

**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17**[Docket No. FWS-R2-ES-2022-0173;  
FF09E21000 FXES1111090FEDR 234]

RIN 1018-BF79

**Endangered and Threatened Wildlife and Plants; Endangered Species Status for Swale Paintbrush**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), propose to list the swale paintbrush (*Castilleja ornata*), a flowering plant species from New Mexico within the United States and the states of Chihuahua and Durango in Mexico, as an endangered species under the Endangered Species Act of 1973, as amended (Act). This determination also serves as our 12-month finding on a petition to list the swale paintbrush. After a review of the best available scientific and commercial information, we find that listing the species is warranted. If we finalize this rule as proposed, it would add this species to the List of Endangered and Threatened Plants and extend the Act's protections to the species. We find that designating critical habitat for the swale paintbrush is not prudent at this time.

**DATES:** We will accept comments received or postmarked on or before August 7, 2023. Comments submitted electronically using the Federal eRulemaking Portal (see **ADDRESSES**, below) must be received by 11:59 p.m. eastern time on the closing date. We must receive requests for a public hearing, in writing, at the address shown in **FOR FURTHER INFORMATION CONTACT** by July 24, 2023.

**ADDRESSES:** You may submit comments by one of the following methods:

(1) *Electronically:* Go to the Federal eRulemaking Portal: <https://www.regulations.gov>. In the Search box, enter FWS-R2-ES-2022-0173, which is the docket number for this rulemaking. Then, click on the Search button. On the resulting page, in the panel on the left side of the screen, under the Document Type heading, check the Proposed Rule box to locate this document. You may submit a comment by clicking on "Comment."

(2) *By hard copy:* Submit by U.S. mail to: Public Comments Processing, Attn: FWS-R2-ES-2022-0173, 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 <https://www.regulations.gov>. This generally means that we will post any personal information you provide us (see Information Requested, below, for more information).

**FOR FURTHER INFORMATION CONTACT:**

Shawn Sartorius, Field Supervisor, U.S. Fish and Wildlife Service, New Mexico Ecological Services Field Office, 2105 Osuna Road NE, Albuquerque, NM 87113; telephone 505-346-2525.

Individuals in the United States who are deaf, deafblind, hard of hearing, or have a speech disability may dial 711 (TTY, TDD, or TeleBraille) to access telecommunications relay services. Individuals outside the United States should use the relay services offered within their country to make international calls to the point-of-contact in the United States.

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

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

*What this document does.* We propose to list the swale paintbrush as an endangered species under the Act.

*The basis for our action.* Under the Act, we may determine that a species is an endangered or threatened species because of any of five factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. We

have determined that habitat loss and fragmentation, hydrological alteration, altered fire regimes, effects from intensive grazing pressure, exotic plant invasion, climate change impacts (*i.e.*, drought and increased cool season temperatures), and cumulative effects of multiple stressors are threats to the swale paintbrush to the degree that listing it as an endangered species under the Act is warranted. Additionally, future collection risk may have compounding impacts on the species' viability.

Section 4(a)(3) of the Act requires the Secretary of the Interior (Secretary), to the maximum extent prudent and determinable, to designate critical habitat concurrent with listing. We have determined that designating critical habitat for swale paintbrush is not prudent due to the threat of collection and that increased collection risk outweighs the benefits that would be afforded to the species from the designation of critical habitat.

**Information Requested**

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

- (1) The species' biology, range, and population trends, including:
  - (a) Biological or ecological requirements of the species, including habitat requirements for pollination, reproduction, and dispersal;
  - (b) Genetics and taxonomy;
  - (c) Historical and current range, including distribution patterns and the locations of any additional populations of this species;
  - (d) Historical and current population levels, and current and projected trends;
  - (e) Past and ongoing conservation measures for the species, its habitat, or both; and
  - (f) Information on the species' biology, habitat, or status of populations at historical locations or within suitable habitats in Mexico.

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

(3) Biological, commercial trade, or other relevant data concerning any

threats (or lack thereof) to this species and existing regulations that may be addressing those threats.

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

(5) Information regarding our determination that designating critical habitat for the swale paintbrush is not prudent.

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, do not provide substantial information necessary to support a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or a threatened species must be made solely on the basis of the best scientific and commercial data available, and section 4(b)(2) of the Act directs that the Secretary shall designate critical habitat on the basis of the best scientific data available.

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

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

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

threatened species. For critical habitat, we may consider proposing areas of critical habitat if, after considering new information and public comments, we determine that designating critical habitat is prudent and determinable. In our final rule, we will clearly explain our rationale and the basis for our final decision, including why we made changes, if any, that differ from this proposal.

#### Public Hearing

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

#### Previous Federal Actions

On June 18, 2007, Forest Guardians (now WildEarth Guardians) petitioned the Service to list 475 species in the southwestern United States, including the swale paintbrush, as an endangered or a threatened species under the Act. On December 16, 2009, the Service published in the **Federal Register** (74 FR 66866) a partial 90-day petition finding that the petition provided substantial information indicating that the swale paintbrush may warrant listing under the Act based on loss and degradation of suitable habitat (Factor A). This document constitutes the 12-month finding on the petition to list the swale paintbrush under the Act.

#### Peer Review

A species status assessment (SSA) team prepared an SSA report for the swale paintbrush (Service 2023, entire). The SSA team was composed of Service biologists, in consultation with other species experts. The SSA report represents a compilation of the best scientific and commercial data available concerning the status of the species, including the impacts of past, present, and future factors (both negative and beneficial) affecting the species.

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270),

and our August 22, 2016, memorandum updating and clarifying the role of peer review of listing actions under the Act, we solicited independent scientific review of the information contained within the swale paintbrush SSA report. The Service sent the SSA report to four independent peer reviewers and received two responses. Results of this structured peer review process can be found at <https://www.regulations.gov>. In preparing this proposed rule, we incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for this proposed rule.

#### Summary of Peer Review Comments

As discussed in Peer Review above, we received comments from two peer reviewers on the draft SSA report. We reviewed all comments we received from the peer reviewers for substantive issues and new information regarding the information contained within the SSA report. The peer reviewers generally concurred with our methods and conclusions presented within the draft SSA report. They provided some additional information, clarifications in terminology, further discussions and interpretations of herbarium records, and feedback on stressors. We incorporated the majority of the substantive comments into the swale paintbrush SSA report, and thus this proposed rule. We outline the substantive comments that we did not incorporate, or fully incorporate, into the SSA report below.

(1) *Comment:* Both reviewers suggested alternative locations for the georeferenced location of some herbarium records based upon their knowledge and interpretation of the collection notes for the specimen in question, other specimens collected by the same collector, and specimens collected by other collectors that were known to be collecting on the same trip.

*Response:* We incorporated the new information for the records in question into the SSA report, where appropriate. Where alternate collection site locations were proposed, we considered both our originally georeferenced location and the alternate site as potential collection locations for the record. Most of the alternate locations were located within our 10-kilometer (6.2-mile) buffer zone, with the exception of the Palmer 320 site, which was located 20.1 kilometers (12.5 miles) south-southwest of the originally georeferenced locality. Since the buffer zone analyses were designed to approximate the disturbance patterns for a larger geographic area and consider the positional uncertainty in our georeferenced locations, we did not re-

run the disturbance analyses on the alternate collection sites. We assumed that the percent, intensity, and trends in disturbance would be roughly equivalent for all sites within the larger buffered area. However, we added additional discussion to our disturbance analysis narrative and overall summaries, where appropriate, to include information about disturbance in the near vicinity of the alternate collection locations.

