective regulations that are "necessary and advisable to provide for the conservation of such species" (these are referred to as "4(d) rules"). Section 4(d) of the Act contains two sentences. The first sentence states that the Secretary shall issue such regulations as they deem necessary and advisable to provide for the conservation of species listed as threatened species. Conservation is defined in the Act to mean the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Additionally, the second sentence of section 4(d) of the Act states that the Secretary may by regulation prohibit with respect to any threatened species any act prohibited under section 9(a)(1), in the case of fish or wildlife, or section 9(a)(2), in the case of plants. With these two sentences in section 4(d), Congress delegated broad authority to the Secretary to determine what protections would be necessary and advisable to provide for the conservation of threatened species, and even broader authority to put in place any of the section 9 prohibitions for a given species.

Courts have recognized the extent of the Secretary's discretion under section 4(d) to develop regulations that are appropriate for the conservation of threatened species. For example, courts have upheld, as a valid exercise of agency authority, rules developed under section 4(d) that included limited prohibitions against takings (see *Alsea Valley*

Alliance v. *Lautenbacher*, 2007 WL 2344927 (D. Or. 2007); *Washington Environmental Council* v. *National Marine Fisheries Service*, 2002 WL 511479 (W.D. Wash. 2002)). Courts have also upheld 4(d) rules that do not address all of the threats a species faces (see *State of Louisiana* v. *Verity*, 853 F.2d 322 (5th Cir. 1988)). As noted in the legislative history when the Act was initially enacted, "once an animal is on the threatened list, the Secretary has an almost infinite number of options available to [them] with regard to the permitted activities for those species. [They] may, for example, permit taking, but not importation of such species, or [they] may choose to forbid both taking and importation but allow the transportation of such species" (H.R. Rep. No. 412, 93rd Cong., 1st Sess. 1973).

Under our section 4(d) authorities, we put in place protections intended to both prevent a threatened species from becoming an endangered species and to promote its recovery. Section 4(d) rules explain what is prohibited for a threatened species, thus making the activity unlawful without a permit or authorization under the Act for the prohibited activity unless otherwise excepted in the 4(d) rule and may also include affirmative requirements. Section 4(d) rules are therefore directly related to what actions may require permits in the future. As discussed in **Available Conservation Measures**, permits may be issued for purposes described in our threatened species permitting regulations at 50 CFR 17.72, including for recovery actions, conservation benefit agreements (previously referred to as candidate conservation agreements with assurances and safe harbor agreements), or habitat conservation plans. We may also except otherwise prohibited activities through a 4(d) rule itself, in which case threatened species permits would not be required for those activities. For example, there are two categories of exceptions that we frequently include in 4(d) rules, and these are for otherwise prohibited acts or forms or amounts of "take" that are: (1) unavoidable while conducting beneficial actions for the species, or (2) considered inconsequential (de minimis) to the

conservation of the species. For otherwise prohibited take or activities that require permits under section 10 of the Act, programmatic approaches—such as general conservation plans and template habitat conservation plans—may be available as another way for project proponents to comply with prohibitions or requirements applicable to one or more species while reducing the time that would otherwise be associated with developing individual permit applications. In addition, the Service and project proponents can reduce the need for such permits by developing standardized conservation measures that avoid the risk of "take."

The provisions of this species' proposed protective regulations under section 4(d) of the Act are one of many tools that we would use to promote the conservation of the tickseed. The proposed protective regulations would apply only if and when we make final the listing of the tickseed as a threatened species and finalize the 4(d) rule. Nothing in 4(d) rules changes in any way the recovery planning provisions of section 4(f) of the Act or the consultation requirements under section 7 of the Act. As mentioned above under **Available Conservation Measures**, 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. In addition, even before the listing of any species or the designation of its critical habitat is finalized, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action that is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of critical habitat proposed to be designated for such species. These requirements are the same for a threatened species regardless of what is included in its 4(d) rule.

Section 4(d) rules do not alter section 7 obligations, including the criteria for informal or formal consultations or the analytical process used for biological opinions or concurrence letters. Section 7 consultation is required for Federal actions that "may affect" a listed species regardless of whether take caused by the activity is prohibited or excepted by a 4(d) rule. For example, as with an endangered species, if a Federal agency determines that an action is "not likely to adversely affect" a threatened species, this will require the Service's written concurrence (50 CFR 402.13(c)). Similarly, if a Federal agency determines that an action is "likely to adversely affect" a threatened species, the action will require formal consultation with the Service and the formulation of a biological opinion (50 CFR 402.14(a)).

