DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R1–ES–2021–0154; FF09E22000FXES1113090FEDR 234]

RIN 1018–BE54

Endangered and Threatened Wildlife and Plants; Removing Nelson's Checker-Mallow From the Federal List of Endangered and Threatened Plants

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), are removing Nelson's checker-mallow (*Sidalcea nelsoniana*) from the Federal List of Endangered and Threatened Plants. Our review of the best available scientific and commercial data indicates that the threats to Nelson's checker-mallow have been eliminated or reduced to the point that the species no longer meets the definition of an endangered or threatened species under the Endangered Species Act of 1973, as amended (Act).

DATES: This rule is effective November 16, 2023.

ADDRESSES: This final rule and supporting documents, including references cited, the 5-year review, the recovery plan, the species status assessment (SSA) report, and the post-delisting monitoring (PDM) plan, are available at *https://www.regulations.gov* under Docket No. FWS–R1–ES–2021–0154.

FOR FURTHER INFORMATION CONTACT: Kessina Lee, Project Leader, U.S. Fish and Wildlife Service, Oregon Fish and Wildlife Office, 2600 SE 98th Ave., Suite 100, Portland, OR 97266; telephone: 503–231–6179. 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:

Previous Federal Actions

On February 12, 1993, we published in the **Federal Register** (58 FR 8235) a final rule listing Nelson's checker-mallow as a threatened species. In 2010, we finalized the Recovery Plan for the Prairie Species of Western Oregon and Southwestern Washington, which includes Nelson's checker-mallow (Service 2010, entire). We conducted a 5-year status review in 2012, and did not recommend reclassification (Service 2012, entire). On May 7, 2018, we announced in the **Federal Register** (83 FR 20088) our initiation of a subsequent 5-year review for the species. We completed the status review in 2021, and therein recommended delisting the species. On April 28, 2022, we published in the **Federal Register** (87 FR 25197) a proposed rule to remove Nelson's checker-mallow from the Federal List of Endangered and Threatened Plants (List).

Peer Review

An SSA team prepared the SSA report for Nelson's checker-mallow (Service 2021, entire). The SSA team was composed of Service biologists, and the team consulted 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 actions under the Act, we solicited independent scientific reviews of the information contained in the Nelson's checker-mallow SSA report. As discussed in the proposed rule, we sent the SSA report to four independent peer reviewers and received no responses. The SSA report was also submitted to our Federal, State, municipal, Tribal, and conservation partners for scientific review. We received responses from two partners, representing a Federal agency and a nonprofit conservation partner. In preparing the proposed rule, we incorporated the results of these reviews, as appropriate, into the SSA report, which was the foundation for the proposed rule and this final rule.

Summary of Changes From the Proposed Rule and Draft Post-Delisting Monitoring Plan

We considered all comments and information we received during the comment period on our proposed rule to delist Nelson's checker-mallow (87 FR 25197; April 28, 2022). This consideration resulted in the following changes from the proposed rule and draft PDM plan to this final rule and the updated PDM plan.

In this final rule, we include updated monitoring data and the results of a partial range-wide survey conducted in 2022, the species' potential response to climate change, and status of reintroduction efforts. We also make nonsubstantive, editorial corrections in our preamble to improve clarity.

We revised the PDM plan by updating the monitoring timetable and schedule to include periodic surveys over a 10-year timeframe, updating tables and text to reflect results of recent monitoring efforts, and making one substitution and one addition to the monitoring site table to better represent the current distribution of the species.

Summary of Comments and Recommendations

In the proposed rule published on April 28, 2022 (87 FR 25197), we requested that all interested parties submit written comments on the proposal by June 27, 2022. We also contacted appropriate Federal and State agencies, scientific experts and organizations, and other interested parties and invited them to comment on the proposal. We did not receive any requests for a public hearing. We received comments from two individuals addressing the proposed rule, representing one public commenter and one State agency. These comments are posted at *https://www.regulations.gov* under Docket No. FWS–R1–ES–2021–0154. The public comment opposed the proposed delisting of the Nelson's checker-mallow but did not provide substantive information that could be evaluated or incorporated, and we do not address it further here. The State agency comment also opposed the proposed delisting and provided substantive information that is addressed below.