We also received information about one previously unknown herbarium record within the Animas Valley of New Mexico, the Cowan Ranch site. Both peer reviewers alerted us to the omission of this site, and we added the Cowan Ranch record to our assessments throughout the SSA report. The Cowan Ranch site is also considered within this proposed rule.

(2) *Comment:* One reviewer questioned the inclusion versus exclusion of some of the herbarium specimens as swale paintbrush records. Specifically, they questioned our treatment of *Castilleja palmeri* and *C. pediaca* as synonyms of *C. ornata* (swale paintbrush). They noted that two primary online reference databases for plants (*i.e.*, the Missouri Botanical Garden's *Tropicos* database and the Royal Botanic Gardens, Kew's *Plants of the World* database) do not recognize *C. palmeri* and *C. pediaca* as synonyms of *C. ornata*; however, they acknowledged that the researchers who annotated the type specimens considered these species synonyms. Thus, they requested that we include additional records that were labeled as *C. palmeri* and *C. pediaca* in herbarium records as swale paintbrush within our analyses and add some clarifying language in our consideration of taxonomy.

*Response:* We consulted with an expert in *Castilleja* systematics to verify the accuracy of all of the swale paintbrush records that we considered in our analyses as well as the additional records mentioned by the reviewer. After our discussions and consideration of the information provided through peer review, we added two of the suggested records as swale paintbrush and kept one record, Palmer 376, as "likely not swale paintbrush" within our SSA report. We did not include the Palmer 376 record because the species identity of the *C. palmeri* type collection remains an open question. This specimen is likely not swale paintbrush (*C. ornata*) given that the specimen and typical swale paintbrush specimens have differences in morphology and the collection is much farther south than known swale paintbrush collections. Further, this *C. palmeri* record was

described in the same paper as some swale paintbrush specimens, and the author considered them to be separate species (Eastwood 1909, pp. 570–571). Thus, it was recommended to treat ambiguous *C. palmeri* specimens as likely not swale paintbrush until further specimens could be studied (Egger 2022a, pers. comm.; Egger 2022b, pers. comm.).

(3) *Comment:* One reviewer suggested that we consider soil formations and the geological history of the species' range within our assessments of swale paintbrush. They suggested that swale paintbrush occurrence may be associated with pluvial Pleistocene lakes, such as the Cloverdale Lake in the Animas Valley and the Bavicora Lake in Chihuahua, or alluvial filled canyon bottoms.

*Response:* Although there is potential for up to four of the historical collection sites being associated with some of the historical pluvial or alluvial geologic features, this observation does not appear to be diagnostic for the species across its range. Given the large uncertainty in the georeferenced locations for the historical sites, especially those within Mexico, any associations based on those locations may be spurious. Thus, we did not include these pluvial and alluvial features as a potentially diagnostic character for swale paintbrush occupancy. However, we updated and clarified our soil type associations discussion to include the soil types observed at alternate sites.

(4) *Comment:* One reviewer questioned whether we could speak strongly to aspects of the swale paintbrush's ecology given a lack of research on the topic. Specifically, they questioned whether we could state if the species relies on seasonal inundation, fire, and grazing as well as the timing of those impacts.

*Response:* We acknowledge that there is inherent uncertainty within our SSA report with regard to the swale paintbrush ecology given the scarcity of information on this species. The bulk of published studies pertain to the species' taxonomy rather than the species' ecology. Most observations for the species occurred from limited observations of swale paintbrush at a single site over the last 30 years. Thus, we used information from other species within the genus *Castilleja*, information from other herbaceous plants within Madrean desert ecosystems, and observations of swale paintbrush habitat over the last decade to inform our assessments. For species that have limited data, such as swale paintbrush, data from a surrogate species are

informative for assessing that status of the species and/or threats to the species' habitat; however, we acknowledge our uncertainties related to our assessment and use of surrogate information throughout the SSA report, particularly in chapter 6 (Service 2023, entire).

The full list of peer reviewer comments and the SSA report (Service 2023, entire), which incorporates the feedback from peer and partner reviews, are available for public review at <https://www.regulations.gov> under Docket No. FWS–R2–ES–2022–0173.

## I. Proposed Listing Determination

### Background

A thorough review of the taxonomy, life history, and ecology of the swale paintbrush (*Castilleja ornata*) is presented in the SSA report (Service 2023, entire). The swale paintbrush (also known as the glowing Indian paintbrush and the ornate paintbrush) is an annual species of flowering plant in the family Orobanchaceae. There is no taxonomic uncertainty surrounding the validity of swale paintbrush as a species (Egger 2002 pp. 193, 195; Integrated Taxonomic Information System (ITIS) 2022, unpaginated); thus, we recognize swale paintbrush as a valid species and, therefore, a listable entity under the Act.

The swale paintbrush is native to the grassland ecosystems of Hidalgo County, New Mexico, in the United States and to the eastern Sierra Madre Occidental in Chihuahua and Durango in Mexico (McIntosh 1994, pp. 329–330). The species has been historically documented from 13 sites: 2 sites within Hidalgo County, New Mexico; 10 sites in Chihuahua, Mexico; and 1 site in Durango, Mexico. Swale paintbrush was first observed from a site in Chihuahua, Mexico, in 1887, but not discovered in New Mexico until 1993 (Service 2023, pp. 6–11). The swale paintbrush was last observed in Mexico in 1985 and New Mexico in 2021. Currently, the species is only known to occur at a single site in the Animas Valley of Hidalgo County, New Mexico: the Gray Ranch site. Additional surveys within suitable habitat in the vicinity of known sites have not yielded additional locations for the species (Roth 2017, p. 3; Roth 2020, pp. 5, 7; Service 2023, unpublished data). The current status of swale paintbrush at the other historical sites is unknown.

Given the species' overall rarity, little is known about the habitat requirements for swale paintbrush. Across the species' historical range, swale paintbrush has been observed in relatively level, seasonally wet grassland habitats at elevations ranging

from approximately 1,500–2,300 meters (m) (4,920–7,550 feet (ft)) (Service 2023, pp. 6–20). Species within the genus *Castilleja* are root hemiparasites, meaning that plant vigor depends on exploitation of host plants for carbon, nitrogen, and other nutrients (Heckard 1962, p. 29). *Castilleja* plants begin to establish connections with host plant roots (via structures called haustoria) as seedlings (Heckard 1962, p. 28). For swale paintbrush, alkali sacaton (*Sporobolus airoides*) and blue grama (*Bouteloua gracilis*) are thought to be the primary host plants within the Animas Valley populations.

Swale paintbrush individuals have one or a few erect stems that stand 20–50 centimeters (cm) (7.9–19.7 inches (in)) in height. Plants have oblong leaves with strongly wavy leaf margins and floral bracts are typically off-white to very pale yellow (New Mexico Rare Plant Technical Council (NMRPTC) 1999, unpaginated), although reddish phases of the plant have been observed within herbarium records. Across the range, aspects of the swale paintbrush's life cycle seem timed to monsoon season precipitation patterns. Plants germinate between April and June, flower between late-May and late-August (coincident with monsoonal rainfall), and set seed in late August through October (NMRPTC 1999, unpaginated). The longevity of swale paintbrush in the seedbank is unknown; however, the longevity of surrogate *Castilleja* species is up to 5 years in storage and 2 years in the wild (Service 2023, pp. 22–24).

## Regulatory and Analytical Framework

### Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in title 50 of the Code of Federal Regulations set forth the procedures for determining whether a species is an endangered species or a threatened species, issuing protective regulations for threatened species, and designating critical habitat for endangered and threatened species. In 2019, jointly with the National Marine Fisheries Service, the Service issued a final rule that revised the regulations in 50 CFR part 424 regarding how we add, remove, and reclassify endangered and threatened species and the criteria for designating listed species' critical habitat (84 FR 45020; August 27, 2019). On the same day, the Service also issued final regulations that, for species listed as threatened species after September 26, 2019, eliminated the Service's general protective regulations automatically applying to threatened species the

prohibitions that section 9 of the Act applies to endangered species (84 FR 44753; August 27, 2019).

