

(6) NGSO FSS: 10.7–12.7 GHz, 14.4–14.5 GHz, 17.3–17.8 GHz, 17.8–18.6 GHz, 18.8–19.4 GHz, 19.6–20.2 GHz, 28.35–29.1 GHz, 29.5–30.0 GHz, 40–42 GHz, and 48.2–50.2 GHz;

* * * * *

■ 6. Amend § 25.146 by revising paragraphs (a)(1) and (2) to read as follows:

§ 25.146 Licensing and operating provisions for NGSO FSS space stations.

(a) * * *

(1) Any applicable power flux-density levels in Article 21, Section V, Table 21–4 of the ITU Radio Regulations (incorporated by reference, § 25.108), except:

(i) in the 19.3–19.4 GHz and 19.6–19.7 GHz bands, applicants must certify that they will comply with the ITU power flux-density limits governing NGSO FSS systems in the 17.7–19.3 GHz band; and

(ii) in the 17.3–17.7 GHz band, applicants must certify that they will comply with the ITU power flux-density limits governing NGSO FSS systems in the 17.7–17.8 GHz band; and

(2) Any applicable equivalent power flux-density levels in Article 22, Section II, and Resolution 76 of the ITU Radio Regulations (both incorporated by reference, § 25.108), except that for operations in the 17.3–17.8 GHz band, applicants must certify that they will comply with the ITU equivalent power flux-density limits applicable to NGSO FSS system operations in the 17.8–18.4 GHz band.

* * * * *

■ 7. Amend § 25.202 by revising paragraphs (a)(1)(iii) and (a)(10)(iii) to read as follows:

§ 25.202 Frequencies, frequency tolerance, and emission limits.

(a) * * *

(1) * * *

(iii) The U.S. non-Federal Table of Frequency Allocations, in § 2.106 of this chapter, is applicable between Commission space station licensees relying on a U.S. ITU filing and transmitting to or receiving from anywhere on Earth, including airborne earth stations, in the 17.3–20.2 GHz or 27.5–30.0 GHz bands.

* * * * *

(10) * * *

(iii) The following frequencies are available for use by Earth Stations in Motion (ESIMs) communicating with NGSO FSS space stations, subject to the provisions in § 2.106 of this chapter:

- 10.7–11.7 GHz (space-to-Earth)
- 11.7–12.2 GHz (space-to-Earth)
- 14.0–14.5 GHz (Earth-to-space)
- 17.3–17.7 GHz (space-to-Earth)

- 17.7–17.8 GHz (space-to-Earth)
- 17.8–18.3 GHz (space-to-Earth)
- 18.3–18.6 GHz (space-to-Earth)
- 18.8–19.3 GHz (space-to-Earth)
- 19.3–19.4 GHz (space-to-Earth)
- 19.6–19.7 GHz (space-to-Earth)
- 19.7–20.2 GHz (space-to-Earth)
- 28.4–28.6 GHz (Earth-to-space)
- 28.6–29.1 GHz (Earth-to-space)
- 29.5–30.0 GHz (Earth-to-space)

* * * * *

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R2–ES–2022–0173; FXES1111090FEDR–256–FF09E21000]

RIN 1018–BF79

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

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), determine endangered species status under the Endangered Species Act of 1973 (Act), as amended, for 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. This rule extends the Act’s protections to the species. We find that designating critical habitat for the swale paintbrush is not prudent.

DATES: This rule is effective January 6, 2025.

ADDRESSES: This final rule, supporting materials we used in preparing this rule (such as the species status assessment report), and comments we received on the June 8, 2023, proposed rule are available on the internet at <https://www.regulations.gov> under Docket No. FWS–R2–ES–2022–0173.

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 (16 U.S.C. 1531 *et seq.*), a species warrants listing if it meets the definition of an endangered species (in danger of extinction throughout all or a significant portion of its range) or a threatened species (likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range). If we determine that a species warrants listing, we must list the species promptly and designate the species’ critical habitat to the maximum extent prudent and determinable. We have determined that the swale paintbrush meets the Act’s definition of an endangered species; therefore, we are listing 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. This rule lists 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 the 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, concurrently with listing designate critical habitat for the species. We have determined that designating critical habitat for the swale paintbrush

is not prudent due to the threat of collection and/or vandalism.

Previous Federal Actions

Please refer to our June 8, 2023, proposed listing rule (88 FR 37490) for a detailed description of previous Federal actions concerning the swale paintbrush.

