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**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

**[Docket No. FWS–R4–ES–2020–0063; FF09E22000 FXES1113090FEDR 212]**

**RIN 1018–BD83**

**Endangered and Threatened Wildlife and Plants; Reclassifying Smooth Coneflower as Threatened with Section 4(d) Rule**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Proposed rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), propose to reclassify from endangered to threatened (“downlist”) the smooth coneflower (*Echinacea laevigata*) under the Endangered Species Act of 1973, as amended (Act) due to improvements in the species’ overall status since the original listing in 1992. This proposed action is based on a thorough review of the best available scientific and commercial information, which indicates that the species’ status has improved such that it is not currently in danger of extinction throughout all or a significant portion of its range, but that it is still likely to become so in the foreseeable future. This proposed rule completes the 5-year status review for the species, initiated on March 12, 2018. If this proposal is finalized, smooth coneflower would be reclassified as a threatened species under the Act. We seek information, data, and comments from the public on this

proposal. We also propose to establish a rule under section 4(d) of the Act for the protection of smooth coneflower.

**DATES:** We will accept comments received or postmarked 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 public hearings in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT**, by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** You may submit comments on this proposed rule by one of the following methods:

(1) *Electronically:* Go to the Federal eRulemaking Portal:

<http://www.regulations.gov>. In the Search box, enter the Docket Number for this proposed rule, which is FWS–R4–ES–2020–0063. Then, click on the Search button. On the resulting page, in the Search 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 Now!”

(2) *By hard copy:* Submit by U.S. mail to: Public Comments Processing, Attn: FWS–R4–ES–2020–0063, U.S. Fish and Wildlife Service, MS: PRB/3W, 5275 Leesburg Pike, Falls Church, VA 22041-3803.

We request that you send comments only by the methods described above. We will post all comments on <http://www.regulations.gov>. This generally means that we will post any personal information you provide to us (see **Information Requested**, below, for

more information).

*Document availability:* This proposed rule and supporting documents (including the Recovery Plan) are available at <http://www.regulations.gov> under Docket No. FWS–R4–ES–2020–0063.

**FOR FURTHER INFORMATION CONTACT:** Pete Benjamin, Field Supervisor, U.S. Fish and Wildlife Service, Raleigh Ecological Services Field Office, 551-F Pylon Drive, Raleigh, NC 27606; telephone (919) 856-4520. Individuals who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at (800) 877–8339.

## **SUPPLEMENTARY INFORMATION:**

### **Executive Summary**

*Why we need to publish a rule.* Under the Act, a species may warrant reclassification from endangered to threatened if it no longer meets the definition of endangered (in danger of extinction). The smooth coneflower is listed as endangered, and we are proposing to reclassify the smooth coneflower as threatened (i.e., “downlist” the species) because we have determined it is not currently in danger of extinction. Downlisting a species as a threatened species can only be made by issuing a rulemaking.

*What this document does.* This rule proposes to reclassify the smooth coneflower from endangered to threatened on the Federal List of Endangered and Threatened Plants (List), with a rule issued under section 4(d) of the Act to ensure the continued conservation of this species. This rule also serves to complete the 5-year review for the smooth coneflower.

*The basis for our action.* Under the Act, we may determine that a species is an

endangered species or a 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. This five-factor analysis applies whether we are proposing to newly list a species as endangered or threatened, change its classification, or remove the species from listing. We may reclassify a species if the best available commercial and scientific data indicate the species no longer meets the applicable definition in the Act. We have determined that the smooth coneflower is no longer in danger of extinction and, therefore, does not meet the Act's definition of an endangered species, but the species does meet the Act's definition of a threatened species because it is still affected by current and ongoing habitat loss, degradation, and fragmentation from development. Existing management and regulatory mechanisms are not sufficient to protect the species from these threats such that it is not in danger of extinction the foreseeable future.

*We are proposing to promulgate a section 4(d) rule.* We propose to prohibit the activities identified under section 9(a)(2) of the Act for endangered species as a means to provide protections to the smooth coneflower. We also propose specific exceptions from these prohibitions for our State agency partners, so that they may continue with certain activities covered by an approved cooperative agreement to carry out conservation programs that will facilitate the conservation and recovery of the species.

### **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 effective as possible. Therefore, we request comments or information from other concerned governmental agencies, Native American tribes, the scientific community, industry, or other interested parties concerning this proposed rule.

We particularly seek comments concerning:

(1) Reasons we should or should not reclassify the smooth coneflower as a threatened species, and if we should consider delisting the species.

(2) New information on the historical and current status, range, distribution, and population size of the smooth coneflower.

(3) New information on the known and potential threats to the smooth coneflower, including fire management, regulatory mechanisms, and any new management actions that have been implemented, and whether management would continue should the species be delisted.

(4) New information regarding the life history, ecology, and habitat use of the smooth coneflower.

(5) Current or planned activities within the geographic range of the smooth coneflower that may have adverse or beneficial impacts on the species.

(6) Information on regulations that are necessary and advisable to provide for the conservation of the smooth coneflower and that the Service can consider in developing a 4(d) rule for the species.

(7) Information concerning the extent to which we should include any of the section 9 prohibitions in the 4(d) rule or whether any other forms of take should be excepted from the prohibitions in the 4(d) rule.

Please include sufficient 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, will not be considered in making a determination, as section 4(b)(1)(A) of the Act (16 U.S.C. 1531 et seq.) directs that a determination as to whether any species is an endangered or threatened species must be made “solely on the basis of the best scientific and commercial data available.”

Because we will consider all comments and information we receive during the comment period, our final determinations may differ from this proposal. Based on the new information we receive (and any comments on that new information), we may conclude that the smooth coneflower should remain listed as endangered instead of being reclassified as a threatened, or we may conclude that the species no longer warrants listing as either an endangered species or a threatened species. In addition, we may change the parameters of any prohibitions or conservation measures if we conclude it is appropriate in light of comments and new information received. For example, we may expand the incidental take prohibitions to include activities that this proposed rule would allow if we conclude that such additional activities are likely to cause direct injury or mortality to the species. Conversely, we may establish additional exceptions to the incidental take prohibitions so as to allow activities that this proposed rule would prohibit if we conclude that such activities would not cause direct injury or mortality to the species and will facilitate the conservation and recovery of the species.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in **ADDRESSES**. We request that you send comments only by the methods described in **ADDRESSES**.

If you submit information via <http://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 <http://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 <http://www.regulations.gov>.

#### *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* at least 15 days before the hearing. For the immediate future, we will provide these public hearings using webinars that will be announced on the Service's website, in addition to an announcement in the *Federal Register*. The use of these virtual public hearings is consistent with our regulations at 50 CFR 424.16(c)(3).

#### *Peer Review*

In accordance with our policy, “Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities,” which published on July 1, 1994 (59 FR 34270), and our August 22, 2016, Director’s Memorandum, “Peer Review Process” (Service 2016), which updates and clarifies the July 1, 1994 policy, we will seek the expert opinion of at least three appropriate and independent specialists regarding scientific data and interpretations contained in this proposed rule. The purpose of such review is to ensure that our decisions are based on scientifically sound data, assumptions, and analysis. We will send peer reviewers copies of this proposed rule immediately following publication in the *Federal Register*. We will ensure that the opinions of peer reviewers are objective and unbiased by following the guidelines set forth in the Director’s Memorandum. We will invite these peer reviewers to comment during the public comment period on both the proposed reclassification of smooth coneflower and the proposed 4(d) rule. We will summarize the opinions of these reviewers in the final decision documents, and we will consider the comments and information we receive from peer reviewers during the public comment period on this proposed rule, as we prepare a final rule.

### **Previous Federal Actions**

On October 8, 1992, we published in the *Federal Register* (57 FR 46340) a final rule listing smooth coneflower as an endangered species. The final rule identified the following threats to smooth coneflower: extirpation due to the absence of natural disturbance (fire and/or grazing), highway construction and improvement, gas line installation, residential and industrial development, collecting (for horticulture and pharmaceutical industries), herbicide use on highway and utility rights-of-way,



encroachment of exotic species, and suspected beetle damage. On April 18, 1995, we published the recovery plan for this plant (Service 1995, entire).

On August 2, 2011, we completed a 5-year review for the smooth coneflower (Service 2011, entire). In that review, we recommended that we should downlist the species to threatened because a substantial number of new occurrences of the species have been located since completion of the recovery plan. The 2011 review is a supplemental document to this proposed rule and is provided at <http://www.regulations.gov> under Docket No. FWS–R4–ES–2020–0063.

On March 12, 2018, we initiated another 5-year review (83 FR 10737). This proposed rule completes that review.

For additional details on previous Federal actions, see discussion under **Recovery**, below. Also see <http://www.fws.gov/endangered/species/us-species.html> for the species profile for this plant.

### **Acronyms and Abbreviations Used in This Proposed Rule**

DOD = Department of Defense

EO = element occurrence

GADNR = Georgia Department of Natural Resources

GPCA = Georgia Plant Conservation Alliance

MOU = memorandum of understanding

NCBG = North Carolina Botanical Garden

NCDACS = North Carolina Department of Agriculture and Consumer Services

NCDOT = North Carolina Department of Transportation

NCNHP = North Carolina Natural Heritage Program

NCPCP = North Carolina Plant Conservation Program

ROW = right-of-way

SCDNR = South Carolina Department of Natural Resources

SCDOT = South Carolina Department of Transportation

SCHTP = South Carolina Heritage Trust Program

TNC = The Nature Conservancy

USACE = U.S. Army Corps of Engineers

USDA = U.S. Department of Agriculture

USDOE = U.S. Department of Energy

USFS = U.S. Forest Service, U.S. Department of Agriculture

USGS = U.S. Geological Survey

VADCR = Virginia Department of Conservation and Recreation

VADNH = Virginia Division of Natural Heritage

## **I. Proposed Reclassification Determination**

### **Background**

#### *Species Information*

A thorough review of the taxonomy, life history, ecology, and overall viability of smooth coneflower is presented in the recovery plan (Service 1995, entire) and the 5-year review (Service 2011, entire). Below, we present a summary of the biological and distributional information discussed in those documents and new information published or obtained through coordination with species experts and data synthesis since then.