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

(A) The present or threatened destruction, modification, or curtailment of its habitat or range;

(B) Overutilization for commercial, recreational, scientific, or educational purposes;

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

(E) Other natural or manmade factors affecting its continued existence.

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

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

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an "endangered species" or a "threatened species." In determining whether a species meets either definition, we must evaluate all identified threats by considering the species' expected response and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an individual, population, and species level. We evaluate each threat and its expected effects on the species, then analyze the cumulative effect of all of the threats on the species as a whole. We also consider the cumulative effect

of the threats in light of those actions and conditions that will have positive effects on the species, such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the definition of an "endangered species" or a "threatened species" only after conducting this cumulative analysis and describing the expected effect on the species 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 the 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.

### Analytical Framework

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

To assess swale paintbrush viability, we used the three conservation biology principles of resiliency, redundancy,

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

The SSA process can be categorized into three sequential stages. During the first stage, we evaluated the individual species’ life-history needs. The next stage involved an assessment of the historical and current condition of the species’ demographics and habitat characteristics, including an

explanation of how the species arrived at its current condition. The final stage of the SSA involved making predictions about the species’ responses to positive and negative environmental and anthropogenic influences. Throughout all of these stages, we used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time. We use this information to inform our regulatory decision.

The following is a summary of the key results and conclusions from the swale paintbrush SSA report; the full SSA report can be found at Docket FWS–R2–ES–2022–0173 on <https://www.regulations.gov>.

**Summary of Biological Status and Threats**

In this discussion, we review the biological condition of the species and its resources, and the threats that influence the species’ current and future condition, in order to assess the species’ overall viability and the risks to that viability. We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report, we have not only analyzed individual effects on the

species, but we have also analyzed their potential cumulative effects. We incorporate the cumulative effects into our SSA analysis when we characterize the current and future condition of the species. To assess the current and future condition of the species, we undertake an iterative analysis that encompasses and incorporates the threats individually and then accumulates and evaluates the effects of all the factors that may be influencing the species, including threats and conservation efforts. Because the SSA framework considers not just the presence of the factors, but to what degree they collectively influence risk to the entire species, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative effects analysis. For a full description of our analyses, see the swale paintbrush SSA report (Service 2023, entire).

*Species Needs*

The individual, population-level, and species-level needs of the swale paintbrush are summarized in tables 1 through 3, below. For additional information, please see the SSA report (Service 2023, chapter 2).

TABLE 1—THE ECOLOGICAL REQUISITES FOR SURVIVAL AND REPRODUCTIVE SUCCESS OF SWALE PAINTBRUSH INDIVIDUALS

Life stage	Requirements	Description
Seeds—germination .....	Suitable abiotic conditions .....	<ul style="list-style-type: none"> <li>• Winter temperatures below 2 degrees Celsius (36 degrees Fahrenheit) for cold stratification.</li> <li>• Suitable warmth, light, and soil moisture for germination of seeds; cool season precipitation supports germination soil moisture.</li> </ul>
Seedlings and Vegetative Plants— establishment and growth.	Suitable biotic and abiotic conditions.	<ul style="list-style-type: none"> <li>• Adequate monsoonal rainfall June through August, the critical rainfall period for swale paintbrush, for growth and establishment.</li> <li>• Proximity of surrounding plants, likely alkali sacaton (<i>Sporobolus airoides</i>) and/or blue grama (<i>Bouteloua gracilis</i>), for increased water and nutrient uptake via parasitic haustoria.</li> <li>• Lack of herbivory throughout germination, establishment, and growth periods.</li> </ul>
Flowering Plants—reproduction .....	Pollination .....	<ul style="list-style-type: none"> <li>• Presence of suitable pollinators during the flowering season (June to September).</li> <li>• Lack of herbivory through flower production (June to September) and seed set (July to October).</li> </ul>

TABLE 2—POPULATION-LEVEL REQUISITES NECESSARY FOR A HEALTHY POPULATION OF SWALE PAINTBRUSH

Resiliency type	Requirements	Detail
Demographic .....	Population growth rate ( $\lambda$ ) .....	<ul style="list-style-type: none"> <li>• The long-term <math>\lambda</math> needs to be high enough to rebound from periodic population crashes, i.e., on average <math>\lambda &gt; 1.0</math>.</li> </ul>
	Population size (N) .....	<ul style="list-style-type: none"> <li>• Sufficiently large N to withstand periodic stochastic events and population crashes.</li> <li>• The N required may vary geographically across populations.</li> </ul>
Habitat .....	Precipitation .....	<ul style="list-style-type: none"> <li>• Adequate quantity and timing of cool season rainfall to allow for germination and establishment.</li> <li>• Adequate quantity and timing of monsoonal rainfall during the critical rainfall period of swale paintbrush (June through August) to allow for germination, establishment, growth, survival, and reproduction.</li> </ul>
	Habitat .....	<ul style="list-style-type: none"> <li>• Presence of host species, likely alkali sacaton, for hemiparasitic relationships and increased uptake of water and nutrients.</li> </ul>

TABLE 2—POPULATION-LEVEL REQUISITES NECESSARY FOR A HEALTHY POPULATION OF SWALE PAINTBRUSH—Continued

Resiliency type	Requirements	Detail
	Pollination .....	<ul style="list-style-type: none"> <li>• Minimal to no nonnative vegetation that outcompete swale paintbrush, its host species, or pollinator forage and host plants for soil nutrients, light, and water resources.</li> <li>• Absence of persistent chemical contaminants that interfere with swale paintbrush's, host species', or pollinator species' physiological functionality.</li> <li>• Limited levels of herbivory across all life stages.</li> <li>• Natural processes, such as hydrological cycles and periodic disturbances, that maintain grassland integrity (e.g., natural fire return intervals of low intensity, seasonally appropriate fires that maintain canopy gaps, enhance grass and forb growth, and prevent colonization by woody species).</li> <li>• Presence of suitable pollinator(s).</li> <li>• Sufficient soil moisture and nutrients for production of flowers and nectar resources.</li> <li>• An abundance and diversity of native flowering plants within the habitat to attract pollinators and maintain genetic connectivity between swale paintbrush patches.</li> </ul>

TABLE 3—SPECIES-LEVEL ECOLOGY OF SWALE PAINTBRUSH: REQUIREMENTS FOR LONG-TERM VIABILITY

[Ability to maintain self-sustaining populations over a biologically meaningful timeframe]

3 Rs	Species-level requisites	Description
Resiliency .....	Self-sustaining populations across the species' range.	Self-sustaining populations are demographically, genetically, and physiologically robust; have sufficient quantity of high-quality habitat; and are free of, or have manageable, threats.
Redundancy .....	Sufficient distribution of populations to spread risk.	Sufficient distribution to guard against catastrophic events wiping out portions of the species' adaptive diversity and the species as a whole (i.e., to reduce covariance among populations); spread out geographically but also ecologically (different ecological settings).
Representation .....	Maintain adaptive diversity of the species. Maintain evolutionary processes ...	Populations maintained across spatial and environmental gradients to maintain ecological and genetic diversity. Maintain evolutionary drivers (gene flow, natural selection, genetic drift) to mimic historical patterns.