Peer Review

A species status assessment (SSA) team prepared an SSA report for the swale paintbrush. 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 in listing and recovery actions under the Act, we solicited independent scientific review of the information contained in the swale paintbrush SSA report. As discussed in our June 8, 2023, proposed rule (88 FR 37490), we sent the SSA report to four independent peer reviewers and received two responses. The peer reviews can be found at <https://www.regulations.gov> at Docket No. FWS-R2-ES-2022-0173. In preparing the proposed rule, we incorporated the results of these reviews, as appropriate, into the SSA report, which is the foundation for the proposed rule and this final rule. A summary of the peer review comments and our responses can be found in the proposed rule (88 FR 37490 at 37491–37492, June 8, 2023).

Summary of Changes From the Proposed Rule

Based on information we received during the June 8, 2023, proposed rule's public comment period, we made the following changes in this final rule:

(a) We refine our discussion of grazing as a threat under Summary of Biological Status and Threats, below;

(b) We provide additional discussion under Prudency Determination for critical habitat, below, to better convey the risks and consequences of collection events for the species. These additions provide additional support for our not-prudent critical habitat determination; and

(c) We update our list of activities that may qualify as “take” under section 9 of the Act (see Available Conservation

Measures, below) to minimize redundant wording.

Summary of Comments and Recommendations

In the proposed rule published on June 8, 2023 (88 FR 37490), we requested that all interested parties submit written comments on the proposal by August 7, 2023. We also contacted appropriate Federal and State agencies, Tribal entities, scientific experts and organizations, and other interested parties and invited them to comment on the proposal. A newspaper notice inviting general public comment was published in the Hidalgo County Herald. We did not receive any requests for a public hearing. All substantive information we received during the comment period has either been incorporated directly into this final determination or is addressed below.

Public Comments

(1) *Comment:* Multiple commenters requested that we designate a sufficiently large area of critical habitat—hundreds if not thousands of acres—to obviate the risk of illegal collection and that we designate at least two areas of unoccupied critical habitat in the United States—ideally on Federal or public lands—to serve as reintroduction habitat. They suggested that much of the southern Animas Valley could be assumed to be potential habitat given that species had been documented at a second site, the Cowan Ranch site, in 1993, and the area contains many of the physical or biological features essential for the conservation of the species (*i.e.*, areas within the elevational range with the same fine-textured soils, vegetative communities, and low-gradient swales).

Our response: As we explain in our response to (2) *Comment*, below, we maintain that designating occupied areas as critical habitat places increased risk on the swale paintbrush; thus, designating critical habitat for the species is not prudent. Accordingly, we do not think it prudent to designate the area suggested by these commenters.

That said, we acknowledge that there are likely additional areas throughout the Animas Valley that may contain the physical and biological features essential for the conservation of the species. As mentioned in the species' SSA report, we acknowledge that the species may possibly be extant at the Cowan Ranch site, given its similarity of climatic and environmental conditions and land-use history to the Gray Ranch site (Service 2023, pp. 48–49). However, available information that we have on the species' habitat requirements

indicates that the swale paintbrush may be more reliant on microhabitat features that are unknown or unmeasured (Service 2023, pp. 99–100).

To aid in the conservation of the species, we have conducted habitat assessments to identify areas of State and Federal lands in the vicinity of the known occupied habitat that might contain additional populations of the species and/or serve as suitable habitat for potential future reintroduction efforts. Multiple searches for suitable habitat on public trust lands—across years and surveyors—have failed to yield additional observations of swale paintbrush or locate habitat comparable to the Gray Ranch site (Roth 2017, pp. 4–6; Service 2024a, entire; Service 2024b, entire). Additionally, surveys within areas of potentially suitable habitat on private land in the vicinity of the known site have not yielded additional populations of the species (Roth 2017, pp. 4–6; Roth 2020, pp. 3, 5).

When designating critical habitat, the Act and our implementing regulations require that we distinguish areas that are occupied by the species from those that are unoccupied by the species at the time of listing. That means that we cannot designate a large tract of the Animas Valley as critical habitat for the swale paintbrush without distinguishing those areas within the designation that are occupied by the species from those areas unoccupied by the species. To claim that the entire designation is “occupied” would stretch that term beyond its reasonable definition and imply that we assume the swale paintbrush is more widely distributed than it is based on the best available information. Therefore, the approach suggested by the commenters would not avoid the publication of relatively precise swale paintbrush locality data, which would put this rare species at risk of illegal collection and/or vandalism events. These risks are explained further below, under Prudency Determination.