At the end of a formal consultation, the Service issues a biological opinion, containing its determination as to whether the Federal action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat (a "jeopardy" biological opinion) (50 CFR 402.14(h)). If the Service determines in its biological opinion the action is likely to jeopardize listed species or destroy or adversely modify critical habitat, it shall include reasonable and prudent alternatives, if any exist, it believes would avoid the likelihood of jeopardy or destruction or adverse modification (50 CFR 402.14(h)). In accordance with 50 CFR 402.14(i), when there is a "no jeopardy" biological opinion but "take" of a listed species is reasonably certain to occur, the Service is required to issue an incidental take statement that specifies those reasonable and prudent measures (RPMs) the Service considers necessary or appropriate to minimize the impact of the incidental take and terms and conditions (TCs) that must be complied with to implement those measures. These requirements exist regardless of what is included in a 4(d) rule. However, we recognize that whether or not take associated with certain activities is prohibited by a 4(d) rule may be relevant to our consideration of the extent of RPMs we may consider necessary or appropriate. In most

situations, we would not consider RPMs necessary or appropriate to minimize the impact of take that is not prohibited or that is excepted by a 4(d) rule. Regardless, the RPMs/TCs cannot alter the basic design, location, scope, duration, or timing of the action and may involve only minor changes (50 CFR 402.14(i)(2)). They should not prevent the action subject to consultation from proceeding as essentially proposed (89 FR 24268).

Because consultation obligations and processes are unaffected by 4(d) rules, we may consider developing tools to streamline future intra-Service and interagency consultations for actions that result in forms of take that are not prohibited by the 4(d) rule (but that still require consultation). These tools may include consultation guidance, online consultation processes via the Service's digital project planning tool (Information for Planning and Consultation; https://ipac.ecosphere.fws.gov/), template language for biological opinions, or programmatic consultations.

Provisions of the Proposed 4(d) Rule

Exercising the Secretary's authority under section 4(d) of the Act, we have developed a proposed rule that is designed to address the tickseed's conservation needs. Section 4(d) requires the Secretary to issue such regulations as they deem necessary and advisable to provide for the conservation of each threatened species and authorizes the Secretary to include among those protective regulations any of the prohibitions that section 9(a)(2) of the Act prescribes for endangered species (*In re: Polar Bear Endangered Species Act Listing and 4(d) Rule Litigation,* 818 F. Supp. 2d 214, 228 (D.D.C. 2011) (*citing Sweet Home Chapter of Cmtys. for a Great Or.* v. *Babbitt,* 1 F.3d 1, 8 (D.C. Cir. 1993), *rev'd on other grounds*, 515 U.S. 687 (1995))). Our necessary and advisable determination includes consideration of conservation and economic impacts (see 91 FR 45723, July 21, 2026; *Kansas Natural Resources Coalition, et al.* v. *USFWS, et al.* 780 F. Supp. 3d 650 (W.D. Tex. 2025) (hereafter "*Kansas*")). We explain below why we find that, if finalized, the prohibitions and exceptions in this proposed rule as a

whole satisfy the requirement in section 4(d) of the Act to issue regulations deemed necessary and advisable to provide for the conservation of the tickseed.

As discussed previously in **Summary of Biological Status and Threats**, we have concluded that the tickseed is likely to become in danger of extinction within the foreseeable future primarily due to urban development and SLR in combination with the ongoing effects from road and utility ROW management. The protective regulations we are proposing for tickseed incorporate prohibitions from section 9(a)(2) to address the threats to the species. We propose to include the following prohibitions of section 9(a)(2) of the Act, and implementing regulations codified at 50 CFR 17.61, which 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 acts: (1) import into, 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; or 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. These proposed protective regulations include these prohibitions for the tickseed because the tickseed is likely to become endangered within the foreseeable future and putting these prohibitions in place is intended to slow its rate of decline, and decrease synergistic, negative effects from other ongoing or future threats.