*Risk Factors for the Swale Paintbrush*

The primary factors influencing swale paintbrush viability are habitat loss and fragmentation, hydrological alteration, altered fire regimes, effects from intensive grazing pressure, exotic plant invasion, climate change impacts (i.e., drought and increased cool season temperatures), and cumulative effects of multiple stressors. Additionally, future collection risk may have compounding impacts on the species' viability. The majority of information pertaining to these threats are based on the New Mexico portion of the species' range; however, based on visual inspections of aerial imagery and the limited information we have on the historical sites, we believe these are threats to this species rangewide. These stressors and their effects to swale paintbrush are summarized below.

**Habitat Loss and Fragmentation**

Habitat loss (Factor A) results in mortality of active plants, within-site seedbank loss, reduction in available habitat, overall decline in occupied area and abundance, increased edge effects,

and decreased genetic exchange (Oostermeijer 2003, p. 3 and references therein). Edge effects include reduced wildlife use and travel (and the associated decrease in genetic exchange), reduced infiltration of precipitation, altered surface and subsurface hydrology, increased human activities, and exotic plant invasion (Forman and Alexander 1998, pp. 210, 223; Bhattacharya et al. 2003, p. 37; Raiter et al. 2018, pp. 445–446; Sawyer et al. 2020, p. 934). The combined effects of habitat loss and edge effects can lead to fragmented and small populations that have reduced genetic exchange and hence reduced reproductive potential and adaptive capacity (Oostermeijer 2003, p. 1 and reference therein). Major sources of habitat loss and fragmentation within swale paintbrush's range include conversion to agriculture and development associated with human habitation and transportation.

**Hydrological Alteration**

Swale paintbrush relies on cool season precipitation, monsoon

precipitation, and a suitable surface/subsurface hydrology to complete its life cycle and maintain its seedbank. Thus, this species is sensitive to hydrological alterations (Factor A), such as artificial drought and emergence season inundation. Artificial drought occurs when upslope obstacles to, or diversions of, surface flows starve downslope areas that would have otherwise received those flows (Raiter et al. 2018, pp. 445–446; Roth 2020, p. 5; Nichols and Degginger 2021, entire). One report suggests that disturbance altered local hydrology in the Gray Ranch area, starving previously occupied patches of habitat, and rendering them unsuitable for the species (Roth 2020, p. 5). Alternately, downslope obstacles to surface flows may permanently or seasonally flood upslope areas that would have otherwise shed flows to downslope areas. Prolonged inundation causes forb mortality, reducing forb cover and increasing graminoid (grass-like) cover and height (Insausti et al. 1999, pp. 267, 269–271). If inundation interrupts the species' annual lifecycle, existing seedbanks may become

depleted and/or seedbank replenishment may be thwarted, depending on the timing, intensity, and/or duration of flooding (Insausti et al. 1999, p. 272).

#### Altered Fire Regime

Fire intensity, frequency, and seasonality (Factor A) have direct and indirect influences on swale paintbrush. Swale paintbrush relies heavily on canopy gaps and mineralized soil nutrient inputs for establishment and growth. Fire fosters these conditions and also reduces the cover of woody vegetation. It stimulates the growth of other grasses, including blue grama (which is one of swale paintbrush's host plants), and forbs (which support pollinators and, hence, swale paintbrush pollination) (Johnson 2000, unpaginated; Anderson 2003, unpaginated; Lybbert et al. 2017, p. 1030; Sam 2020, p. 69; Bestelmeyer et al. 2021, p. 181).

Prehistoric fire return intervals in Madrean ecosystems range from 2.5–10 years. Grasslands, a key ecosystem for swale paintbrush, are more likely to convert to shrublands or woodlands when fire return intervals exceed 10 years. Fire management regimes and grazing intensity (described below) affect fire frequency, and these habitats are sensitive to fire suppression and herbivore removal of fine fuels, which decrease fire frequency and may lead to increased intensity of fires when they do occur (Kaib et al. 1996, pp. 253, 260; Swetnam and Baisan 1996, pp. 23, 25; Brown and Archer 1999, pp. 2393–2394; Poulos et al. 2013, pp. 3–4, 8; NatureServe 2021, unpaginated). Excessive fire frequency, though less likely to occur, may also have detrimental impacts on swale paintbrush populations. For example, alkali sacaton's post-fire recovery time is 2–4 years, and high fire frequency can lower pollinator abundance and diversity (Johnson 2000, unpaginated; Carbone et al. 2019, p. 7). In turn, decreased pollinator abundance and diversity results in decreased pollination rates of swale paintbrush, which then leads to decreased reproduction and seedbank replenishment.

Uncharacteristic fire seasonality is likely to adversely affect swale paintbrush. While a spring fire season is characteristic of the Sierra Madre Occidental and adjacent Madrean ecosystems, a summer fire season is characteristic of the rest of the desert southwest (Swetnam et al. 2001, pp. 5, 8; Poulos et al. 2013, p. 8). Current natural ignitions for the historical Gray Ranch area are reported to rarely start

before the middle of April or after the middle of July (Brown 1998, p. 250). However, fire prescriptions for the Animas Valley area are timed to avoid the breeding seasons of several wildlife species, potentially pushing prescription burns into mid-August, swale paintbrush's reproductive season (Malpai Borderlands Group (MBG) 2008, pp. 63–116). If fire interrupts the species' annual lifecycle, existing seedbanks may become depleted and/or seedbank replenishment may be thwarted.

#### Effects of Intensive Grazing

Swale paintbrush occurs in grasslands that are used for grazing. While spring grazing helps to create the canopy gaps that this species needs for establishment, excessive grazing pressure that results in significant canopy loss increases the potential for evaporation, erosion, and nutrient loss (Factor A) (Li et al. 2007, pp. 318, 329–331). These effects can reduce swale paintbrush productivity both directly and indirectly through impacts on the productivity of symbiotic and host species (Pimentel and Kounang 1998, pp. 419–421). Palatability of species in the genus *Castilleja* is considered poor for horses, poor to fair for cattle, and fair to good for sheep (New Mexico State University n.d., unpaginated). However, the swale paintbrush's slender stem morphology and erect growth habit make them vulnerable to trampling by livestock when habitats are grazed during the plant's growing season. If grazing or trampling interrupt the species' annual lifecycle, existing seedbanks may become depleted and/or seedbank replenishment may be thwarted, depending on the timing, intensity, and/or duration of the grazing. Winter–spring grazing is least likely to affect swale paintbrush survival and reproduction directly. Excessive herbivory during winter–spring could result in shifting the fire season further into the growing season, which could have negative impacts on seedbank replenishment and viability.

#### Exotic Plant Invasion

Exotic plants (Factor A) can become introduced to, and dispersed within, grassland habitats by the travel of both humans and animals. Invasive exotic plants could reduce the availability of canopy gaps and/or outcompete swale paintbrush for available gaps, soil moisture, and soil nutrients, potentially both depleting the existing seedbank and reducing seedbank replenishment. Co-occurring noxious plant species also increase the risks of herbicide exposure. For a list of documented introduced

species within the Gray Ranch area, see the SSA report (Service 2023, pp. 29–30). Introduced species in the vicinity of the sites in Mexico are unknown.