(2) *Comment:* Multiple commenters requested that we reconsider our “not prudent” determination for critical habitat. The commenters suggested that a “not prudent” determination was not defensible for a few reasons. First, one of the commenters suggested that we did not adequately weigh the collection risk against the benefits of critical habitat designation, citing as support the *Natural Resources Defense Council v. U.S. Dept. of Interior*, 113 F.3d 1121 (9th Cir. 1997) court opinion. Second, multiple commenters stated that there is not a documented collection risk to swale paintbrush or other plant species;

the given examples of illegal collection were all from herpetofauna and were all dated examples. Finally, they stated that the plant has little to no commercial value and, thus, does not have as much inherent risk for illegal collection.

Our response: The Act requires the Service to designate critical habitat to the maximum extent prudent and determinable, and we recognize that—while the Act provides some limited flexibility to find that the designation of critical habitat should not be undertaken for a particular species—not-prudent determinations are generally expected to be rare (see 88 FR 40764 at 40768; June 22, 2023, and 89 FR 24300 at 24315–24317; April 5, 2024). Our regulations at 50 CFR 424.12 outline a non-exhaustive list of circumstances in which such designation may not be prudent, including when 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.

In the case that we find the designation of critical habitat would not be prudent, we must state the rationale in our proposed and final rules. While we must provide our rationale, a weighing analysis—such as the one suggested by one of the commenters—is conducted in situations when we are designating critical habitat and considering whether any areas should be excluded from such designation under section 4(b)(2) of the Act; weighing analyses are not a component of a determination of whether designation of critical habitat may not be prudent. This point was noted in the dissenting opinion of the *Natural Resources Defense Council v. U.S. Dept. of Interior*, 113 F.3d 1121, lawsuit.

In the preamble to both the 2018 proposed rule (83 FR 35193 at 35197, July 25, 2018) and the 2019 final rule (84 FR 45020 at 45040, August 27, 2019) revising the critical habitat regulations at 50 CFR 424.12 that we administer jointly with the National Marine Fisheries Service (collectively referred to as the “Services”), we recognized the confusion surrounding past regulatory language that indicated that it would not be prudent to designate critical habitat when “designation of critical habitat would not be beneficial to the species.” As this phrase has been interpreted in ways that we did not intend, including creating the implication that a balancing analysis was a required component of prudency determinations under the Act, the Services removed the “not be beneficial to the species” language from the regulations in 2019 (84 FR 45020 at

45053, August 27, 2019). In the 2023 proposed rule (88 FR 40764 at 40768 and 40774, June 22, 2023) and the 2024 final rule (89 FR 24300 at 24318; April 5, 2024) to revise the regulations at 50 CFR 424.12, the Services do not propose to reinstate the “not be beneficial to the species” language.

As noted above, under the Act’s implementing regulations, we may determine that a critical habitat designation is not prudent if 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 (50 CFR 424.12(a)(1)(i)). This portion of the Act’s implementing regulations has remained constant between the 2019 regulatory change (84 FR 45020, August 27, 2019) and the 2024 regulatory change (89 FR 24300; April 5, 2024). As we state in the proposed listing rule for swale paintbrush, effects from illegal collection (removal of plants and damage to habitat) will exacerbate the degree of risk to the known population of swale paintbrush (88 FR 37490 at 37502–37503, June 8, 2023).

In supporting our not-prudent critical habitat determination in the proposed listing rule for swale paintbrush, we outlined both documented instances of harm to similar species in other areas and documented instances of such harm to other species in the same geographic area (88 FR 37490 at 37502–37503, June 8, 2023). *Castilleja* species may not be as desirable as other plant species (e.g., orchids, cacti, and carnivorous plants); however, commercial value for *Castilleja* seed is apparent from online native seed markets. Although we evaluate the exposure likelihood for illegal collection of swale paintbrush to range from unlikely to possible, the severity of consequences is moderate to severe, depending on the intensity of the collection pressure relative to the abundance of plants in a given year. For instance, the estimated abundance of the known population in 2017 may have been as few as two individuals; if collection had occurred within that year, the implications could have been catastrophic to reproductive effort and/or seedbank replenishment. In short, given the limited distribution and abundance of the species, the limited longevity of the plant’s seeds in the seedbank and dependence of the species on the seedbank, and the high severity of consequences that increased collection pressure could have on the species and its seedbank, the risks of adverse effects from collection pose a threat to the species.

Since proposing to designate critical habitat involves publicly publishing

precise locality information and distinguishing occupied from unoccupied critical habitat units, this risk cannot be mitigated. Therefore, we maintain the determination that it is not prudent to designate critical habitat for swale paintbrush. We added additional discussion pertaining to the risks associated with a critical habitat designation under Prudency Determination, below.