#### *Taxonomy and Species Description*

Smooth coneflower is a perennial herb in the aster family (Asteraceae). It was

first described as *Brauneria laevigata* by Boynton and Beadle in 1903, from material collected in South Carolina (SC) in 1888. It was transferred to the genus *Echinacea* in 1929 (Small 1933, p. 1421; McGregor 1968, p. 120). Smooth coneflower grows up to 1.5 meters (59 inches (in)) tall from a vertical root stock; stems are smooth, with few leaves. Large basal leaves, which reach 15 centimeters (cm) (5.9 in) in length and 8 cm (3.2 in) in width, have long petioles. They are elliptical to broadly lanceolate, taper to the base, and are smooth to slightly rough. The midstem leaves are smaller than the basal leaves. Flower heads are usually solitary and are composed of ray flowers and disk flowers. The ray flowers (petal-like structures on composite flower heads) are light pink to purplish, strongly drooping, and 5 to 8 cm (1.9 to 3.1 in) long. Disk flowers (tiny tubular flowers in the central portion of composite flower head) are about 5 millimeters (mm) (0.2 in) long; have tubular purple corollas; and have mostly erect, short triangular teeth (McGregor 1968, p. 129; Radford et al. 1968, p. 1110; Kral 1983, p. 1135; Gaddy 1991, p. 4; Gleason and Cronquist 1991, p. 532; Weakley 2015, p. 1114).

### *Reproductive Biology*

Flowering occurs from May through July, and fruits develop from late June to September (Gaddy 1991, p. 18). Sexual reproduction results in a gray-brown, oblong-prismatic achene (dry, one-seeded fruit), usually four-angled, and 4 to 5 mm (0.16 to 0.20 in) long (Kral 1983, p. 1135; Gaddy 1991, p. 4). Asexual reproduction in the form of short clonal rhizomes make new rosettes in both garden and wild settings (Kunz 2018, pers. comm.). Pollinators for smooth coneflower include various species of butterflies, wasps, and bees (Collins and Fore 2009, pp. 452–454). The smooth coneflower is dependent on insect pollinators for cross pollination; bees are the most effective

pollinators, while skippers and butterflies are frequent nectar foragers (Gadd 2006, p. 15).

Based on observations of the closely related Tennessee purple coneflower (*Echinacea tennesseensis*), seeds are probably dispersed by seed-eating birds or mammals such as goldfinches (*Spinus tristis*) and white-tailed deer (*Odocoileus virginianus*) (Service 1989, p. 9). Smooth coneflower seeds only appear to germinate on bare soil (Gadd 2006, p. 20). Walker (2009, p. 12) failed to recover any smooth coneflower seeds from the soil seed bank (natural storage of seeds in the soil) at three North Carolina (NC) sites; however, he was able to recover smooth coneflower seeds in both spring and fall leaf litter samples. While the recovery plan mentions that reproductive success is generally poor in this species (Service 1995, p. 5), Gadd (2006, p. 17) found that smooth coneflower plants at three NC sites are not pollinator-limited and even short visits by pollinators result in seed set. Recent augmentation/reintroduction projects have been successful in Georgia (GA), NC, and SC using nursery-grown plants (Alley 2018, pers. comm; Mackie, USFS 2018, pers. comm.; Kunz 2018, pers. comm.).

#### *Distribution and Abundance*

In this proposed rule, we follow guidance for defining EOs and populations described by NatureServe (2002, pp. 10–11; NatureServe 2004, pp. 6, 14). We define an EO as any current (or historical) location where smooth coneflower occurs (or occurred), regardless of the spatial relationship with other EOs. We define a population as either a stand-alone EO isolated by distance of unsuitable habitat (separated from other EOs by 2 kilometers (km) (1.2 miles (mi)) or more), or as a principal EO. A principal EO is two or more EOs located less than or equal to 2 km (1.2 mi) from each other, with suitable habitat in between them. For the purposes of evaluating the recovery of this species, it is

most appropriate to consider populations rather than individual EOs.

At the time of listing in 1992, this plant had 21 extant populations (57 FR 46340; October 8, 1992). When the recovery plan was written in 1995, there were 24 known populations rangewide, with an additional 3 populations in SC that were considered of cultivated origin at that time but are now believed to be natural populations, for a total of 27 populations (Service 1995, p. 2). Several new smooth coneflower occurrences have been discovered since the time of listing, including 15 in GA, 11 in NC, 28 in SC, and 10 in Virginia (VA) (GADNR 2019, unpaginated; NCNHP 2019, unpaginated; SCHTP 2019, unpaginated; VADNH 2018, unpaginated; White 2018, p. 6).

Current State Natural Heritage Program database records document 44 extant populations of smooth coneflower (Table 1).

**Table 1.** Total number of extant populations of smooth coneflower that occur in each State within the range of the species (GADNR 2019, unpaginated; NCNHP 2019, unpaginated; SCHTP 2019, unpaginated; VADNH 2018, unpaginated; White 2018, entire).

<b>State</b>	<b>Number of Extant Populations</b>
Virginia (VA)	15
North Carolina (NC)	6
South Carolina (SC)	12
Georgia (GA)	11
<b>Totals</b>	<b>44</b>

A single collection of this species from Maryland may represent a waif (a plant outside of its natural range) (Reveal and Broome 1982, p. 194). One herbarium specimen from Lancaster County, Pennsylvania (PA), is on file at the Missouri Botanical Garden. No additional collections have been made from PA. The PA Natural Heritage Program considers this species to be extirpated in the State (Kunsman 2018, pers. comm.).

### *Range and Habitat*

At the time of listing in 1992, all of the known smooth coneflower populations occurred in the piedmont or mountain physiographic provinces of GA, SC, NC, and VA. Since listing, new populations have been found in the inner coastal plain/sandhills region of SC (White 2018, p. 4) and the coastal plain of GA (Moffet 2018, pers. comm.).

Smooth coneflower is typically found in open woods, glades, cedar barrens, roadsides, clear cuts, dry limestone bluffs, and power line ROWs. The species is usually found on magnesium- and calcium-rich soils associated with amphibolite, dolomite, or limestone (in VA); gabbro (in NC and VA); diabase (in NC and SC); marble, sandy loams, chert, and amphibolites (in SC and GA); and shallow soils with minor bedrock exposures (in GA) (Service 1995, pp. 2–3; White 2018, p. 4; GADNR 2019, unpaginated). The healthiest smooth coneflower populations are managed with prescribed fire or mechanical thinning, which provides the smooth coneflower plants abundant sunlight and little competition from other plant species (Gaddy 1991, p. 1).

### *Population Structure*

Land managers and biologists have routinely monitored smooth coneflower populations since before the species was listed in 1992. Monitoring at most populations usually involves a flowering stem count, while each rosette of leaves is counted at some sites. Flowering stem counts are generally the most common survey method because they require less time and biologists generally agree that plants produce no more than one flowering stem per growing season, making this method a conservative count of how many plants actually exist at a site. Basal rosettes and plants in vegetative state (non-

flowering) can be very hard to find and count in dense herbaceous vegetation (NCPCP 2018, unpaginated; White 2018, entire).

The species displays a relatively high level of genetic diversity based on analyses across the range of populations (Peters et al. 2009, pp. 12-13). There is also significant population genetic differentiation and a majority of the genetic variance is attributed to variation within populations, suggesting that populations may be adapting to local environments (Apsit and Dixon 2001, entire). Because this genetic variation exists, all populations should be maintained to conserve genetic diversity since each population contains only a subset of the total genetic variation. Regional population differentiation may be important in the selection of material to establish new populations, which suggests that, for greatest success, reintroduction projects use local source material (Apsit and Dixon 2001, p. 76).

## **Recovery**

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. 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 List.

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.

There are many paths to accomplishing recovery of a species, and recovery may be achieved without all of the criteria in a recovery plan being fully met. For example, one or more criteria may be exceeded while other criteria may not yet be accomplished. In that instance, we may determine that the threats are minimized sufficiently, and that the species is robust enough that it no longer meets the definition of an endangered species or a threatened species. In other cases, we may discover new recovery opportunities after having finalized the recovery plan. Parties seeking to conserve the species may use these opportunities instead of methods identified in the recovery plan. Likewise, we may learn new information about the species after we finalize the recovery plan. The new information may change the extent to which existing criteria are appropriate for identifying recovery of the species. The recovery of a species is a dynamic process requiring adaptive management that may, or may not, follow all of the guidance provided in a recovery plan.

### **Recovery Criteria**

The Smooth Coneflower Recovery Plan was approved by the Service on April 18, 1995 (Service 1995, entire). It includes recovery criteria intended to indicate when threats to the species have been addressed to the point the species may no longer meet the



definition of endangered or threatened and describes actions or tasks necessary to achieve those criteria.

The recovery plan identifies five downlisting criteria for smooth coneflower (Service 1995, p. 12):

1. Twelve (12) geographically distinct, self-sustaining populations are protected across the species' range, including populations in at least two counties in VA, two counties in NC, two counties in SC, and one county in GA;
2. At least nine of these populations must be in areas within the species' native ecosystem (not in gardens or similar artificial settings) that are in permanent conservation ownership and management;
3. Managers have been designated for each protected population;
4. Management plans have been developed and implemented for each protected population; and
5. Populations have been maintained at stable or increasing levels for 5 years.