#### Climate Change Impacts

Climate change (Factor E) has the potential to affect all of the following factors: drought (and associated increases in grazing pressure), flood, fire, and vulnerability to exotic plant invasion. The New Mexico sites are classified as an Apacherian-Chihuahuan Semi-Desert Grassland and Steppe ecological system within the EPA level 3 Madrean Archipelago ecoregion and the EPA level 4 Madrean Basin Grasslands ecoregion. This system is highly vulnerable to future climate changes. The remaining historical collection sites in Mexico are in Chihuahuan Semi-Desert Grassland and Steppe ecological systems within Sierra Madre Occidental ecoregions, which are moderately vulnerable to future climate changes. Projections for the Cloverdale HUC 08 watershed predict increasing temperatures and less available soil moisture, which would be akin to prolonged drought. The elevated temperatures and increased aridity projected across swale paintbrush's historical range render these systems vulnerable to conversion to shrub-steppe (Caracciolo et al. 2016, pp. 2–3; NatureServe 2021, unpaginated). These changes are likely to impact swale paintbrush populations at the northern- and southern-most extents of this species' range, including the verified extant population in New Mexico. Increased growing season aridity may stress the germination, establishment, growth, and reproduction of swale paintbrush plants, and increased winter temperatures may reduce swale paintbrush's capacity to overcome seed dormancy before seeds in the soil seedbank become unviable. The combined effects of increased soil seedbank loss and reduced seedbank replenishment leads to smaller population sizes, and, thus, the species would be more susceptible to environmental and demographic stochasticity.

#### Collection Risk

A future threat to the species is the emerging risk of collection (Factor B). Although no illegal collection events of swale paintbrush have been documented, other species within the genus *Castilleja* are horticulturally desirable. Many *Castilleja* species are readily available via online companies, and yellow-bracted species, aesthetically similar to swale paintbrush, are marketed as rare.

Currently, due to the species' rarity and limited distribution and risks of illegal collection to rare species, swale paintbrush locality data below the county level are not publicly available through online databases (e.g., SEINet, Natural Heritage New Mexico, New Mexico Rare Plants website). If the location of known occupied habitat became publicly available, risk of illegal collection could increase. There is a history of illegal collection occurring for other species at or within the near vicinity of the Gray Ranch site. These collection efforts targeted the Sonoran Desert toad (*Bufo alvarius*; New Mexico Department of Game and Fish 2020, pp. 78–79), New Mexico ridge-nosed rattlesnake (*Crotalus willardi obscurus*; Harris Jr. and Simmons 1975, p. 6; Malpai Borderlands Group 2008, p. 60), and Mexican hog-nosed snake (*Heterodon kennerlyi*; Medina 2021, pers. comm.). For the New Mexico ridge-nosed rattlesnake specifically, collection over the period of 1961–1974 may have resulted in the loss of 130 individuals from the population (Service 2008, p. 37) and researchers encountered 15 illegal collectors from six states during a single season (Harris Jr. and Simmons 1975, p. 6). Swale paintbrush is easier to detect and collect than these mobile, camouflaged species. Thus, given the desirability of paintbrush species for horticultural use, the increased desirability of rare species, the inability of this species to evade detection and collection, and the history of illegal collection in the vicinity of the Gray Ranch, illegal collection is a potential future emerging threat for this species, especially if the location of known occupied habitat becomes publicly available. Further, given the small known extant range and population size of this species, its annual duration and reliance on frequent seedbank replenishment, and risks to its seedbank from stochastic events and other ongoing threats to the species, effects from collection (removal of plants and damage to habitat), illegal collection would be deleterious to swale paintbrush.

#### Cumulative Effects

We note that, by using the SSA framework to guide our analysis of the scientific information documented in the SSA report (Service 2023, entire), we have analyzed the cumulative effects of identified threats and conservation actions on the species. To assess the current and future condition of the species, we evaluate the effects of all the relevant factors that may be influencing the species, including threats and conservation efforts. Because the SSA

framework considers not just the presence of the factors, but to what degree they collectively influence risk to the entire species, our assessment integrates the cumulative effects of the factors and replaces a standalone cumulative-effects analysis.

In summary, swale paintbrush is likely adapted to withstand stochastic stressor events individually and intermittently. However, increased intensity, frequency, co-occurrence of, or consecutive occurrence of, and synergistic effects between, stochastic stressor events increases this species risk. Given swale paintbrush's annual duration, reliance on frequent seedbank replenishment, and its low seed longevity, as few as two consecutive years of adverse environmental conditions or human-caused or natural adverse stochastic events could have catastrophic consequences for this species.

#### Current Condition

The swale paintbrush was historically documented from 13 sites in the United States and Mexico: 2 sites in the Animas Valley of Hidalgo County, New Mexico, and 11 sites in the eastern Sierra Madre Occidental of Chihuahua and northern Durango in Mexico. Currently, only one site—the Gray Ranch site—is known to exist within the Animas Valley of Hidalgo County, New Mexico, and the species was last observed at this site in 2021. The last observations of historical sites were 1993 in New Mexico and 1985 in Mexico.

We assessed the swale paintbrush's current condition using a two-pronged approach. First, for all known occupied and historically collected swale paintbrush sites, we derived the amount and intensity of disturbed area and currently protected areas within the vicinity of each site using aerial imagery from the period of 2000 to 2020. Then, we used these data to estimate the possibility of swale paintbrush occupancy within the vicinity of the historical location and assigned each site into one of four categories: (1) known extant, (2) possibly extant, (3) possibly extirpated, and (4) presumed extirpated. Known extant means that the population has been observed within the last decade. Possibly extant means that the site is only known from herbarium records but has a reasonable potential for rediscovery; evidence of habitat loss or degradation is not substantial enough to presume complete loss of swale paintbrush habitat since the time of collection. Possibly extirpated means that the population is known only from herbarium records and has a low potential for rediscovery;

evidence of habitat loss or degradation is substantial enough that loss of the species at the site is possible. Presumed extirpated means that the population is only known from herbarium records and has a very low potential for rediscovery; evidence of habitat loss or alteration is significant enough to presume complete loss of suitable habitat since the time of collection.

Second, we conducted a more detailed assessment of the resiliency for the known occupied site at the Gray Ranch in the Animas Valley. Briefly, we considered the demographic factors (population abundance, occupied area, and count of patches within the last 2 years) and habitat factors (surface disturbance, herbicide exposure, fire regime, grazing regime, inundation seasonality, growing season canopy cover, and precipitation history). We assigned each factor into three condition categories; (1) high (factor values that are compatible with stable to increasing populations); (2) moderate (factor values that contribute to minimal rates of decline), or (3) low (factor values that contribute to high rates of decline). Our methodology and evaluations of viability are described in more detail in the swale paintbrush SSA report (Service 2023, chapter 4).

Based on our assessment of swale paintbrush's current conditions across all sites, one site, the Gray Ranch site, is known extant, four sites ranked as possibly extant, six sites ranked as possibly extirpated, and two sites ranked as presumed extirpated. Of the four possibly extant sites, swale paintbrush plants were last observed at the sites in 1899, 1903, 1979, and 1993. Although potentially suitable habitat may remain at some of the historical sites, particularly the four possibly extant sites, the size and abundance (i.e., resiliency) of the historical sites are unknown and we cannot reasonably assume anything about the status of the species at these sites. Thus, the swale paintbrush has no verifiable redundancy and very limited representation throughout its known range.

Based on our detailed assessment of current condition, swale paintbrush has moderate to high resiliency at the Gray Ranch site. The most recent survey in September 2021 documented a minimum abundance of 6,000 plants—higher than our range of provisional minimum viable population sizes (1,500–5,000 plants)—distributed across 2 patches and 28 acres of habitat in the Animas Valley. Generally, the site has moderate amounts of surface disturbance that would have limited influence on pollinator visitation rates. There has been no recent herbicide



exposure within 300 meters of swale paintbrush patches within the last 15 years. Grazing during the species' active season within recent years has been avoided, and the disturbance regime (fire return intervals, inundation seasonality, grazing regime) combined with the recent precipitation history, have maintained favorable canopy cover that allows for swale paintbrush growth, establishment, and recent seedbank replenishment within the core of the population area.