(3) *Comment:* One commenter suggested that, as an alternative to designating critical habitat, we develop and implement a conservation plan for swale paintbrush sufficient to support a critical habitat exclusion.

Our response: Although there is not a formal conservation plan in place that lists swale paintbrush as a covered species, there are multiple ongoing efforts aimed at benefitting the species, its habitat, or both. Critical habitat designation is one tool in our toolbox for enacting conservation and/or recovery of the species, and the lack of a critical habitat designation does not beget a lack of conservation effort for the species. As part of our survey and monitoring efforts for the swale paintbrush—which were initiated prior to proposing to list this species—we have been working to identify areas of potentially suitable swale paintbrush habitat within the Animas Valley that might contain unknown populations and/or serve as potential reintroduction sites for future conservation or recovery efforts. Additionally, we have worked with the landowners as well as State, nongovernmental, and other Federal agency partners to collect and maintain ex situ seed storage of 77 maternal lines of the species, with 59 lines being maintained at two storage institutions (Service 2023, p. 33). One storage collection is intended for research, grow out, seed increases, and eventual return to the wild; the other collection is intended for long-term back-up storage. Finally, although the swale paintbrush is not listed as a covered species under the Malpai Borderlands Habitat Conservation Plan (HCP), discussed in more detail under *Conservation Efforts and Regulatory Mechanisms*, below, this plan has the potential to maintain and enhance the grassland ecosystems in which the swale paintbrush occurs (Service 2023, pp. 31–33). Finally, during the June 8, 2023, proposed rule’s public comment period, we received information from the landowners stating that they have, and will, continue to avoid grazing near swale paintbrush populations during the plant’s active season (Animas Foundation 2023, entire).

Additionally, for a critical habitat exclusion under section 4(b)(2) of the Act, the mechanism through which areas of critical habitat would be excluded from designation based on conservation plans, we must first propose to designate critical habitat. As discussed in other comments, above, and under Prudency Determination, below, we are not proposing to designate critical habitat due to the risk that doing so would exacerbate the degree of risk to the known population by publishing locality information.

(4) *Comment:* One commenter provided information and suggested that grazing is a more nuanced influential factor for the swale paintbrush than was presented in the June 8, 2023, proposed rule. The commenter also stated that observations from the known population indicate that the species may be reliant on heavy disturbance.

Our response: In this final rule, we add more nuance to the discussion of grazing and disturbance under “Effects of Intensive Grazing,” below. While the swale paintbrush requires canopy gaps that are maintained by periodic disturbance through natural processes (e.g., hydrological cycles, seasonally appropriate fires, burrowing, cool season grazing), intensive disturbance, such as mechanical tillage, particularly during the active season, is currently a documented threat for *Castilleja* species (see 62 FR 31740, June 11, 1997; 88 FR 46088 at 46092, July 19, 2023; Service 2023, pp. 53–82). Thus, the best available information does not support that the swale paintbrush is reliant on heavy disturbance, and further research would be needed to assess the use of anthropogenic disturbance for stimulating swale paintbrush emergence and growth.

I. Final Listing Determination

Background

A thorough review of the taxonomy, life history, and ecology of the swale paintbrush 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. The 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 in 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 2024b, entire). 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 the 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. On April 5, 2024, jointly with the National Marine Fisheries Service, the Service issued a final rule that revised the regulations in 50 CFR 424 regarding how we add, remove, and reclassify endangered and threatened species and what criteria we apply when designating listed species’ critical habitat (89 FR 24300). On the same day, the Service published a final rule revising our protections for endangered species and threatened species at 50 CFR 17 (89 FR 23919). These final rules are now in effect and are incorporated into the current regulations. Our analysis for this final decision applied our current regulations. Given that we proposed listing this species under our prior regulations (revised in 2019), we have also undertaken an analysis of whether our decision would be different if we had continued to apply the 2019 regulations; we concluded that the decision would be the same. The analyses under both the regulations currently in effect and the 2019 regulations are available on <https://www.regulations.gov>.

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

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

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

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

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

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

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

However, the mere identification of any threat(s) does not necessarily mean that the species meets the statutory definition of an "endangered species" or a "threatened species." In determining whether a species meets either definition, we must evaluate all identified threats by considering the species' expected response and the effects of the threats—in light of those actions and conditions that will ameliorate the threats—on an individual, population, and species level. We evaluate each threat and its expected effects on the species, then analyze the cumulative effect of all of the threats on the species as a whole. We also consider the cumulative effect of the threats in light of those actions and conditions that will have positive effects on the species, such as any existing regulatory mechanisms or conservation efforts. The Secretary determines whether the species meets the definition of an "endangered species" or a "threatened species" only after conducting this cumulative analysis and describing the expected effect on the species.