The recovery plan also identifies the following five delisting criteria for the smooth coneflower (Service 1995, p. 12):

1. Fifteen (15) geographically distinct, self-sustaining populations are protected across the species' range, including populations in at least two counties in VA, two counties in NC, two counties in SC, and one county in GA;
2. At least nine of these populations must be in areas within the species' native ecosystem (not in gardens or similar artificial settings) that are in permanent conservation ownership and management;
3. Managers have been designated for each protected population;

4. Management plans have been developed and implemented for each protected population; and

5. Populations have been maintained at stable or increasing levels for 10 years.

*Downlisting/Delisting Criteria 1 and 2 (Fifteen protected self-sustaining populations in native ecosystem)*

Not only have both of the downlisting criteria for protected self-sustaining populations been met, but both delisting criteria as well. We currently know of 44 extant populations throughout the species' range. Of those 44, 16 populations ranked with excellent to good viability are found in areas where the habitat is under protective status (like a National Forest). As of 2019, 33 smooth coneflower populations are either on Federal lands or are in conservation ownership (9 in GA, 5 in NC, 12 in SC, and 7 in VA), 16 of which are ranked A (excellent viability), AB (excellent/good viability), or B (good viability) by their respective State Natural Heritage Programs (4 in GA, 3 in NC, 5 in SC, and 4 in VA). These populations are considered protected because they occur on several National Forests managed by the USFS, as well as lands owned and managed by State agencies, TNC, USACE, USDOE, and DOD. Management plans in existence for many of these populations are detailed below.

**Table 2.** State distribution, Heritage program rank, ownership, and availability of management plan for the most resilient, protected populations.

State	Population Name	Heritage Rank*	Ownership	Management Plan?
GA	GA-A	AB	Federal	yes
GA	GA-B	B	Federal	yes
GA	GA-C	B	Federal	yes
GA	GA-D	B	Federal	yes
NC	NC-A	A	Federal, State	no
NC	NC-B	A	State	yes
NC	NC-C	B	Federal	no
SC	SC-A	AB	Federal	yes
SC	SC-B	B	Federal	yes
SC	SC-C	A	Federal, State	yes
SC	SC-D	A	Federal	yes
SC	SC-E	AB	Federal	yes
VA	VA-A	A	State	yes
VA	VA-B	A	Private	yes
VA	VA-C	AB	State	no
VA	VA-D	AB	State	yes
* Heritage Ranks: A = excellent viability; AB = excellent/good viability; B = good viability				

With regard to the requirement in Criterion 1 that populations be self-sustaining, we evaluated the resiliency of each population by looking at the ranks as assigned by the State Natural Heritage Programs. These 16 protected populations are ranked either A, B, or AB (six are ranked A, five are ranked AB, and five are ranked B (see Table 2, above)). These 16 resilient populations are scattered across the range of the species, including one county in GA (Stephens), two counties in NC (Durham and Granville), two counties in SC (Barnwell and Oconee), and three counties in VA (Franklin, Halifax, and Montgomery). These populations span mountain, piedmont, and coastal plain physiographic provinces.

**Table 3.** Smooth coneflower ranking criteria.

Heritage Rank	Viability	Number of Plants	Size and Type of Habitat	Management Regime
A	Excellent	>1,000; flowering annually	>5 acres (>2 hectares); open glade or prairie remnant	open (disturbed) from periodic fires, optimal soil conditions
B	Good	100-1,000; most flowering annually	1-5 acres; open glade or prairie remnant	mostly open by periodic fires or other disturbance
C	Fair	10-100; 50% or fewer flowering annually	any size glade or prairie remnant; or isolated roadside or utility ROW with remnant glade or prairie flora	limited
D	Poor	<10; may not flower annually	remnant glades or isolated ROWs	limited

**Table 4.** Number of protected populations with excellent to good viability (A- to B-ranked) and high to medium resiliency by State (GADNR 2019, unpaginated; NCNHP 2019, unpaginated; SCHTP 2019, unpaginated; VADNH, 2018, unpaginated; White 2018, entire).

	NatureServe Rank		
	A	AB	B
State	High Resiliency	Medium High Resiliency	Medium Resiliency
VA	2	2	0
NC	2	0	1
SC	2	2	1
GA	0	1	3
<b>Total Populations</b>	<b>6</b>	<b>5</b>	<b>5</b>

All of these populations occur in the species' natural ecosystem, which includes habitats such as open woodlands, glades, cedar barrens, and other habitat that is usually (but not always) found on magnesium- and calcium-rich soil. For many of the larger A- and B-ranked populations, the site ranks have not changed significantly over recent years.

The remaining 28 extant populations are ranked C (fair viability), D (poor viability), or E (extant, but their viability has not been assessed). A rank of X is given to

sites considered to be extirpated, where evidence indicates that the species no longer exists in that location. A rank of H is given to sites considered to be historical, where recent field information verifying the continued existence of the population is lacking. We estimated that C-, D-, and E-ranked populations have low resiliency, and sites ranked H or X were not evaluated for resiliency because plants have not been found at those sites in recent years.

*Downlisting/Delisting Criterion 3 (Managers have been designated for each protected population)*

We verified ownership and management status of each of the 16 resilient, protected populations on Federal, State, and private conservation lands, to ensure that a land manager responsible for overseeing the management of smooth coneflower has been assigned. The four resilient populations in GA are managed by the USFS (Chattahoochee-Oconee National Forest) with assistance from the Atlanta Botanical Garden and State Botanical Garden of Georgia. The three resilient populations in NC are managed by the NCDACS (Research Stations Division), NCPCP, USACE, and NCBG. In SC, most of the resilient populations occur on the Sumter National Forest, and four of the five resilient populations are managed by the Sumter National Forest, with one of those sites being co-owned and managed by SCHTP as a Heritage Trust Preserve. The other resilient population, at the Savannah River Site, is owned by the USDOE and managed by the USFS. In VA, the four resilient populations are managed by the VADNH, USFS (George Washington National Forest), and TNC.

Site managers have been identified for all 16 resilient populations identified under Criteria 1 and 2 above; therefore, we consider this criterion to have been met.

#### *Downlisting/Delisting Criterion 4 (Management Plans Implemented)*

Because smooth coneflower requires early to mid-successional habitat, all resilient populations have received and will require some form of management in perpetuity to help maintain habitat in the right balance so that populations can thrive. Management techniques include the use of prescribed fire, well-timed mowing, mechanical clearing (including the use of chain saws to cut trees), and herbicides (selectively applied to cut stumps to prevent regrowth). All of these management actions have been implemented separately or in combination to sustain suitable habitat for smooth coneflower. Of the 16 resilient populations considered in Criteria 1 and 2, 13 of them can be considered to be included in management plans. However, these plans vary in scope and level of specificity toward smooth coneflower, and most plans are outdated. Only six of the plans are specific to the management of smooth coneflower, while the others address the overall management of an entire site but include some actions that may be beneficial to smooth coneflower. Of the six plans that are specific to the management of smooth coneflower, four were developed in the mid-1990s, and two were developed in the early 2000s. In the past 20 years, we have learned a lot about how to best manage the species with fire, as well as how to manage for invasive species. Many of these management practices need to be incorporated into older management plans.

Management plans exist for three of the four highly resilient smooth coneflower populations in VA, although new information about fire intervals could improve management of several sites (e.g., VA-A, VA-B, and VA-D) (Heffernan et al. 2002, pp. 1–2; SanJule 2007, p. 5; USDA Forest Service 2014, entire). In NC, the site of the largest smooth coneflower population (NC-B) has been actively managed using

prescribed fire, mowing, and other mechanical means as recommended by species experts (Barnett-Lawrence 1994, pp. 18–20, Appendix 10; Barnett-Lawrence 1995, pp. 18–19; NCNHP 1996, unpaginated), but two of the highly resilient populations lack management plans altogether. In SC, all resilient populations occurring on the Sumter National Forest in SC (SC-A, SC-B, SC-C, and SC-D) are managed by prescribed fire and mechanical clearing. While the Sumter National Forest Revised Land and Resource Management Plan is from 2004, this plan directs the USFS to maintain or restore at least eight self-sustaining populations of smooth coneflower (USDA Forest Service 2004b, pp. 2–9; Roecker 2001, entire), a practice that is in effect today. In GA, the USFS adequately uses prescribed fire, mechanical clearing, and herbicide application to maintain open, glade-like woodland habitat for smooth coneflower and associated species at resilient populations (GA-A, GA-B, GA-C, and GA-D).

In summary, 13 of the 16 most resilient (A-, AB-, and B-ranked) smooth coneflower populations are included in management plans, but only six of them specifically address smooth coneflower management. These plans vary in level of detail, scope, and time commitment, and several need to be updated with improved fire management and invasive species management practices. We find that the implementation of regular, dedicated management for the resilient populations is the reason these smooth coneflower populations are large, healthy, and viable, and contribute toward the recovery of the species. However, the Service considers Delisting Criterion 4 for smooth coneflower to have been only partially met since not all populations have management plans, and several of the existing plans are out of date. The Service has developed a template management plan that land managers can use as a guide when

developing or updating rare species management plans, particularly those that focus on smooth coneflower management, and we will be working toward getting all plans established and updated as part of our ongoing recovery work.

*Downlisting/Delisting Criterion 5 (Stable or Increasing Populations for 5 or 10 Years)*

Land managers conduct site visits to their respective smooth coneflower populations on a regular basis to assess population size and health and to determine what management actions, if any, are needed. Monitoring generally involves a flowering stem count, which is a conservative count of how many plants exist at a site (NCPCP 2018, unpaginated; White 2018, entire).

Virginia smooth coneflower populations occur on USFS, TNC, and VADCR lands. These sites have been monitored by their respective land managers and researchers over the last 30 years. Because several of the smooth coneflower preserves in VA are large in size, a complete census has not been conducted every year, although the sites have been generally monitored during regular management activities. Resilient populations VA-A and VA-B have been actively monitored since 2014 (Collins *et al.* (2014, entire; Collins and Huish 2018, entire). VA-A has been stable since 1977; VA-B has been stable since 1992. The remaining two resilient populations have been stable since their discovery in 1992–1993.