Although the Gray Ranch site is considered to have moderate to high resiliency currently, the small area that the species is known to occupy increases its risk of extirpation due to catastrophic events. The swale paintbrush is at risk of impacts from cumulative impacts of multiple stressors because it is an annual species with a provisional seedbank viability of 2 years in the wild and frequent replenishment of the seedbank is essential to population persistence. Replenishment of the seedbank with viable seeds requires flower production, successful pollination, and ovule maturation, all of which are impacted by stochastic and catastrophic events such as: habitat loss and fragmentation (Factor A), hydrological alteration (Factor A), altered fire regimes (Factor A), effects from intensive grazing pressure (Factor A), exotic plant invasion (Factor A), climate change impacts (*i.e.*, drought and increased cool season temperatures; Factor E), and cumulative effects of multiple stressors. Additionally, future collection risk (Factor B) may have compounding impacts on the species' viability.

Drought is the primary threat to the species, as increased frequency, intensity, and/or duration of drought can lead to decreased swale paintbrush survival through direct (*e.g.*, drought stress, trampling, or herbivory) and indirect (*e.g.*, increased grazing pressure within the habitat, increased fire risk, delayed post-fire recovery) mortality. Although grazing and fires help maintain canopy gaps, grazing and/or fires during the growing season can result in decreased swale paintbrush survival. Currently, grazing during the growing season is generally avoided at the Gray Ranch site; however, this site is used as a grass-banking pasture and may experience increased grazing pressure during times of drought. Grazing during the active season can result in trampling and mortality of the species. Growing season fires result in swale paintbrush mortality and, depending on the duration and intensity of the fire, prolonged recovery times for native vegetation. Decreased recovery

times leave soils vulnerable to evaporation, erosion, nutrient loss, and invasive species establishment, all of which lead to decreased swale paintbrush survival.

Taken altogether, the swale paintbrush has moderate to high resiliency within 1 population and unknown resiliency across the other 12 historical sites. Although our analyses reflect our best assessment of the current conditions of disturbance at or in the vicinity of our estimates of historical site locations, the status of historically collected sites at Cowan Ranch of the Animas Valley and in the eastern Sierra Madre Occidental of Mexico is unknown. Rangewide, specimens were collected from 1887–2021, with the most recent record from Mexico being collected in 1985. Additionally, outside of the known extant New Mexico site, there have been no reported estimates of abundance with the exception of qualitative reports of “occasional” for the distribution at the Keil 13388 site and “few plants” for Palmer 320 (Palmer 1906, unpaginated; Keil 1978, unpaginated; Service 2023, p. 19). Thus, we cannot reasonably conclude anything about the health or resiliency of any site except for the Gray Ranch site. Accordingly, swale paintbrush has limited to no redundancy, depending on the status of the species at the historical sites. Even if swale paintbrush remains extant at sites outside of Gray Ranch, the majority of sites are isolated and there is limited potential for interpopulation rescue in the event of local extirpations. Finally, the swale paintbrush has limited representation. The Gray Ranch site exists at the northern periphery of the species' range and contains only a small portion of the historical genetic and ecological diversity of the species.

#### *Future Condition*

As part of the SSA, we also developed future condition scenarios to capture the range of uncertainties regarding future threats and the projected responses by the swale paintbrush. Our future condition assessments considered the projected impacts of increased habitat disturbance and climate changes across the swale paintbrush's historical range. Specifically, we considered the upper and lower bounds of plausible impacts of environmental variables related to aridity during the growing and reproductive seasons and seed chilling and cold stratification during the cool season. Because we determined that the current condition of the swale paintbrush is consistent with an endangered species (see Determination of Swale Paintbrush's Status, below), we

are not presenting the results of the future scenarios in this proposed rule. Please refer to the SSA report (Service 2023, chapter 5) for the full analysis of future scenarios.

#### *Conservation Efforts and Regulatory Mechanisms*

Below is a brief description of conservation measures and regulatory mechanisms currently in place. Please see the SSA report for a more detailed description (Service 2023, chapter 3).

Swale paintbrush is listed as an endangered species by the state of New Mexico. In New Mexico, swale paintbrush exists on lands managed for livestock production in an ecologically responsible manner by the Animas Foundation (Brown 1998, p. 248). The Nature Conservancy (TNC), the former landowners of the Gray Ranch site, retains a conservation easement prohibiting development on the lands formerly known as the Gray Ranch (TNC 2022, unpaginated). While the easement does not ensure that range improvements will avoid adverse effects to swale paintbrush, it ensures that the covered areas will remain open space.

The Animas Foundation is a member of the Malpai Borderlands Group, a private, nonprofit organization that is dedicated to maintaining or increasing rangeland health and the viability of traditional livelihoods that maintain rangelands as open space (Malpai Borderlands Group 1994, p. 2; Brown 1998, p. 249; Malpai Borderlands Group 2008, pp. 1–2). Malpai Borderlands Group activities related to use, maintenance, and enhancement of rangelands fall within the scope of a habitat conservation plan (HCP) for all privately owned and State-trust rangelands in the Malpai Borderlands of Southern Arizona and New Mexico. Although the swale paintbrush is not a covered species under this plan, the species may benefit from the plan's covered activities and associated conservation measures (Service 2023, pp. 35–36, table 3–1). These covered activities and associated conservation measures have the potential to maintain and enhance swale paintbrush habitat by restoring fire, minimizing erosion, and controlling invasive and exotic plant species. The Animas Foundation's participation in the HCP, beyond the grassbanking program, is unknown.

Finally, we have partnered with the Animas Foundation, the State of New Mexico, and Albuquerque Bio Park to conduct and maintain *ex situ* seed collections of swale paintbrush from the Gray Ranch site. Currently, 77 maternal lines have been collected and retained in offsite storage institutions for

germination studies, grow out, seed increase, and potential reintroduction efforts.

#### Determination of Swale Paintbrush's Status

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR part 424) set forth the procedures for determining whether a species meets the definition of an endangered species or a threatened species. The Act defines an "endangered species" as a species in danger of extinction throughout all or a significant portion of its range, and a "threatened species" as a species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether a species meets the definition of 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.

#### Status Throughout All of Its Range

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act's section 4(a)(1) factors, we found that the swale paintbrush's distribution has declined from historical conditions. The swale paintbrush was documented from 13 sites historically: 2 sites in the Animas Valley of Hidalgo County, New Mexico, and 11 sites in the eastern Sierra Madre Occidental of Chihuahua and northern Durango in Mexico. Of the 13 historical sites, only 1 site—the Gray Ranch site within the Animas Valley of Hidalgo County, New Mexico—is currently known to be extant. Swale paintbrush plants were last observed at the Gray Ranch site in September of 2021 with a minimum abundance of 6,000 plants distributed across 28 acres of habitat. Of the 12 other historical sites, our analyses found that four sites ranked as "possibly extant," six sites ranked as "possibly extirpated," and two sites ranked as "presumed extirpated." Although potentially suitable habitat may remain at some of the historical sites, the size and abundance (*i.e.*, resiliency) of the historical sites is unknown, and we do not have information that these sites are resilient, stable, or able to contribute to the viability of the species.