The Act does not define the term "foreseeable future," which appears in the statutory definition of "threatened species." Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis which is further described in the 2009 Memorandum Opinion on the foreseeable future from the Department of the Interior, Office of the Solicitor (M-37021, January 16, 2009; "M-Opinion," available online at <https://www.doi.gov/sites/>

[doi.opengov.ibmcloud.com/files/uploads/M-37021.pdf](https://www.doi.gov/sites/doi.opengov.ibmcloud.com/files/uploads/M-37021.pdf)). The foreseeable future extends as far into the future as the U.S. Fish and Wildlife Service and National Marine Fisheries Service (hereafter, the Services) can make reasonably reliable predictions about the threats to the species and the species' responses to those threats. We need not identify the foreseeable future in terms of a specific period of time. We will describe the foreseeable future on a case-by-case basis, using the best available data and taking into account considerations such as the species' life-history characteristics, threat-projection timeframes, and environmental variability. In other words, the foreseeable future is the period of time over which we can make reasonably reliable predictions. "Reliable" does not mean "certain"; it means sufficient to provide a reasonable degree of confidence in the prediction, in light of the conservation purposes of the Act.

Analytical Framework

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

To assess 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 (for example, wet or dry, warm or cold years); redundancy is the ability of the species to withstand catastrophic events (for example, droughts, large pollution events); and representation is the ability of the species to adapt to both near-term and long-term changes in its physical and biological environment (for example, climate conditions, pathogens). In general, species viability will increase with increases in resiliency, redundancy, and representation (Smith et al. 2018, p. 306). Using these principles, we identified the species' ecological requirements for survival and reproduction at the individual, population, and species levels, and

described the beneficial and risk factors influencing the species' viability.

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

The following is a summary of the key results and conclusions from the SSA report; the full SSA report can be found at Docket No. FWS-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 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. 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"> • Winter temperatures below 2 degrees Celsius (36 degrees Fahrenheit) for cold stratification.
Seedlings and Vegetative Plants—establishment and growth.	Suitable biotic and abiotic conditions	<ul style="list-style-type: none"> • Suitable warmth, light, and soil moisture for germination of seeds; cool season precipitation supports germination soil moisture. • Adequate monsoonal rainfall June through August, the critical rainfall period for swale paintbrush, for growth and establishment. • 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.
Flowering Plants—reproduction	Pollination	<ul style="list-style-type: none"> • Lack of herbivory throughout germination, establishment, and growth periods. • Presence of suitable pollinators during the flowering season (June to September). • Lack of herbivory through flower production (June to September) and seed set (July to October).

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

Resiliency type	Requirements	Detail
Demographic	Population growth rate (λ)	<ul style="list-style-type: none"> • The long-term λ needs to be high enough to rebound from periodic population crashes, <i>i.e.</i>, on average $\lambda > 1.0$.
	Population size (N)	<ul style="list-style-type: none"> • Sufficiently large N to withstand periodic stochastic events and population crashes. • The N required may vary geographically across populations.
Habitat	Precipitation	<ul style="list-style-type: none"> • Adequate quantity and timing of cool season rainfall to allow for germination and establishment. • 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.
	Habitat	<ul style="list-style-type: none"> • Presence of host species, likely alkali sacaton, for hemiparasitic relationships and increased uptake of water and nutrients. • Minimal to no nonnative vegetation that outcompetes swale paintbrush, its host species, or pollinator forage and host plants for soil nutrients, light, and water resources. • Absence of persistent chemical contaminants that interfere with swale paintbrush's, host species', or pollinator species' physiological functionality. • Limited levels of herbivory across all life stages. • Natural processes, such as hydrological cycles and periodic disturbances, that maintain grassland integrity (<i>e.g.</i>, 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).
	Pollination	<ul style="list-style-type: none"> • Presence of suitable pollinator(s). • Sufficient soil moisture and nutrients for production of flowers and nectar resources. • An abundance and diversity of native flowering plants within the habitat to attract pollinators and maintain genetic connectivity between swale paintbrush patches.

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>i.e.</i> , to reduce covariance among populations); populations spread out geographically but also ecologically (different ecological settings).
Representation	Maintain adaptive diversity of the species.	Populations maintained across spatial and environmental gradients to maintain ecological and genetic diversity.