Land managers in NC have collected monitoring data on their smooth coneflower populations for many years. The NCPCP and NCNHP have compiled monitoring records going back to 1988 (NCPCP 2018, unpaginated; NCNHP 2019, unpaginated; Barnett-Lawrence 1994, entire; Barnett-Lawrence 1995, entire; Lunsford ca 2003). The NCPCP began monitoring some of their populations as early as 1988, and then initiated a more



consistent monitoring program in 2004, or the year in which a population was discovered (whichever was later). Smooth coneflower plants at NC-B have been monitored since 1989. Sites managed by NCBG have been monitored regularly since 2004. Populations managed by USACE have been monitored intermittently since 1989, and regularly since 2004. In 2018, NCPCP summarized the monitoring data and suggested trends for all NC populations as part of their annual section 6 (of the Act) report. Of the resilient smooth coneflower populations in Durham and Granville Counties, one (NC-A) has been increasing over the 14-year monitoring period, and two (NC-B and NC-C) are stable (NC-B) over the 31-year monitoring period (NCPCP 2018, unpaginated).

South Carolina sites on the Sumter National Forest and a State-owned Heritage Preserve have been monitored since 1990 (White 2018, p. 6, table 1). White (2018, entire) recently conducted a status survey of all of the smooth coneflower sites in SC. His final report compiled all smooth coneflower monitoring data in SC, and determined that since 2006, trends indicated that five of the seven Sumter National Forest populations are increasing, and one is stable, while the status of one population is unknown due to insufficient data. Of the five populations that are increasing in size, four are considered to be resilient (SC-A, SC-B, SC-C, and SC-D). The first smooth coneflower population at the Savannah River Site was discovered in 1988, and populations there have been monitored periodically since the mid-1990s. The most recent comprehensive monitoring and inventory was conducted in 2015 and 2017 (Brewer and Prater 2015, p. 4; White 2018, entire). White (2018, p. 11) determined that since 2000, two Savannah River Site populations are stable (including resilient population SC-E), while two populations are possibly declining. To summarize the trends

for the most resilient SC smooth coneflower populations, four appear to be increasing in size, and one is considered stable, for at least the past 14 years.

All four of the most resilient smooth coneflower populations in GA occur on the Chattahoochee-Oconee National Forest in northeastern GA. Biologists with the USFS, State Botanical Garden of Georgia, Atlanta Botanical Garden, GADNR, and GPCA have visited these populations on a regular basis since the species was proposed for listing in 1991 and a Statewide status survey was conducted in 2000 (Sullivan 2000, entire). Monitoring data are intermittent, but the four resilient populations have been considered stable for the past 20 years since the Statewide status survey (Suiter 2020, pers. comm.).

Without more detailed data, it is difficult to determine specific trends, but based on our analysis of monitoring data and recent observations, we conclude that all of the 16 A-, AB-, and B- ranked (resilient) protected populations have been stable or increasing for more than 10 years; therefore, we consider this recovery criterion to have been met.

### *Summary*

The implementation of recovery actions for smooth coneflower has significantly reduced the risk of extinction for the species. As indicated above, many smooth coneflower populations are protected on public (Federal and State) and private lands, such as TNC preserves in VA. The most resilient smooth coneflower populations (i.e., those considered contributing to species' recovery) are considered stable or increasing. Current information indicates that smooth coneflower is more abundant, and its range is somewhat larger, than when the species was listed. However, management plans for all protected populations are lacking, as only six specifically focus on management for

smooth coneflower. Many of the existing management plans are out of date, from the 1990s and early 2000s, or are not being currently implemented.

### **Summary of Factors Affecting the Species**

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species is an “endangered species” or a “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 consider these same five factors in reclassifying

a species from endangered to threatened (50 CFR 424.11(c) and (d)). Even though we are not proposing to delist the species at this time, we also consider the risk to the species if it were not listed under the Act to better understand the species' future without the protections of the Act.

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 now and in the foreseeable future.

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. The term foreseeable future extends only so far into the future as we can reasonably determine that both the future threats and the species’ responses to those threats are likely. In other words, the foreseeable future is the period of time in which we can make reliable predictions. “Reliable” does not mean “certain”; it means sufficient to provide a reasonable degree of confidence in the prediction. Thus, a prediction is reliable if it is reasonable to depend on it when making decisions.

It is not always possible or necessary to define foreseeable future as a particular number of years. Analysis of the foreseeable future uses the best scientific and commercial data available and should consider the timeframes applicable to the relevant threats and to the species’ likely responses to those threats in view of its life-history characteristics. Data that are typically relevant to assessing the species’ biological response include species-specific factors such as lifespan, reproductive rates or productivity, certain behaviors, and other demographic factors.

When we listed smooth coneflower as an endangered species (57 FR 46340; October 8, 1992), the identified threats (factors) were the absence of natural disturbance (fire and/or grazing), highway construction and improvement, gas line installation, and residential and industrial development (Factor A); collecting (Factor B); beetle damage (Factor C); inadequacy of existing State regulatory mechanisms (Factor D); and low genetic variability, herbicide use, and possible encroachment of exotic species (Factor E).

The following analysis evaluates these previously identified threats, any other threats currently facing the species, and any other threats that are reasonably likely to affect the species in the foreseeable future.

*Habitat Degradation or Loss due to Development and Absence of Natural Disturbance*

Smooth coneflower plants require open, sunny conditions to survive. Without regular disturbance such as fire, woody shrubs and trees create a dense canopy that prevents sunlight from reaching the forest floor where this herbaceous species occurs. Smooth coneflower is intolerant of dense shade and tends to die out after a few years of shady conditions.

Smooth coneflower occurrences on private land are vulnerable to habitat loss due to degradation, which results from fire suppression or the absence of other disturbances that maintain the habitat in an open state. For example, in Rockingham County, NC, a small smooth coneflower population occurred on private land in an open woodland between a highway and a railroad track. The lack of management or fire resulted in the site becoming overgrown, and no plants have been observed there in recent years. To encourage smooth coneflower growth, the site needs fire or mechanical disturbance in order to remove woody vegetation and open the forest floor to sunlight (NCNHP 2019, unpaginated).

Development projects, such as residential and commercial construction and highway and utility construction and maintenance, pose a threat to smooth coneflower populations by clearing areas where the species occurs, thereby destroying populations. Further, development in close proximity to smooth coneflower populations may preclude the ability to use fire as a management tool at nearby protected populations because of

the threat of fires escaping the management area and objections to smoke blowing into developed areas. For example, a smooth coneflower population on a small parcel of USFS land in Habersham County, GA, has declined over recent years due the difficulty in managing fire on a parcel surrounded by private property. The lack of management has resulted in the growth of woody plants that have shaded the smooth coneflower plants and resulted in this population's decline (Radcliffe 2019, pers. comm.). As residential and commercial development continue to occur in the suburbs of Durham, NC, it will become harder to manage some of the adjacent smooth coneflower sites with fire (Starke 2019, pers. comm.).

While we are not aware of any smooth coneflower populations that have been destroyed due to residential or commercial development since the species was listed, this threat remains a concern. Recently, a new subpopulation of smooth coneflower was discovered on a property in Durham County, NC, that is slated for development. If a rare plant survey had not been conducted and these plants discovered, they would have been destroyed by the development of the site (Starke 2019, pers. comm.). There are likely additional undiscovered populations of smooth coneflower that are subject to destruction.

Development pressure based on urbanization predictions from the SLEUTH urban growth model indicate that all of the NC counties, more than half of the SC counties, and both of the northeastern GA counties of occurrence for smooth coneflower will exhibit high (greater than 90 percent) growth trends over the next 20 to 30 years as part of the southern megalopolis (Terando et al. 2014, p. 3; Databasin 2014, entire). Smooth coneflower populations that occur on private lands in these counties will continue to face threats from development and land conversion in the foreseeable future. Most of the VA

counties of occurrence are outside the boundaries of the southern megalopolis and the VA urban crescent in the eastern part of the State (Databasin 2014, entire).

Smooth coneflower occurs on roadsides and utility ROWs throughout the range of the species. These populations are vulnerable to management practices that could negatively impact or destroy them. Herbicides, which are typically harmful to all plants, are often used to manage vegetation along road shoulders and in utility ROWs. Herbicide damage can be temporary or permanent depending on the herbicide used and the rate of application. Although dormant season (winter) mowing is generally not problematic for disturbance-dependent species, as it helps reduce competition and maintain sites in an open condition, any mowing that occurs during the growing season but before plants produce mature seeds is considered harmful because it arrests seed development and reproductive potential for that year. Smooth coneflower plants growing on a utility ROW in Granville County, NC, were accidentally sprayed with herbicides, killing many plants in this population (NCNHP 2019, unpaginated). Herbicide damage to smooth coneflowers has also occurred at the Savannah River Site in GA, but the population was able to recover (White 2018, Appendix 3, entire). Roadside and utility ROW occurrences are difficult to manage in an early successional state without harming the smooth coneflower plants. For example, woody species encroachment has caused the decline of some smooth coneflower sites that occur in ROWs in Durham County, NC. In some cases, it is possible to manage lands adjacent to ROW populations by, for example, removing woody species to create suitable habitat for the species, encouraging the plant to gradually occupy habitat away from the ROW; however, adjacent, protected land does not always exist (Stark 2019, pers. comm.). In the status survey of smooth coneflower



populations in SC, White (2019, Appendix 3, entire) indicates that many populations still face competition by woody species, the presence of invasive species, and road ROW maintenance.