Although the Gray Ranch site is considered to have moderate to high resiliency currently—based on the most recent abundance exceeding the minimum viable population size and habitat conditions of the Animas Valley being generally favorable—the small area that the species is known to occupy increases its risk of extirpation due to catastrophic events. The swale paintbrush is at risk from cumulative impacts of multiple stressors because it is an annual species with a provisional seedbank viability of 2 years and frequent replenishment of the seedbank is essential to population persistence. Replenishing the seedbank with viable seeds requires flower production, successful pollination, and ovule maturation, all of which are impacted by these stochastic and catastrophic events such as habitat loss and fragmentation (Factor A), hydrological alteration (Factor A), altered fire regimes (Factor A), effects from intensive grazing pressure (Factor B), exotic plant invasion (Factor A), climate change impacts (*i.e.*, drought and increased cool season temperatures; Factor E), and cumulative effects of multiple stressors. Additionally, future collection risk (Factor B) may have compounding impacts on the species' viability.

Drought is the primary threat to the species, as increased frequency, intensity, and/or duration of drought can lead to decreased swale paintbrush survival through direct and indirect mortality. Although grazing and fires can help maintain canopy gaps, grazing and/or fires during the growing season can result in decreased swale paintbrush survival. Currently, grazing during the growing season is avoided at the Gray Ranch site; however, this site is used as a grass-banking pasture and may experience increased grazing pressure during times of drought. Grazing during the active season can result in trampling and mortality of the species. Growing season fires result in swale paintbrush mortality and, depending on the duration and intensity of the fire, prolonged recovery times for native vegetation. Decreased recovery times leave soils vulnerable to evaporation, erosion, nutrient loss, and invasive species establishment, all of which lead to decreased swale paintbrush survival. Thus, decreased swale paintbrush survival results in decreased seedbank replenishment and, by extension, decreased seedbank viability, which increases the species' risk of extinction.

Overall, swale paintbrush has limited viability due to its limited resiliency, lack of redundancy, and limited representation at the species level. The

species currently occurs at a single site at the northern periphery of its known historical range, and is vulnerable to the impacts of catastrophic events. Given its limited distribution, the species likely contains only a small portion of its historical genetic and ecological diversity, and thus swale paintbrush has limited capacity to adapt to long-term environmental changes (representation). Even if swale paintbrush is extant at sites outside of the Gray Ranch, the majority of these potentially extant historical sites are isolated, and thus there is limited potential for interpopulation rescue in the event of local extirpations.

Accordingly, we find that the swale paintbrush is presently in danger of extinction throughout all of its range based on small population size and the species' risk from a number of contemporary threats. The risk of extinction is high due to a small population with no known potential for recolonization from nearby sources (no redundancy) and the species having limited viability within the seedbank. We do not find that a threatened status is warranted for the swale paintbrush because the species occupies a small geographic range that is currently vulnerable to stressors with the potential for catastrophic synergistic consequences. Thus, the species' limited resiliency, lack of redundancy, and limited representation currently place the species in danger of extinction, and these contemporary threats are only projected to increase in frequency, severity, extent, and/or duration into the future.

Thus, after assessing the best available information, we determine that swale paintbrush is in danger of extinction throughout all of its range.

#### Status Throughout a Significant Portion of Its Range

Under the Act and our implementing regulations, a species may warrant listing if it is in danger of extinction or likely to become so in the foreseeable future throughout all or a significant portion of its range. We have determined that the swale paintbrush is in danger of extinction throughout all of its range and accordingly did not undertake an analysis of any significant portion of its range. Because the swale paintbrush warrants listing as endangered throughout all of its range, our determination does not conflict with the decision in *Center for Biological Diversity v. Everson*, 435 F. Supp. 3d 69 (D.D.C. 2020) (*Everson*), which vacated the provision of the 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) providing that if the Services determine that a species is threatened throughout all of its range, the Services will not analyze whether the species is endangered in a significant portion of its range.

#### *Determination of Status*

Our review of the best available scientific and commercial information indicates that the swale paintbrush meets the Act's definition of an endangered species. Therefore, we propose to list the swale paintbrush as an endangered species in accordance with sections 3(6) and 4(a)(1) of the Act.

#### **Available Conservation Measures**

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

The primary purpose of the Act is the conservation of endangered and threatened species and the ecosystems upon which they depend. The ultimate goal of such conservation efforts is the recovery of these listed species, so that they no longer need the protective measures of the Act. Section 4(f) of the Act calls for the Service to develop and implement recovery plans for the conservation of endangered and threatened species. The goal of this process is to restore listed species to a point where they are secure, self-sustaining, and functioning components of their ecosystems.

The recovery planning process begins with development of a recovery outline made available to the public soon after a final listing determination. The recovery outline guides the immediate implementation of urgent recovery actions while a recovery plan is being developed. Recovery teams (composed of species experts, Federal and State agencies, nongovernmental organizations, and stakeholders) may be established to develop and implement

recovery plans. The recovery planning process involves the identification of actions that are necessary to halt and reverse the species' decline by addressing the threats to its survival and recovery. The recovery plan identifies recovery criteria for review of when a species may be ready for reclassification from endangered to threatened ("downlisting") or removal from protected status ("delisting"), and methods for monitoring recovery progress. Recovery plans also establish a framework for agencies to coordinate their recovery efforts and provide estimates of the cost of implementing recovery tasks. Revisions of the plan may be done to address continuing or new threats to the species, as new substantive information becomes available. The recovery outline, draft recovery plan, final recovery plan, and any revisions will be available on our website as they are completed (<https://www.fws.gov/program/endangered-species>), or from our New Mexico Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

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

If this species is listed, funding for recovery actions will be available from a variety of sources, including Federal budgets, State programs, and cost-share grants for non-Federal landowners, the academic community, and nongovernmental organizations. In addition, pursuant to section 6 of the Act, the State of New Mexico would be eligible for Federal funds to implement management actions that promote the protection or recovery of the swale paintbrush. Information on our grant programs that are available to aid species recovery can be found at: <https://www.fws.gov/service/financial-assistance>.

Although the swale paintbrush is only proposed for listing under the Act at this time, please let us know if you are interested in participating in recovery efforts for this species. Additionally, we invite you to submit any new

information on this species whenever it becomes available and any information you may have for recovery planning purposes (see **FOR FURTHER INFORMATION CONTACT**).

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

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

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

Examples of actions for the swale paintbrush that may be subject to conference and consultation procedures under section 7 are land management or other landscape-altering activities on Federal lands administered by the Bureau of Land Management and the U.S. Forest Service as well as actions on

State, Tribal, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat—and actions on State, Tribal, local, or private lands that are not federally funded, authorized, or carried out by a Federal agency—do not require section 7 consultation. Examples of Federal agency actions that may require consultation for the swale paintbrush could include direct participation in Federal permits or funding for habitat maintenance or restoration treatments, emergency response activities (such as for fire), range improvement projects, and public infrastructure maintenance or development (such as transportation infrastructure and border barricades). Given the difference in triggers for conferencing and consultation, Federal agencies should coordinate with the local Service Field Office (see **FOR FURTHER INFORMATION CONTACT**) with any specific questions.

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

We may issue permits to carry out otherwise prohibited activities involving endangered plants under

certain circumstances. Regulations governing permits for endangered plants are codified at 50 CFR 17.62. With regard to endangered plants, a permit may be issued for scientific purposes or for enhancing the propagation or survival of the species. The statute also contains certain exemptions from the prohibitions, which are found in sections 9 and 10 of the Act.

It is our policy, as published in the **Federal Register** on July 1, 1994 (59 FR 34272), to identify to the maximum extent practicable at the time a species is listed, specific activities that will not result in violation of section 9 of the Act. To the extent possible, activities will be considered likely to result in violation will also be identified in as specific a manner as possible. The intent of this policy is to increase public awareness of the effect of a proposed listing on proposed and ongoing activities within the range of the species proposed for listing.