TABLE 3—SPECIES-LEVEL ECOLOGY OF SWALE PAINTBRUSH: REQUIREMENTS FOR LONG-TERM VIABILITY—Continued
 [Ability to maintain self-sustaining populations over a biologically meaningful timeframe]

3 Rs	Species-level requisites	Description
	Maintain evolutionary processes ...	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 the 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 is 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 estimate that these are rangewide threats to this species. These stressors and their effects to the 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 of and travel through habitat (and the associated decrease in genetic exchange through decreased rates of pollinator visitation and/or seed dispersal), 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, which leads to reduced reproductive potential and adaptive capacity (Oostermeijer 2003, p. 1 and reference therein). Major sources of habitat loss and fragmentation within the swale paintbrush's range include land conversion to agriculture and development associated with human habitation and transportation.

Hydrological Alteration

The 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 life cycle, 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 the 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, the swale paintbrush's reproductive season (Malpai Borderlands Group (MBG) 2008, pp. 63–116). If fire interrupts the species' annual life cycle, existing seedbanks may become depleted and/or seedbank replenishment may be thwarted.

Effects of Intensive Grazing

The swale paintbrush occurs in grasslands that are used for grazing. Cool season grazing and/or other natural processes help to create the canopy gaps that this species needs for establishment (see *Species Needs*, above). Exclusion of grazing promotes canopy gap closure, especially under circumstances of reduced fire frequency, which results in reduced habitat suitability for the swale paintbrush's germination, establishment, and growth (Service 2023, pp. 22, 28, 51). However, excessive grazing pressure that results in significant canopy loss (Factor A) increases the potential for evaporation, erosion, and nutrient loss (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 habitat 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 life cycle, 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 the swale paintbrush's 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 the 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 historical swale paintbrush 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 U.S. Environmental Protection Agency (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 hydrologic unit code (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 the 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 nonviable. The combined effects of increased soil seedbank loss and reduced seedbank replenishment lead 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 the 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 (*Incilius (=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). The 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 the swale paintbrush, 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) would be deleterious and potentially catastrophic to the swale paintbrush.

Cumulative Effects

In summary, swale paintbrush is likely adapted to withstand stochastic stressor events individually and intermittently. However, the increased intensity of, the increased frequency of, the co-occurrence or consecutive occurrence of, and the synergistic effects between stochastic stressor events increase the risks to this species. Given the swale paintbrush's annual duration, reliance on frequent seedbank

replenishment, and low seed longevity, as few as 2 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 known occupied site—the Gray Ranch site—exists 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 in 1993 in New Mexico, and in 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 the 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, the 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 11 hectares (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 (984 feet) 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 the swale paintbrush's 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 the 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 the 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. Fires during the growing season 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 analysis reflects 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. Rangelwide,

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 (the Gray Ranch 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, the swale paintbrush has limited to no redundancy, depending on the status of the species at the historical sites. Even if the 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 reflects 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 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).

The swale paintbrush is listed as an endangered species by the State of New Mexico. In New Mexico, the 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 the 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 the 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 endangered species or threatened species because of any of the following factors: (A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

Status Throughout All of Its Range

After evaluating threats to the species and assessing the cumulative effect of the threats under the Act’s section 4(a)(1) factors, we 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 11 hectares (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 estimate 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 the 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 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 the 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. Fires during the growing season 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, the 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 reflects only a small portion of its historical genetic and ecological diversity; thus, the swale paintbrush has limited capacity to adapt to long-term environmental changes (*i.e.*, limited representation). Even if the swale paintbrush is extant at sites outside of the Gray Ranch, the majority of these potentially extant historical sites are isolated, and, therefore, 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 the 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 within 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 portions 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), because that decision related to significant portion of the range analyses for species that warrant listing as threatened, not endangered, throughout all of their range.

Determination of Status

Our review of the best available scientific and commercial information indicates that the swale paintbrush meets the Act's definition of an endangered species. Therefore, we are listing 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 ranges 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.

When this rule is effective (see **DATES**, above), 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 will 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>.

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

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

Section 7(a)(2) states that each Federal action agency shall, in consultation with the Secretary, ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Each

Federal agency shall review its action at the earliest possible time to determine whether it may affect listed species or critical habitat. If a determination is made that the action may affect listed species or critical habitat, formal consultation is required (50 CFR 402.14(a)), unless the Service concurs in writing that the action is not likely to adversely affect listed species or critical habitat. At the end of a formal consultation, the Service issues a biological opinion, containing its determination of whether the Federal action is likely to result in jeopardy or adverse modification.