The protection of some smooth coneflower populations has been accomplished through active management and reducing the impacts of development. These efforts are critical to the long-term survival of this species. Recognizing the importance of long-term management of smooth coneflower populations, management plans that incorporate the use of prescribed fire and/or mechanized vegetation control have been prepared for several populations. The Service is working with many landowners that have smooth coneflower populations to complete or update management plans for their populations, as most management plans were first developed in the 1990s and early 2000s and need to incorporate new fire management and invasive species management practices. In 2018, we provided land managers with a management plan outline to facilitate the completion of thorough management plans. Due to greater awareness of the important role of fire in natural systems, prescribed fire and mechanical thinning are now regularly used as management tools on National Forests, military bases, nature preserves, and other protected lands where smooth coneflower occurs. Land managers such as the USFS, DOD, USACE, and Savannah River Site, among others, use prescribed fire on a 2- to 4-year interval as a management tool to control woody vegetation that might otherwise shade this disturbance-dependent species. For sites that are not managed intentionally for smooth coneflower, management practices will likely continue even if the species is not listed under the Act, primarily because the active management benefits the overall habitat and meets the management objectives of the landowner. In general, the management

benefits the smooth coneflower, and without it, the habitat conditions for the smooth coneflower would likely degrade and we would need to reassess the status of the species under the Act. For the most part, management plans for many of the protected populations of smooth coneflower have been in place for several years, but we do not know if management actions would change for these populations if the species were not listed.

While development pressure on smooth coneflower populations on private lands remains, the threat of development for the most resilient populations is reduced, as they occur only on protected lands. As discussed earlier, many smooth coneflower populations occur on Federal lands, such as those owned or managed by the USFS (George Washington and Jefferson National Forests in VA, Sumter National Forest in SC, and Chattahoochee-Oconee National Forest in GA), USACE (Falls Lake), DOD (Fort Stewart and Fort Jackson Army Bases), and USDOE (Savannah River Site). These populations are protected on Federal lands from the threats of ecological succession or destruction due to development, primarily because Federal partners are vested in the protection of the species under their management plans. Some smooth coneflower sites occur on active military bases with limited public access, such as Fort Jackson and Fort Stewart Army Bases, providing further protection of these populations. Likewise, the Savannah River Site, a former nuclear weapons facility, is closed to the public, and no development or construction is allowed in the areas where smooth coneflower occurs. This USDOE site, designated as a National Environmental Research Park, is managed by the USFS. Several other populations are permanently protected on non-Federal lands by

the VADNH, NCDACS, NCPCP, TNC, and Mecklenburg County (NC) Parks and Recreation Department.

In response to impacts to populations of smooth coneflower in roadside and utility ROWs, State departments of transportation and utility companies, such as Duke Energy and Georgia Power, now have management agreements or MOUs with State Natural Heritage Programs, the USFS, and other landowners to protect and manage smooth coneflower populations on their ROWs in a way that is protective of the species.

While significant progress has been made to address the protection and management of many smooth coneflower populations, development pressure and management challenges associated with adjacent development continue to pose a threat to unprotected smooth coneflower populations. Populations that occur on private lands face threats from development and land conversion. Additionally, protected populations adjacent to private land can be difficult to manage with prescribed fire due to concerns of neighbors. Without proper management, woody vegetation could grow up and shade a smooth coneflower population to the point of causing decline or eradication in less than 10 years. Long-term management is still of concern to the Service, as several populations are not specifically considered in management plans nor have commitments to be managed into the future. Maintenance activities pose a threat to smooth coneflower populations that occur on roadside and utility ROWs. Despite agreements with State and Federal agencies to conduct ROW maintenance in a way that is protective of rare plants, accidents happen frequently. These sites are mowed or sprayed with herbicide on an irregular basis with varying levels of impacts.

*Collection*

When we listed smooth coneflower as an endangered species (57 FR 46340; October 8, 1992), there was concern that populations might be decimated by collectors interested in exploiting this species for the horticulture and pharmaceutical trades. We expected that publicity might generate increased demand for this species in the nursery trade. However, the final listing rule also mentioned that smooth coneflower, “although offered for sale by a few native plant nurseries, is not currently a significant component of the commercial trade in native plants” (57 FR 46340, October 8, 1992, p. 46341). Currently, we are not aware of any plant nurseries that offer this species for sale, likely a result of the prohibitions on collecting endangered plants such as the smooth coneflower. The only incidents of poaching known to the Service occurred at one site in GA. Flowers were broken off smooth coneflower plants at one of the roadside sites on Currahee Mountain, GA (Alley 2018, pers. comm.). While there is potential that specialty nurseries would be interested in selling this species in the future, the Service concludes that the demand for wild-collected plants is low, as other species in the genus *Echinacea* can be readily propagated using common horticultural techniques.

The concern in the final rule (57 FR 46340; October 8, 1992) that this species would be collected for the pharmaceutical trade was based on observations of over-collection of other species of *Echinacea* in the midwestern United States for use in medicinal products. However, the rule also stated that “devastation” of smooth coneflower populations “for the commercial pharmaceutical trade has not yet been documented” (57 FR 46340, October 8, 1992, p. 46342). Despite the concerns, in the 27 years that smooth coneflower has been listed, the Service has not been aware of any incidents of poaching this species for use in medicinal products. Since plants in the

genus *Echinacea* are still used for medicinal purposes, the threat of this activity remains, but the probability is low due to relatively small population sizes compared to other species in the genus *Echinacea* that grow in midwestern States. Moreover, land managers have not reported poaching as a significant threat to their smooth coneflower populations because other species of *Echinacea* are so much more numerous.

Various types of academic research have been conducted on smooth coneflower since the species was listed in 1992. These studies involved the collection of leaves, stems, flowers, and seeds for laboratory experiments or the collection of voucher specimens for herbaria. The NCBG, State Botanical Garden of Georgia, and Atlanta Botanical Garden have collected smooth coneflower seeds over the years to be used in restoration projects in their respective States. These botanical gardens follow the Center for Plant Conservation guidelines for seed collection and minimize impacts to populations, a protocol that is followed for all species, regardless of whether the species is federally listed or not (Kunz 2018, pers. comm.). We evaluated these projects before they were initiated and determined that the level of collection was unlikely to pose any potential threat of overutilization for the species. We do not find that any of these research or seed banking projects have had long-term negative effects on smooth coneflower. If the species were not listed, we do not anticipate a significant increase in collection pressure, given current lack of poaching and low interest in the species.

We conclude that collection is no longer a threat to the continued existence of smooth coneflower.

*Damage due to Herbivory by Beetles and Deer*

When we listed smooth coneflower as an endangered species (57 FR 46340; October 8, 1992), leaf beetles in the family Chrysomelidae had been observed on smooth coneflower in NC, but their effects were unknown. As mentioned in the 2011 5-year review, a nonnative longhorn beetle (*Hemierana marginata*; family Cerambycidae) was identified at some smooth coneflower populations in NC. This beetle chews into the flowering stem and causes flowers to die before producing viable seeds. While this longhorn beetle has been reported from a few smooth coneflower populations in two NC counties, healthy smooth coneflower populations remain at these sites. Therefore, we conclude that the nonnative longhorn beetle is not a threat at this time.

White-tailed deer (*Odocoileus virginianus*) have been documented browsing on the flower heads of smooth coneflower, but deer herbivory on the leaves has not been observed (Starke 2019, pers. comm.). No other herbivory has been observed. Based on the best available information at this time, we conclude that neither deer browsing nor any other herbivory is causing population-level effects to the smooth coneflower.

#### *State Regulatory Protections*

Smooth coneflower is listed as “State Endangered” by the GADNR. The relevant State law (Rules and Regulations of the State of Georgia, Subject 391-4-10, Protection of Endangered, Threatened, Rare, or Unusual Species) prohibits, among other things, the transfer of a State-listed plant from one property to another without the written permission of the landowner where the species was found. Violations of this law constitute a misdemeanor. In addition, the GA Environmental Policy Act requires the assessment of major proposed agency impacts on biological resources (2019 GA Code 12-16-1 et seq.). Georgia’s Wildflower Preservation Act of 1973 protects rare plants

(2019 GA Code 12-6-170 et seq.). However, the GA Wildflower Preservation Act does not protect plants on private property. Nearly all known smooth coneflower populations in GA occur on Federal lands such as the Chattahoochee-Oconee National Forest and DOD (Department of the Army) installations such as Fort Stewart (Moffett 2019, pers. comm.). As discussed above (see *Habitat Degradation or Loss due to Development and Absence of Natural Disturbance*), Federal lands provide some protection to smooth coneflower populations by limiting public access and reducing the threat of development, as well as ensuring agency-specific management plans.

Smooth coneflower is listed as “endangered” in NC by the NCPCP and protected by the Plant Protection and Conservation Act of 1979 (NC General Statutes, Article 19B, section 106-202.12 et seq.). This law prevents the removal of State-listed plants from the land without written permission of the landowner. However, it does not regulate destruction or mandate protection. It authorizes the NCPCP to establish nature preserves for protected species and their habitats. To that end, the NCPCP owns and manages several tracts of land as preserves for the protection of smooth coneflower and other associated rare plants.

The Virginia Endangered Plant and Insect Species Act (section 3.2-1000 et seq. of the Code of Virginia), as amended, provides for the official listing and recovery of endangered and threatened plant and insect species in VA. The VADNH lists smooth coneflower as “threatened” in the State (Title 2 of the VA Administrative Code at section 5-320-10 (2VAC5-320-10); Townsend 2018, p. 16). Virginia law prohibits the removal and sale or gifting of State-listed plant species from land other than a person’s own land.

The VADCR owns three natural area preserves that protect populations of smooth coneflower.

The Virginia Endangered Plant and Insect Species Act has not played a major role in safeguarding smooth coneflower populations (Townsend 2019, pers. comm.).