As discussed previously in **Summary of Biological Status and Threats**, we have concluded that the tickseed is likely to become in danger of extinction within the foreseeable future primarily due to urban development and SLR in combination with the ongoing effects from road and utility ROW management. Regulating activities on lands

under Federal jurisdiction (e.g., Ernest F. Hollings ACE Basin National Wildlife Refuge) and 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 through our application of 50 CFR 17.61(c)(1) would help reduce the severity of the urban development and road and utility ROW management threats on Federal and State lands. As discussed above, the tickseed is an endangered species protected under Florida statute 581.185 and the Preservation of Native Flora of Florida Act (5B–40), that confers some protections from collection without a permit or written permission and in Georgia, the tickseed is a threatened species protected under the Georgia Wildflower Preservation Act (Georgia Code 12-6-170) that affords protections on public lands from cutting, digging, pulling, or removing unless authorized by the Georgia Department of Natural Resources. As mentioned above, violation of relevant Federal laws, treaties, regulations, and State laws (e.g., Florida, Georgia) is also a violation of the Lacey Act (16 U.S.C. 3372). The proposed 4(d) rule will make any known violation of these laws when removing, cutting, digging up, or damaging or destroying the species a violation of the Act.

In addition, we propose to regulate import, export, and interstate or foreign commerce of the tickseed (50 CFR 17.61 (b), (d), and (e)). While collection and associated commerce of the species is not known to pose a threat to the species, regulating these activities will reduce the potential for this becoming a threat in the future.

The proposed 4(d) rule would also provide for the conservation of the species by allowing exceptions that are intended to incentivize conservation actions or actions that are not expected to rise to the level that would have a negative impact (i.e., would have only de minimis impacts) on the species' conservation.

Exceptions to the prohibitions include those set forth in 50 CFR 17.71(b). To further the conservation of the species, any employee or agent of the Service, any other

Federal land management agency, federally recognized Tribe, or a State conservation agency, who is designated by their agency or Tribe for such purposes, may, when acting in the course of official duties, remove and reduce to possession threatened 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 that may be useful for scientific study. Any removal and reduction to possession must be reported in writing to the Office of Law Enforcement, via contact methods listed at https://www.fws.gov, within 5 calendar days. The specimen may only be retained, disposed of, or salvaged under directions from the Office of Law Enforcement.

We recognize the special and unique relationship that we have with our State natural resource agency partners in contributing to conservation of listed species. State agencies often possess scientific data and valuable expertise on the status and distribution of endangered, threatened, and candidate species of wildlife and plants. State agencies, because of their authorities and their close working relationships with local governments and landowners, are in a unique position to assist us in implementing all aspects of the Act. In this regard, section 6 of the Act provides that we must cooperate to the maximum extent practicable with the States in carrying out programs authorized by the Act. Therefore, any qualified employee or agent of a State conservation agency that is a party to a cooperative agreement with us in accordance with section 6(c) of the Act, who is designated by their agency for such purposes, will be able to conduct activities designed to conserve the tickseed that may result in otherwise prohibited activities without additional authorization.

In addition, any employee or agent of the Service, who is designated by their agency for such purposes, may, when acting in the course of official duties, remove and reduce to possession from areas under Federal jurisdiction members of the tickseed.

Finally, we may under certain circumstances issue permits to carry out one or more otherwise-prohibited activities, including those described above. The regulations that govern permits for threatened plants state that the Director may issue a permit authorizing any activity otherwise prohibited with regard to threatened species. A permit may be issued for the following purposes: for scientific purposes, to enhance propagation or survival, for economic hardship, for botanical or horticultural exhibition, for educational purposes, or for other purposes consistent with the purposes and policy of the Act (50 CFR 17.72). As mentioned above, the permitting requirements for threatened species are less than those for endangered species. Additional statutory exemptions from the prohibitions are found in sections 9 and 10 of the Act.

The 4(d) rule provides for the conservation of the tickseed because it would regulate activities that pose a threat to the species or that may become a threat in the future. However, it also provides flexibilities in management and permitting requirements for several activities that are expected to have negligible impacts to the tickseed, as discussed above.

We considered the economic impacts of the implementation of the 4(d) rule. We determined there would likely be limited change to the regulated community as a result of this rule. We do not envision many instances for the need for a permit for prohibited activities under the 4(d) rule. Some number of individuals are anticipated to request permits for recovery actions associated with surveys or research activities that involve removing and reducing to possession tickseed from areas under Federal jurisdiction (currently only Ernest F. Hollings ACE Basin National Wildlife Refuge). However, permits are already required for collecting plants on national wildlife refuges. Where there is a Federal nexus, the 4(d) rule does not change any obligations under section 7 of the Act. Please see our July 9, 2026, “Consideration of Economic Impacts for the 4(d) Rule for the Ciliate-leaf Tickseed” on https://www.regulations.gov for our consideration

of economic impacts. After consideration of the conservation and economic impacts of the 4(d) rule, we have determined that the 4(d) rule is necessary and advisable to provide for the conservation of the species. We appreciate public comment on the conservation and economic impacts of the proposed 4(d) rule.