Examples of discretionary actions for the swale paintbrush that may be subject to 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. Federal agencies should coordinate with the local Service Field Office (see **FOR FURTHER INFORMATION CONTACT**) with any specific questions on section 7 consultation and conference requirements.

The Act and its implementing regulations set forth a series of general prohibitions and exceptions that apply to endangered plants. The prohibitions of section 9(a)(2) of the Act, and the Service's implementing regulations codified at 50 CFR 17.61, make it illegal for any person subject to the jurisdiction of the United States to commit, to attempt to commit, to solicit another to commit, or to cause to be committed any of the following acts with regard to any endangered plant: (1) import into, or export from, the United States; (2) remove and reduce to possession from areas under Federal jurisdiction; maliciously damage or destroy on any such area; or remove, cut, dig up, or damage or destroy on any other area in knowing violation of any law or regulation of any State or in the course

of any violation of a State criminal trespass law; (3) deliver, receive, carry, transport, or ship in interstate or foreign commerce, by any means whatsoever and in the course of a commercial activity; or (4) sell or offer for sale in interstate or foreign commerce. Certain exceptions to these prohibitions apply to employees or agents of the Service, other Federal land management agencies, and State conservation agencies.

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

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

As mentioned 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; and

(2) Cool season livestock grazing (November to April) that is conducted in a manner that does not result in degradation of swale paintbrush habitat.

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 activities identified here will be

considered likely to result in violation of section 9.

At this time, we are unable to identify specific activities that will be considered likely to result in a violation of section 9 of the Act beyond what is already clear from the descriptions of the prohibitions in section 9(a)(2) of the Act and at 50 CFR 17.61. 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

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

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

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

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

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

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

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 translocation, 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 each Federal action agency 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 designated 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 action agency would have already been required to consult with the Service even absent the critical habitat designation because of the requirement to ensure that the action is not likely to jeopardize the continued existence of the species. Even if the Service were to conclude after consultation that the proposed activity is likely to result in destruction or adverse modification of the critical habitat, the Federal action agency and the landowner are not required to abandon the proposed activity, or to restore or recover the species; instead, they must implement "reasonable and prudent alternatives" to avoid destruction or adverse modification of critical habitat.

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

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

Section 4 of the Act requires that we designate critical habitat on the basis of the best scientific data available. Further, our Policy on Information Standards Under the Endangered Species Act (published in the **Federal Register** on July 1, 1994 (59 FR 34271)), the Information Quality Act (section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Pub. L. 106-554; H.R. 5658)), and our associated Information Quality Guidelines provide criteria, establish procedures, and provide guidance to ensure that our decisions are based on the best scientific data available. They require our biologists, to the extent consistent with the Act and with the use of the best scientific data available, 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 this species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, HCPs, or other species conservation planning efforts if new information available at the time of these 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. On April 5, 2024, we published a final rule that revised our regulations at 50 CFR part 424 to further clarify when designation of critical habitat may not be prudent (89 FR 24300). Our regulations (50 CFR 424.12(a)(1)) state that designation of critical habitat may not be prudent in circumstances such as, but not limited to, the following:

(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;

(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; or

(iv) No areas meet the definition of critical habitat.

In the proposed listing rule, we determined that designation of critical habitat for swale paintbrush would not be prudent (88 FR 37490 at 37502–37503, June 8, 2023). We invited public comment and requested information on our rationale that designation of critical habitat was not prudent based on circumstance (i). Comments we received during the public comment period indicated some disagreement that collection is a threat to the species, which is described and addressed in

further detail in the *Public Comments* section, above. After review and consideration of the comments we received, we now make a final determination that the designation of critical habitat for the swale paintbrush is not prudent, in accordance with 50 CFR 424.12(a)(1). Our not prudent finding for the swale paintbrush is based on the threat of collection—circumstance (i)—which is identical in the 2019 regulations (under which the proposed rule published) and the 2024 regulations (under which this final rule is being published); thus, there is no functional or operation difference in application or outcome. Analysis under both the 2019 and 2024 regulation provisions is identical.

In our June 8, 2023, proposed rule, we noted that because of 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 illegal collection (removal of plants and damage to habitat) would be deleterious to the swale paintbrush (88 FR 37490 at 37502–37503, June 8, 2023).