As discussed above, certain activities that are prohibited under section 9 may be permitted under section 10 of the Act. In addition, to the extent currently known, the following activities will not be considered likely to result in violation of section 9 of the Act:

- (1) Normal residential landscaping activities on non-Federal lands that do not occur within known swale paintbrush habitat;
- (2) Cool season livestock grazing (November to April) that is conducted in a manner that does not result in degradation of swale paintbrush habitat; and
- (3) Collection occurring under a Federal permit for scientific or recovery purposes.

This list is intended to be illustrative and not exhaustive; additional activities that will not be considered likely to result in violation of section 9 of the Act may be identified during coordination with the local field office, and in some instances (*e.g.*, with new information), the Service may conclude that one or more of the activities identified here will be considered likely to result in violation of section 9.

To the extent currently known, the following is a list of examples of activities that will be considered likely to result in violation of section 9 of the Act in addition to what is already clear from the descriptions of prohibitions found at 50 CFR 17.61:

- (1) Removing, cutting, digging up, or damaging or destroying swale paintbrush in knowing violation of any law or regulation of the State of New Mexico or in the course of any violation of a State criminal trespass law; and

- (2) Unauthorized collecting, handling, possessing, selling, delivering, carrying, or transporting of swale paintbrush in interstate or foreign commerce, by any means whatsoever and in the course of a commercial activity.

This list is intended to be illustrative and not exhaustive; additional activities that will be considered likely to result in violation of section 9 of the Act may be identified during coordination with the local field office, and in some instances (*e.g.*, with new or site-specific information), the Service may conclude that one of more activities identified here will not be considered likely to result in violation of section 9.

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

## II. Critical Habitat

### Background

Critical habitat is defined in section 3 of the Act as:

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

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

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

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

Our regulations at 50 CFR 424.02 define the geographical area occupied by the species as an area that may generally be delineated around species' occurrences, as determined by the Secretary (*i.e.*, range). Such areas may include those areas used throughout all or part of the species' life cycle, even if not used on a regular basis (*e.g.*, migratory corridors, seasonal habitats, and habitats used periodically, but not solely by vagrant individuals).

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as

research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies ensure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation also does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Rather, designation requires that, where a landowner requests Federal agency funding or authorization for an action that may affect an area designated as critical habitat, the Federal agency consult with the Service under section 7(a)(2) of the Act. If the action may affect the listed species itself (such as for occupied critical habitat), the Federal agency would have already been required to consult with the Service even absent the designation because of the requirement to ensure that the action is not likely to jeopardize the continued existence of the species. Even if the Service were to conclude after consultation that the proposed activity is likely to result in destruction or adverse modification of the critical habitat, the Federal action agency and the landowner are not required to abandon the proposed activity, or to restore or recover the species; instead, they must implement "reasonable and prudent alternatives" to avoid destruction or adverse modification of critical habitat.

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

species (such as space, food, cover, and protected habitat).

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

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

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

Habitat is dynamic, and species may move from one area to another over time. We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be needed for recovery of the species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act; (2)

regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to ensure their actions are not likely to jeopardize the continued existence of any endangered or threatened species; and (3) the prohibitions found in section 9 of the Act. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of the species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of those planning efforts calls for a different outcome.

#### Prudency Determination

Section 4(a)(3) of the Act, as amended, and implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, the Secretary shall designate critical habitat at the time the species is determined to be an endangered or threatened species. Our regulations (50 CFR 424.12(a)(1)) state that the Secretary may, but is not required to, determine that a designation would not be prudent in the following circumstances:

(i) The species is threatened by taking or other human activity and identification of critical habitat can be expected to increase the degree of such threat to the species;

(ii) The present or threatened destruction, modification, or curtailment of a species' habitat or range is not a threat to the species, or threats to the species' habitat stem solely from causes that cannot be addressed through management actions resulting from consultations under section 7(a)(2) of the Act;

(iii) Areas within the jurisdiction of the United States provide no more than negligible conservation value, if any, for a species occurring primarily outside the jurisdiction of the United States;

(iv) No areas meet the definition of critical habitat; or

(v) The Secretary otherwise determines that designation of critical habitat would not be prudent based on the best scientific data available.

We find that designating critical habitat for the swale paintbrush is not prudent under the criterion set forth at 50 CFR 424.12(a)(1)(i). Although no known illegal collection events of swale

paintbrush have been documented, other species within the genus *Castilleja* are horticulturally desirable. Many *Castilleja* species are readily available via online companies, and yellow-bracted species, aesthetically similar to swale paintbrush, are marketed as rare. There is a history of illegal collection occurring for other species at or within the near vicinity of the Gray Ranch site. These collection efforts involved the Sonoran Desert toad (New Mexico Department of Game and Fish 2020, pp. 78–79), New Mexico ridge-nosed rattlesnake (Harris Jr. and Simmons 1975, p. 6; Malpai Borderlands Group 2008, p. 60), and Mexican hog-nosed snake (Medina 2021, pers. comm.). Swale paintbrush is easier to detect and collect than these mobile, camouflaged species. Additionally, swale paintbrush locality data are not published within online databases due to the species' rarity and limited distribution. Designation of critical habitat requires the publication of maps and a narrative description of specific critical habitat areas in the **Federal Register**. The degree of detail necessary to properly designate critical habitat is considerably greater than the general descriptions of location provided in this proposal to list the swale paintbrush as an endangered species. We find that the publication of maps and descriptions outlining the locations would further facilitate unauthorized collection by providing currently unavailable precise location information. Overall, given the small known extant range and population size of this species, its annual duration and reliance on frequent seedbank replenishment, and risks to its seedbank from stochastic events and other ongoing threats to the species, effects from collection (removal of plants and damage to habitat), illegal collection would be deleterious to swale paintbrush. As such, we have determined that the increased collection risk to the swale paintbrush outweighs the benefits that would be afforded to the species from the designation of critical habitat. Therefore, in accordance with 50 CFR 424.12(a)(1), we determine that designation of critical habitat is not prudent for the swale paintbrush.

## Required Determinations

### Clarity of the Rule

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

- (1) Be logically organized;
- (2) Use the active voice to address readers directly;
- (3) Use clear language rather than jargon;
- (4) Be divided into short sections and sentences; and
- (5) Use lists and tables wherever possible.

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

### 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), E.O. 13175 (Consultation and Coordination with Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with federally recognized Tribes on a government-to-government basis. In accordance with Secretary's Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. We contacted all Tribal entities with documented cultural interests in Hidalgo County,

New Mexico—the Hopi Tribe, the White Mountain Apache Tribe, the Mescalero Apache Tribe, and the Fort Sill Apache Tribe—to provide notice of our status review, solicit information, and invite participation in the SSA process. We will continue to work with Tribal entities during the development of a final listing determination for the swale paintbrush.

### References Cited

A complete list of references cited in this rulemaking is available on the internet at <https://www.regulations.gov> under Docket No. FWS-R2-ES-2022-0173 and upon request from the New Mexico Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

### Authors

The primary authors of this proposed rule are the staff members of the Fish and Wildlife Service's Species Assessment Team and the New Mexico Ecological Services Field Office.

### List of Subjects in 50 CFR Part 17

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

### Proposed Regulation Promulgation

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

## PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

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

### § 17.12 Endangered and threatened plants.

\* \* \* \* \*

(h) \* \* \*

Scientific name	Common name	Where listed	Status	Listing citations and applicable rules
FLOWERING PLANTS				
*	*	*	*	*
<i>Castilleja ornata</i> .....	swale paintbrush .....	Wherever found .....	E	[Federal Register citation when published as a final rule].
*	*	*	*	*

**Martha Williams,**  
 Director, U.S. Fish and Wildlife Service.  
 [FR Doc. 2023-12132 Filed 6-7-23; 8:45 am]  
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