Required Determinations

Clarity of the Rule

We are required by E.O.s 12866 and 12988 and by the Presidential Memorandum of June 1, 1998, to write all rules in plain language. This means that each rule we publish must:

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

If you feel that we have not met these requirements, send us comments by one of the methods listed in **ADDRESSES**. To better help us revise the rule, your comments should be as specific as possible. For example, you should tell us the numbers of the sections or paragraphs that are unclearly written, which sections or sentences are too long, the sections where you feel lists or tables would be useful, etc.

Regulatory Planning and Review (Executive Orders 12866, 13563, and 14192)

E.O. 12866 provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget will review significant regulatory actions. E.O. 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the Nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. E.O. 13653 directs agencies to consider regulatory approaches

that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. We have developed this proposed rule in a manner consistent with these requirements. OIRA has determined that this rule is not significant. This rule is an E.O. 14192 regulatory action.

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; title II of Pub. L. 104–121, March 29, 1996), 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.

While we do not conduct RFA analyses on our classification determinations under the Act, in accordance with recent caselaw (*Kansas*), we comply with RFA through consideration of conservation and economic impacts when promulgating 4(d) rules. 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. Some of the actions regulated by the proposed 4(d) rule are likely to involve Federal action agencies. 4(d) rules do not alter any obligations for Federal agencies under section

7 of the Act. Federal agencies, in consultation with the Service, are required 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 requirements. Consequently, it is our position that only Federal action agencies would be directly regulated during section 7 consultations (regardless of what is prohibited in 4(d) rules). The RFA does not require evaluation of the potential impacts to entities not directly regulated. Moreover, Federal agencies are not small entities.

Please see our July 9, 2026, "Consideration of Economic Impacts for the 4(d) Rule for the Ciliate-leaf Tickseed" on https://www.regulations.gov for our consideration of economic impacts and RFA analysis. We certify that, if adopted as proposed, this proposed rule would not have a significant economic impact on a substantial number of small entities. We request information (see **Information Requested**) to ensure we fully understand the potential impacts of this proposed rule.

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 and species-specific protective regulations promulgated concurrently with a decision to list or reclassify a species as threatened. The courts have upheld this position (e.g., *Douglas County* v. *Babbitt*, 48 F.3d 1495 (9th Cir. 1995) (critical habitat); *Center for Biological Diversity* v. *U.S. Fish and Wildlife Service*, 2005 WL 2000928 (N.D. Cal. August 19,

2005) (concurrent 4(d) rule)).

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 (E.O.) 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 on a government-to-government basis. In accordance with Secretary's Order (S.O.) 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 will continue to work with relevant Tribal entities during the development of any final rules for the tickseed.

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**).

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

Accordingly, we propose to 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 "*Coreopsis integrifolia*" 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				
* * * * * * *				
Coreopsis integrifolia	Ciliate-leaf tickseed	Wherever found	T	[*Federal Register* citation when published as a final rule]; 50 CFR 17.73(l);[4d]
* * * * * * *				

3. Amend § 17.73 by adding a paragraph (l) to read as follows:

§ 17.73 Species-specific rules—flowering plants.

* * * * *

(l) Threatened flowering plants—

(1) The prohibitions and exceptions in this paragraph (l) apply to the following species:

(l) *Coreopsis integrifolia* (ciliate-leaf tickseed)

(ii) Reserved.

(2) *Prohibitions.* The following prohibitions apply to the species identified under paragraph (l)(1). Except as provided under paragraph (l)(3) of this section, it is unlawful for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or cause to be committed, any of the following acts in regard to this species:

(i) Import or export, as set forth at § 17.61(b).

(ii) Remove and reduce to possession the species from areas under Federal jurisdiction; maliciously damage or destroy the species on any such area; or remove, cut, dig up, or damage or destroy the species 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, as set forth at § 17.61(c)(1).

(iii) Interstate or foreign commerce in the course of commercial activity, as set forth at § 17.61(d).

(iv) Sale or offer for sale, as set forth at § 17.61(e).

(3) *Exceptions from prohibitions.* In regard to these species, you may:

(i) Conduct activities as authorized by permit under § 17.72.

(ii) Remove and reduce to possession from areas under Federal jurisdiction, as set forth at § 17.71(b).

Brian Nesvik,
Director,
U.S. Fish and Wildlife Service.

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