Smooth coneflower is on the SCDNR's list of rare, threatened, and endangered species of SC (SCHTP 2018, unpaginated); however, neither the law that authorizes the creation of this list, nor any other State law, provides general protection to listed plants in SC.

Populations of smooth coneflower are more abundant and widely distributed than when it was listed as an endangered species in 1992. It is also listed as endangered or threatened by three of the four States where it occurs (GA, NC, and VA). However, protection of this and other State-listed species on private land is challenging. State prohibitions against taking are difficult to enforce and do not cover adverse alterations of habitats such as exclusion of fire. As previously mentioned in this proposed rule, the majority of the highest ranked populations (Ranks A, AB, and B) occur on protected Federal lands and other conservation properties.

### *Genetics*

The final rule listing smooth coneflower as an endangered species (57 FR 46340; October 8, 1992) stated that, at that time, the remaining smooth coneflower populations contained few individual plants and there may have been low genetic variability within populations, making each remaining population important. However, as discussed above under *Population Structure*, we now know that smooth coneflower displays a relatively high level of diversity (Peters et al. 2009, entire). Thus, populations may be able to



respond to selection pressures due to continued genetic exchange sustained by the outcrossing mating system of the species.

#### *Encroachment from Invasive Species*

Encroachment by nonnative, invasive plants poses a threat to some smooth coneflower populations, especially those occurrences located on highway ROWs or in utility line easements (such as power lines). These disturbed habitats often include nonnative species, some of which can become invasive. Invasive species change the floristic composition of these areas, compete for nutrients, limit germination of seeds (by changing or eliminating that niche/microenvironment), and may shade out smooth coneflower plants (Kunz 2020, pers. comm.). Another impact is the use of herbicides on invasive species that has the secondary effect of killing smooth coneflower. Smooth coneflower populations face threats by nonnative, invasive plants such as Japanese honeysuckle (*Lonicera japonica*), Sericea lespedeza (*Lespedeza cuneata*), shrubby lespedeza (*Lespedeza bicolor*), Japanese stiltgrass (*Microstegium vimineum*), and autumn olive (*Elaeagnus umbellata*) (White 2019, entire).

#### *Climate Change*

Based on observations of climatic conditions over a period of approximately 20 years, there is some biological and historical evidence to suggest that smooth coneflower is adapted to persist with the potential effects of climate change, including more frequent droughts and increased average maximum temperatures. Smooth coneflower is typically found in open, sunny areas with little to no shade and high sun exposure. These sites often occur in fairly xeric conditions such as open woods, glades, barrens, roadsides, clear cuts, dry limestone bluffs, and road and power line ROWs. Even though smooth

coneflower populations in NC experienced severe droughts in 2007 and 2010, dry conditions did not negatively influence flower production (NCPCP 2018, entire). All natural populations in NC have survived through drought years and recovered. Despite some drought years, smooth coneflower populations in SC have generally experienced positive trends over the last 20 years, indicating that the species is not negatively affected by droughts (White 2018, entire). Smooth coneflower plants have sustained populations for years on dry clay road cuts (White 2019, pers. comm.). Adaptations to survive in sunny areas likely benefit this species during drought conditions. Further, the perennial growth habitat and underground rhizomes likely allow smooth coneflower to be more resilient to drought conditions.

To generate future climate projections across the range of smooth coneflower, we used the National Climate Change Viewer (NCCV), a tool developed by the U.S. Geological Survey (USGS) that allows the user to view climate projections at the State, county, and watershed level (Alder and Hostetler 2017, entire;). The model simulates the response of the water balance to changes in temperature and precipitation in the climate models (30 separate models developed by the National Aeronautics and Space Administration). The NCCV also provides access to comprehensive summary reports for States, counties, and watersheds.

Using the NCCV and using Representative Concentration Pathways (RCP) greenhouse gas emission scenarios (RCP 4.5 and 8.5) as possible outcomes, we calculated projected annual mean changes for maximum air temperature and precipitation for the period 2050–2074 in VA, NC, SC, and GA. Based on these results, all four States within the range of smooth coneflower will be subjected to higher maximum air

temperatures (annual mean increase of 1.9–2.2 degrees Celsius (°C) (3.4–4.0 degrees Fahrenheit (°F)) for RCP 4.5; 2.7–3.2 °C (4.9–5.8 °F) for RCP 8.5) and slightly higher precipitation (annual mean increase of 0.57–0.74 centimeters (cm)/month (mo) (0.22–0.3 inches (in)/mo) for RCP 4.5; 0.51–0.76 cm/mo (0.2–0.3 in/mo) for RCP 8.5) relative to 1981–2010 (Alder and Hostetler 2017, entire). In general, across the species’ range for both RCP 4.5 and 8.5, runoff is expected to remain at a similar levels or decrease slightly; soil water storage is expected to decrease slightly, and evaporative deficit will increase slightly (Alder and Hostetler 2017, entire). Because the average annual increase in precipitation is predicted to be only slightly higher, the increased evaporative deficit and the loss in runoff and soil storage is primarily a result of higher maximum and minimum air temperatures. Despite the slight increase in predicted precipitation, the coincident warming means that habitats are unlikely to maintain their current levels of moisture and will become slightly drier.

To evaluate the vulnerability of smooth coneflower to the effects of climate change, we also used NatureServe’s Climate Change Vulnerability Index (CCVI) (Young et al. 2015, entire), a climate change model that uses downscaled climate predictions from tools such as Climate Wizard (Girvetz et al. 2009, entire) and combines these with readily available information about a species’ natural history, distribution, and landscape circumstances to predict whether it will likely suffer a range contraction and/or population reductions due to the effects of climate change. The tool gauges 20 scientifically documented factors and indicators of these components, as well as documented responses to climate change where they exist. The CCVI generated a vulnerability rating of “moderately vulnerable” for smooth coneflower, suggesting that

the species' abundance and/or range extent is likely to decrease by 2050. Factors influencing the species' moderate vulnerability include its restricted dispersal ability, anthropogenic barriers, predicted land use changes, dependence on a specific disturbance regime (often fire), and restriction to uncommon geological features.

Although the model suggested that smooth coneflower is sensitive to climate change and could be adversely affected in future years, there are a number of weaknesses associated with the CCVI (Anacker and Leidholm 2012, pp. 16–17). The specific weaknesses identified are: (1) The CCVI is weighted too heavily towards direct exposure to climate change (projected changes to future temperature and precipitation conditions that have high levels of uncertainties); (2) some important plant attributes are missing (mating system and pollinator specificity); (3) it is very difficult to complete scoring for a given species because some information is simply lacking; and (4) some scoring guidelines are too simplistic (Anacker and Leidholm 2012, pp. 16–17).

Anacker and Leidholm (2012, pp. 12–16) considered topographic complexity to be a potential complementary factor in assessing vulnerability to climate change. Within smooth coneflower's range, the Appalachian and Allegheny mountains have been predicted to have slightly higher temperature changes as a result of climate change than the piedmont and coastal plain counties, so smooth coneflower populations in the mountains on the north end of the range may be more vulnerable when compared to those that occur, for example, in the coastal plain.

In summary, while smooth coneflower is considered moderately vulnerable to range contraction from future climate change, the predicted temperature and precipitation changes for both moderate (RCP 4.5) and extreme (RCP 8.5) scenarios indicate only

slightly hotter and drier conditions by 2074. Therefore, climate change is not likely a major factor affecting the species' resiliency into the foreseeable future.

### *Stochastic Events*

Stochastic events (environmental and genetic stochasticity) could affect populations of smooth coneflower. Environmental stochasticity refers to variation in recruitment and mortality rates in response to weather, disease, competition, predation, or other factors external to the population. While drought (below average rainfall over a time period greater than the historical range of variability) and the timing and amount of rainfall are likely important factors in seed germination and establishment of smooth coneflower, we do not have any evidence of how these factors directly affect this species. Smooth coneflower soil seed banks are low to nonexistent, which could exacerbate the potential effects of stochastic events because the species does not have the seed bank to rely on for future recruitment (Walker 2009, p. 12); however, we have not yet observed that the low seedbank has affected resilient populations. With regard to genetic stochasticity, smooth coneflower populations have significant levels of population diversity and exhibit substantial population genetic differentiation (Peters et al. 2009, p. 12) (see *Genetics*, above). We cannot conclude that either environmental or genetic stochasticity poses a threat to the smooth coneflower.

### *Cumulative Effects*

The cumulative effects of encroaching development adjacent to protected sites could affect the smooth coneflower, and the management challenges that accompany that threat will continue to affect the species into the future. Increasing development adjacent to protected sites will likely lead to decreases in managing with prescribed burning in the

future, which may or may not be replaced with adequate and appropriate habitat management by other means that are more expensive than managing with fire. The type of development also factors into management ability and flexibility, with major roads and places with vulnerable populations weighing more heavily on the decision of if/when to burn than other types of development.

### **Determination of Smooth Coneflower's Status**

As discussed above in **Summary of Factors Affecting the Species**, section 4 of the Act (16 U.S.C. 1533) defines “endangered species” as a species that is in danger of extinction throughout all or a significant portion of its range, and “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 a species meets the definition of endangered species or threatened species because of any of the following factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

#### *Foreseeable Future*

As also described above, the term “foreseeable future” extends only so far into the future as the Service can reasonably determine that both the future threats and the species’ responses to those threats are likely. Data that are typically relevant to assessing the species’ biological response include species-specific factors such as lifespan, reproductive rates or productivity, certain behaviors, and other demographic factors.