Although no known illegal collection events of the swale paintbrush have been documented, other species within the genus *Castilleja* are horticulturally desirable. Seeds of many *Castilleja* species are readily available via online companies, and yellow-bracted species, aesthetically similar to the 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.). The swale paintbrush is easier to detect and collect than these mobile, camouflaged species. Illegal collection and/or vandalism events are difficult to document, especially in the case of rare plant species, but they are suspected as a possible cause for the declines of many rare plant species (Krigas et al. 2014, p. 86; Margulies et al. 2019, pp. 174, 178; Lavorgna et al. 2020, p. 28).

Additionally, swale paintbrush locality data are not published within online databases due to the species' rarity and limited distribution (Gilbert and Pearson 2021, unpaginated; iNaturalist 2023, unpaginated; Natural Heritage New Mexico n.d., unpaginated). 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 rule to list the swale paintbrush as an endangered species. We find that the publication of maps and descriptions outlining the locations could further facilitate unauthorized collection and/or vandalism by providing currently unavailable precise location information.

Furthermore, we assessed the risks associated with a critical habitat designation for the swale paintbrush, and some of them would be catastrophic. The swale paintbrush is an annual plant species, and *Castilleja* seed longevity is not documented at greater than 2 years in the wild; thus, frequent replenishment of the seedbank is essential to population persistence (Service 2023, p. 22). As few as 2 consecutive years of adverse environmental conditions or human-caused or natural adverse stochastic events could lead to population extirpation for this species (Service 2023, p. 30). Factors that thwart seedbank replenishment include growing season inundation, fire, or grazing/trampling; vegetative competition; drought; and illegal collection (Service 2023, pp. 28–31, 34, 95). These factors can occur simultaneously or consecutively, and synergistic interactions between these threats are possible (Service 2023, p. 30). Given the small known extant range—approximately 11 hectares (28 acres)—and population size of the species, combined with risks to its seedbank from stochastic events and other ongoing threats to the species, the swale paintbrush is exceptionally vulnerable to adverse effects from illegal collection (including removal of swale paintbrush seeds from the wild) and/or vandalism. Such adverse effects include genetic effects (loss of genetic diversity, evolutionary potential, and adaptive capacity) and habitat effects (changes in habitat quality) in addition to demographic effects (reduced seed bank abundance and, therefore, reduced population abundance). The actual severity of impact from a collection event depends on how a collection is conducted as well as the population abundance and fecundity at the site in years preceding, during, and following the collection event. While the consequences of any given collection event are unpredictable, increased collection pressure—combined with the

impacts of other, ongoing stressors—is likely to result in increased risk of population extirpation and, thus, species extinction in the wild.

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 illegal collection (removal of plants and damage to habitat) would be deleterious to the swale paintbrush. 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

Government-to-Government Relationship With Tribes

In accordance with the President’s memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951, May 4, 1994), Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments), the President’s memorandum of November 30, 2022 (Uniform Standards for Tribal Consultation; 87 FR 74479, December 5, 2022), and the Department of the Interior’s manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with federally recognized Tribes and Alaska Native Corporations (ANCs) on a

government-to-government basis. In accordance with 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 them notice of our status review; solicit information and invite their participation in the SSA process; and inform them of the publication of our June 8, 2023, proposed rule and its open public comment period. We did not receive any information from Tribal entities during the SSA process or during our June 8, 2023, proposed rule’s public comment period. We will continue to coordinate with Tribal entities throughout the recovery process 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> and upon request from the New Mexico Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this 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.

Regulation Promulgation

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

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

■ 2. In § 17.12, in paragraph (h), amend the List of Endangered and Threatened Plants by adding an entry for “*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	* 89 FR [INSERT FEDERAL REGISTER PAGE WHERE THE DOCUMENT BEGINS], 12/05/2024.
*	*	*	*	*

Gary Frazer,
 Acting Director, U.S. Fish and Wildlife Service.
 [FR Doc. 2024–28357 Filed 12–4–24; 8:45 am]
BILLING CODE 4333–15–P

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
50 CFR Part 648
[Docket No. 231215–0305; RTID 0648–XE501]
Fisheries of the Northeastern United States; Summer Flounder Fishery; 2024 Commercial Quota Harvested for the State of Rhode Island
AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and

Atmospheric Administration (NOAA), Commerce.
ACTION: Temporary rule; closure.
SUMMARY: NMFS announces that the 2024 summer flounder commercial quota allocated to the State of Rhode Island has been harvested. Vessels issued a commercial Federal fisheries permit for the summer flounder fishery may not land summer flounder in Rhode Island for the remainder of calendar year 2024, unless additional quota becomes available through a transfer from another state. Regulations governing the summer flounder fishery