We considered a foreseeable future of 20–30 years as the period of time over which we are able to reliably predict the magnitude of threats, including a changing climate, and the effects on smooth coneflower. Threats that are reasonably likely to affect the species in the foreseeable future include habitat loss due to development pressure on private lands and habitat succession due to lack of adequate management, including fire suppression near or on private lands and accidental mowing and herbicide application from roadside maintenance activities. Thus, all populations of smooth coneflower that are not actively managed or formally protected remain at risk of extirpation in the future. A 20–30 year timeframe is the expected period over which implementation of management practices (such as prescribed fire) by conservation partners and tracking of the species’ response to managed habitat improvement is reliable. For formally protected populations, we expect management of the threat of fire suppression to continue as part of ongoing management well into the future. However, uncertainty regarding effects of a changing climate increases after 20-30 years, making reliable predictions after this time period difficult. Therefore, we used the 20-30 year timeframe in developing our projections of future conditions for smooth coneflower.

*Status Throughout all of Its Range*

After evaluating threats to the species and assessing the cumulative effect of the threats under the section 4(a)(1) factors, we find that smooth coneflower continues to face threats from habitat succession (resulting from lack of fire or other management), particularly in areas where development is increasing near existing populations, thus making fire management difficult. In addition, development pressure, especially for

unprotected populations on private lands, remains a concern. We are concerned about long-term management because several populations do not have management plans or the management plans no longer reflect the best available science. Even populations occurring on protected land adjacent to private lands are becoming increasingly more difficult to manage due to neighbors' concerns about nearby fires and smoke pollution. Even with agreements in place to protect them, roadside and utility ROW populations still face threats from maintenance activities, especially herbicide spraying and mowing. The decline or disappearance of some smooth coneflower populations across the range of the species has been documented in Natural Heritage Program records and is attributed to habitat loss. Habitat loss (Factor A) is considered to be a moderate threat currently and is expected to continue in the foreseeable future.

At the time of listing in 1992, there was concern that smooth coneflower plants would be collected for the horticulture or pharmaceutical trade (Factor B). However, we do not find that collecting is currently a threat to this species or is expected to be in the foreseeable future.

Disease and predation (Factor C) were not identified as a significant threat to smooth coneflower when the species was listed in 1992. Natural herbivory by insects and mammals may occur, but it is considered a low-magnitude threat because the species has sustained populations and there is no indication that the magnitude of an undetermined natural predation pressure significantly affects smooth coneflower survival. We find that disease and predation are not currently threats to this species, and we do not expect them to be threats in the foreseeable future.



The existing regulatory mechanisms (Factor D) are not adequate to protect the smooth coneflower from development and habitat succession. Populations of smooth coneflower on USFS, DOD, and USDOE lands receive some protection by management protocols applicable to those lands. Some populations in NC, SC, and VA occur on State-owned lands managed by their respective Natural Heritage Programs or the NCDACS as “dedicated nature preserves.” However, while NC, GA, and VA have plant protection laws, they only regulate the collection and trade of listed species and do not prohibit the destruction of populations on private lands or otherwise mandate protection. There is no State law protecting rare plants in SC.

Other natural and manmade factors affecting the continued existence (Factor E) of smooth coneflower identified at the time of listing (1992) include low genetic variability within populations, encroachment by exotic species, herbicide use, and the importance of periodic disturbance (addressed above under Factor A). Of these threats, encroachment by exotic (invasive) species, and use of herbicides to manage those exotic species, continue to be a threat to smooth coneflower populations. Since listing, climate change is another factor that has been identified. However, genetic studies, described in detail above under *Population Structure*, indicate that smooth coneflower displays a relatively high level of diversity and that populations may be able to respond to selection pressures and maintain viability due to continued genetic exchange sustained by the outcrossing mating system of the species. Based on the redundancy and representation of the species, we conclude that potential impacts associated with stochastic events are not a threat to smooth coneflower. Despite our uncertainty about the species’ vulnerability to climate

change, we do not consider climate change to be a threat to smooth coneflower based on the current resiliency of the species and its demonstrated tolerance to periods of drought.

Further, since the species' 1992 listing under the Act, smooth coneflower representation has increased with the discovery of new occurrences throughout the range of the species, especially with the new sites in the coastal plain of GA and SC. Our understanding of the species' redundancy has improved as a result of increased survey efforts; the species is now known from 44 populations (up from 21 populations at the time of listing), 16 of which currently have high to medium resiliency. The number of resilient smooth coneflower populations has improved the species' redundancy. The species' representation is good, given the distribution of resilient populations over a four-State area. We believe that this improvement in the species' viability demonstrates that it is not currently in danger of extinction despite the persistence of the above-described threats.

In conclusion, based on our assessment of the best available scientific and commercial information, we find that while smooth coneflower populations continue to face threats from habitat loss and invasive species, and existing regulatory mechanisms are currently inadequate to protect some smooth coneflower populations from development and habitat succession; however, there are currently 16 protected, resilient smooth coneflower populations. Therefore, the species no longer meets the Act's definition of an endangered species, meaning it is not currently in danger of extinction throughout its range.

We, therefore, proceed with determining whether smooth coneflower meets the Act's definition of a threatened species. The ongoing threats of habitat loss,

fragmentation, habitat succession, and encroachment of nonnative and invasive species are of sufficient imminence, scope, or magnitude to affect the resiliency of smooth coneflower populations for the foreseeable future. The species relies on management such as prescribed fire and mechanical clearing to maintain its habitat. However, management plans for most of the areas in which the species is protected are outdated, and it is uncertain how those plans are even being implemented. Threatened development near protected sites could impede management of those sites with fire. Adequate management commitments would need to be secured for more populations before the species could be delisted. Thus, after assessing the best available information, we conclude that although smooth coneflower is not currently in danger of extinction, it is likely to become in danger of extinction within the foreseeable throughout all of its range.

*Status Throughout a Significant Portion of Its Range*

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range. The court in *Center for Biological Diversity v. Everson*, 2020 WL 437289 (D.D.C. Jan. 28, 2020) (*Center for Biological Diversity*), vacated the aspect of our 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” (79 FR 37578; July 1, 2014) that provided that the Service and the National Marine Fisheries Service do not undertake an analysis of significant portions of a species’ range if the species warrants listing as threatened throughout all of its range. Therefore, we proceed to evaluating whether the species is endangered in a significant

portion of its range—that is, 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 in that portion.

Depending on the rule, it might be more efficient for us to address the “significance” question or the “status” question first. Regardless of which question we address first, if we reach a negative answer with respect to the first question, we do not need to evaluate the other question for that portion of the species’ range.

In undertaking this analysis for the smooth coneflower, we choose to address the status question first—we consider information pertaining to the geographic distribution of both the species and the threats that the species faces to identify any portions of the range where the species is endangered.

For smooth coneflower, we considered whether the threats are geographically concentrated in any portion of the species’ range at a biologically meaningful scale. We examined the following threats: habitat succession, habitat loss, and invasive species, as well as the cumulative effects of these threats. Smooth coneflower populations on private lands face the threat of development. The decline or disappearance of some smooth coneflower populations across the range of the species has been documented in Natural Heritage Program records and is attributed to habitat loss. Further, encroachment by invasive species, which is most prevalent in disturbed areas, such as highway ROWs or utility corridors, occurs throughout the smooth coneflower’s range. We found no concentration of threats in any portion of the smooth coneflower’s range at a biologically meaningful scale. Thus, there are no portions of the species’ range where the species has a different status from its rangewide status. Therefore, it is unnecessary for us to

determine whether any portion of the species' range is significant. This is consistent with the courts' holdings in *Desert Survivors v. Department of the Interior*, No. 16-cv-01165-JCS, 2018 WL 4053447 (N.D. Cal. Aug. 24, 2018), and *Center for Biological Diversity v. Jewell*, 248 F. Supp. 3d , 946, 959 (D. Ariz. 2017).

#### *Determination of Status*

Our review of the best available scientific and commercial information indicates that the smooth coneflower meets the Act's definition of a threatened species. Therefore, we propose to reclassify the smooth coneflower from an endangered species to 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 under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. The Act encourages cooperation with the States and requires that recovery actions be implemented for all listed species. The protections required by Federal agencies 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. Subsection 4(f) of the Act requires the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The recovery planning process involves the identification of actions that are necessary to halt or reverse the species' decline by addressing the threats to its survival and recovery.

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

Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery plan identifies site-specific management actions that set a trigger for review of the five factors that control whether a species may be downlisted or delisted, and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. All planning documents can be found on our website (<http://www.fws.gov/endangered>) or from our Raleigh 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, propagation and reintroduction, and outreach and education. The recovery of many listed species cannot be accomplished solely on Federal lands because their range may occur primarily or solely on non-Federal lands (like TNC preserves and county owned nature preserves). To achieve recovery of these species requires cooperative conservation efforts on private, State, and Tribal lands where appropriate. Funding for recovery actions could become available from a variety of sources, including Federal budgets, State programs, and cost share grants from non-Federal landowners, the academic community, and nongovernmental organizations. We invite you to submit any new information on this

species whenever it becomes available (see **FOR FURTHER INFORMATION CONTACT**).

Section 7(a) requires Federal agencies to evaluate their actions with respect to any species that is listed as an endangered or threatened species. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402.

Section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species. If a Federal action may affect a listed species, the responsible Federal agency must enter into consultation with the Service.

#### **Proposed Rule Under Section 4(d) of the Act**

##### *Background*

Section 4(d) of the Act contains two sentences. The first sentence states that the Secretary shall issue such regulations as he deems necessary and advisable to provide for the conservation of species listed as threatened. The U.S. Supreme Court has noted that statutory language like “necessary and advisable” demonstrates a large degree of deference to the agency (see *Webster v. Doe*, 486 U.S. 592 (1988)). 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) of the Act, in the case of fish or wildlife, or section 9(a)(2) of the Act, in the case of plants. Thus, the combination of the two sentences of section 4(d) provides the Secretary with wide

latitude of discretion to select and promulgate appropriate regulations tailored to the specific conservation needs of the threatened species. The second sentence grants particularly broad discretion to the Service when adopting the prohibitions under section 9 of the Act.

The courts have recognized the extent of the Secretary's discretion under this standard to develop rules that are appropriate for the conservation of a species. For example, courts have upheld rules developed under section 4(d) as a valid exercise of agency authority where they prohibited take of threatened wildlife or include a limited taking prohibition (see *Alsea Valley Alliance v. Lautenbacher*, 2007 U.S. Dist. Lexis 60203 (D. Or. 2007); *Washington Environmental Council v. National Marine Fisheries Service*, 2002 U.S. Dist. Lexis 5432 (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 him with regard to the permitted activities for those species. He may, for example, permit taking, but not importation of such species, or he 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).

Exercising this authority under section 4(d), we have developed a proposed rule that is designed to address smooth coneflower's specific threats and conservation needs. Although the statute does not require the Service to make a "necessary and advisable" finding with respect to the adoption of specific prohibitions under section 9, we find that this rule as a whole satisfies the requirement in section 4(d) of the Act to issue regulations



deemed necessary and advisable to provide for the conservation of the smooth coneflower.

As discussed above under **Summary of Factors Affecting the Species**, we have concluded that the smooth coneflower is likely to become in danger of extinction within the foreseeable future primarily due to the present or threatened destruction, modification, or curtailment of its habitat or range (specifically due to fire suppression and subsequent ecological succession and development, and encroachment from invasive species).

Specifically, a number of activities have the potential to affect the smooth coneflower, including land clearing for development, fire suppression, and herbicide application to highway and utility ROWs. Regulating these activities, including prohibiting those activities related to removing, damaging, or destroying smooth coneflowers, would provide for conservation of the species by helping to preserve remaining populations, slowing their rate of potential decline, and decreasing synergistic, negative effects from other stressors. Prohibiting import and export, transportation, and commerce of smooth coneflower limits unauthorized propagation and distribution, which prevents potential hybridization with other species of *Echinacea* and subsequent inbreeding depression. As a whole, the proposed 4(d) rule would help in the efforts to recover the species.

The provisions of this proposed 4(d) rule would promote conservation of smooth coneflower by encouraging management of the landscape in ways that meet both land management considerations and the conservation needs of the smooth coneflower, specifically by providing exceptions for incidental take for State agency conservation

actions, scientific permits for research, and use of cultivated-origin seeds for education. The provisions of this proposed rule are one of many tools that we would use to promote the conservation of the smooth coneflower. This proposed 4(d) rule would apply only if and when we make final the reclassification of the smooth coneflower as a threatened species.

*Provisions of the Proposed 4(d) Rule*

This proposed 4(d) rule would provide for the conservation of the smooth coneflower by prohibiting the following activities, except as otherwise authorized or permitted: importing or exporting; certain acts related to removing, damaging, and destroying; delivering, receiving, carrying, transporting, or shipping in interstate or foreign commerce in the course of commercial activity; and selling or offering for sale in interstate or foreign commerce.

We may issue permits to carry out otherwise prohibited activities, including those described above, involving threatened plants under certain circumstances. Regulations governing permits are codified at 50 CFR 17.72. With regard to threatened plants, 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 of the Act. Additional statutory exemptions from the prohibitions are found in sections 9 and 10 of the Act.

We recognize the special and unique relationship 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 shall cooperate to the maximum extent practicable with the States in carrying out programs authorized by the Act. Therefore, as set forth at 50 CFR 17.71(b) and proposed as an exception to the prohibitions in this 4(d) rule, any employee or agent of the Service or of a State conservation agency that is operating a conservation program pursuant to the terms of a cooperative agreement with the Service in accordance with section 6(c) of the Act, who is designated by that agency for such purposes, would be allowed, when acting in the course of official duties, to remove and reduce to possession from areas under Federal smooth coneflowers that are covered by an approved cooperative agreement to carry out conservation programs. In addition, in accordance with 50 CFR 17.61(c)(2) through (4), any employee or agent of the Service, any other Federal land management agency, or a State conservation agency, who is designated by that agency for such purposes, would be able to, when acting in the course of official duties, remove and reduce to possession endangered plants from areas under Federal jurisdiction without a permit to care for a damaged or diseased specimen, or to salvage or dispose of a dead specimen.

We also recognize the beneficial and educational aspects of activities with seeds of cultivated plants, which generally enhance the propagation of the species, and therefore would satisfy permit requirements under the Act. We intend to monitor the interstate and foreign commerce and the import and export of these specimens in a manner that will not inhibit such activities, providing the activities do not represent a

threat to the survival of the species in the wild. In this regard, seeds of cultivated specimens would not be regulated provided that a statement that the seeds are of “cultivated origin” accompanies the seeds or their container (e.g., the seeds could be moved across State lines or between territories for purposes of seed banking or use for outplanting without additional regulations).

Nothing in this proposed 4(d) rule would change in any way the recovery planning provisions of section 4(f) of the Act, the consultation requirements under section 7 of the Act, or our ability to enter into partnerships for the management and protection of smooth coneflower. However, interagency cooperation may be further streamlined through planned programmatic consultations for the species between us and other Federal agencies, where appropriate. We ask the public, particularly State agencies and other interested stakeholders that may be affected by the proposed 4(d) rule, to provide 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 (see **Information Requested**, above).

### **Effects of This Proposed Rule**

This proposed rule, if made final, would revise 50 CFR 17.12(h) to reclassify the smooth coneflower from endangered to threatened on the Federal List of Endangered and Threatened Plants. It would also recognize that this plant is no longer in danger of extinction throughout all or a significant portion of its range. This reclassification does not significantly change the protections afforded to this species under the Act. The prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, would continue to apply to the smooth coneflower. Federal agencies are

required to consult with the Service under section 7 of the Act in the event that activities they authorize, fund, or carry out may affect the smooth coneflower.

As applicable, recovery actions directed at the smooth coneflower will continue to be implemented as outlined in the recovery plan for this plant (USFWS 1995). Highest priority actions (also recommended as future actions in our 5-year review (USFWS 2011, pp. 13–14)) include: (1) Continue to work with partners to strengthen management plans for protected smooth coneflower populations so they will better contribute to the recovery of the species; (2) continue conducting comprehensive surveys for this species within traditional and non-traditional sites to determine more details on abundance and distribution of the species; (3) develop stronger monitoring protocols and continue long-term monitoring that will demonstrate stability of populations; (4) promote conservation agreements with private landowners to protect and enhance existing populations; (5) work closely with landowners to ensure the protection of the species and management of its habitat on private lands; (6) develop propagation and outplanting protocols according to Center for Plant Conservation guidelines; and (7) continue to conduct research on general biology of the species including genetics, life history, and reproductive biology (breeding systems, seed production, and seedling survivorship).

### **Required Determinations**

#### *Clarity of the Rule*

We are required by Executive Orders 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.

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

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act, need not be prepared in connection with determining and implementing a species' listing status under the Endangered Species Act. We published a notice outlining our reasons for this determination in the *Federal Register* on October 25, 1983 (48 FR 49244).

*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), Executive Order 13175, and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. We have determined that there are no Tribal interests affected by this proposal.

## **References Cited**

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

## **Authors**

The primary authors of this document are staff members of the Fish and Wildlife Service's Species Assessment Team and the Raleigh Ecological Services Field Office.

## **Signing Authority**

The Director, U.S. Fish and Wildlife Service, approved this document and authorized the undersigned to sign and submit the document to the Office of the Federal Register for publication electronically as an official document of the U.S. Fish and Wildlife Service. Martha Williams, Principal Deputy Director Exercising the Delegated Authority of the Director, U.S. Fish and Wildlife Service, approved this document on June 14, 2021, for publication.

## **List of Subjects in 50 CFR Part 17**

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

## **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. Amend § 17.12, in paragraph (h), by revising the entry “*Echinacea laevigata*” under FLOWERING PLANTS in the List of Endangered and Threatened Plants to read as follows:

**§ 17.12 Endangered and threatened plants.**

\* \* \* \* \*

(h) \* \* \*

Scientific name	Common name	Where listed	Status	Listing citations and applicable rules
FLOWERING PLANTS				
* * * * *				
<i>Echinacea laevigata</i>	Smooth coneflower	Wherever found	T	57 FR 46340, 10/8/1992; [Federal Register citation of final rule]; 50 CFR 17.73(f). <sup>4d</sup>
* * * * *				

3. Add § 17.73 to read as follows:

**§ 17.73 Special rules—flowering plants.**

(a)–(e) [Reserved]

(f) *Echinacea laevigata* (smooth coneflower)—(1) *Prohibitions*. The following prohibitions that apply to endangered plants also apply to *Echinacea laevigata*. Except as provided under paragraph (f)(2) 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) for endangered plants.



(ii) Remove and reduce to possession from areas under Federal jurisdiction, as set forth at § 17.61(c)(1) for endangered plants.

(iii) Maliciously damage or destroy the species on any areas under Federal jurisdiction, or remove, cut, dig up, or damage or destroy the species on any other area in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law, as set forth at section 9(a)(2)(B) of the Act.

(iv) Engage in interstate or foreign commerce in the course of commercial activity, as set forth at § 17.61(d) for endangered plants.

(v) Sell or offer for sale, as set forth at § 17.61(e) for endangered plants.

(2) *Exceptions from prohibitions.* In regard to *Echinacea laevigata*, you may:

(i) Conduct activities, including activities prohibited under paragraph (f)(1) of this section, if they are authorized by a permit issued in accordance with the provisions set forth at § 17.72.

(ii) Conduct activities authorized by a permit issued under § 17.62 prior to the effective date of the final rule for the duration of the permit.

(iii) Remove and reduce to possession from areas under Federal jurisdiction, as set forth at § 17.61(c)(2) through (4) for endangered plants and § 17.71(b).

(iv) Engage in any act prohibited under paragraph (f)(1) of this section with seeds of cultivated specimens, provided that a statement that the seeds are of “cultivated origin” accompanies the seeds or their container.

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