Comment (1): The Oregon Department of Agriculture (ODA) commented that there is an overall lack of sufficient data in the SSA report to back up claims of population growth trends, reproduction, and recruitment to support delisting Nelson's checker-mallow. ODA recommended that the Service consider a more robust, comprehensive, methodical, and organized approach to annual monitoring of these vulnerable prairie species, and stated that, based on the SSA report, it is unclear whether populations of this species are self-sustaining or are exhibiting explosive population growth due to intensive outplanting.

Response (1): In accordance with section 4(b)(1)(A) of the Act (16 U.S.C. 1531 *et seq.*), this delisting determination for Nelson's checker-mallow is based on the best scientific

and commercial data available. The Service considered population growth, reproduction, and recruitment of Nelson's checker-mallow in the SSA report when assessing the species' resiliency. We recognize that sites are not monitored regularly throughout the entire range, and that there is interannual variation in abundance at sites. However, monitoring data from the time of listing through 2022 show an overall trend of population growth with increasing abundance and an increasing number of known sites. At the time of listing, there were 49 known sites, of which 19 had 100 to 999 plants, and 5 had 1,000 plants or more (Service 2012, pp. 17–19). Of the 66 sites known at the time of the SSA report, 28 had 100 to 999 plants, and 24 sites had 1,000 plants or more (Service 2021, pp. 17–18). Restoration activities include establishment of 51 new sites (*i.e.,* out-plantings) and augmentation of 15 existing sites. At this time, population increases are driven by restoration activities and not natural recruitment; however, seedlings have been observed on most (35 of 65) surveyed sites (Silvernail et al. 2016, pp. 21–24).

In 2022, the Service funded a partial range-wide survey (less than 50 percent of known sites) of Nelson's checker-mallow (Service 2022, entire). Within sites, the survey focused on obtaining an inventory of larger patches of Nelson's checker-mallow plants, so most smaller and isolated patches were not included. A total of 62 patches, including more than 86 percent of the plants known to exist, were surveyed. Overall, the population remains high with over 369,000 plants counted, reflecting an overall increase of approximately 30,000 plants since completion of the SSA report in 2021. Restored sites continue to contribute more than 90 percent of individuals (Service 2022, p. 5).

Comment (2): ODA commented that while there have been successful artificial reintroductions, because of the dearth of population trend, reproduction, and demographic data, there is no sense of how reintroductions have performed since 2017, when the last range-wide species survey was undertaken. ODA recommended that the Service demonstrate long-term viability of these reintroduction efforts through focused, long-term monitoring before delisting the species.

Response (2): While there have not been more recent range-wide species surveys since 2017, monitoring of 62 patches in 2022 (including more than 86 percent of known Nelson's checker-mallow plants) demonstrated the population remains high and restored sites continue to contribute more than 90 percent of individuals (Service 2022, p. 5).

In addition, the Service notes in the SSA report that long-term monitoring data are not currently available for the majority of Nelson's checker-mallow sites and were not a component of our resiliency assessment (Service 2021, p. 26). We are required to make our determinations based on the best available scientific and commercial data at the time the determination is made. Current data indicate that since the Nelson's checker-mallow was listed as threatened in 1993, the species has increased in both number and size of populations, with a majority of populations under management plans or public ownership, such that the species is no longer in danger of extinction within the foreseeable future throughout all or a significant portion of its range. Considering the best scientific and commercial information available, Nelson's checker-mallow also does not meet the Act's definition of a threatened species. Finally, the PDM plan outlines a 10-year monitoring plan with specific criteria for site selection, data collection and analysis methods, and reporting requirements to track the species' status. The PDM plan also contains thresholds for population numbers and distribution, and triggers for management protections to ensure that Nelson's checker-mallow remains secure from the risk of extinction following delisting.

Comment (3): ODA recommended that the Service increase its reintroduction efforts in the northern recovery zones given the statement in the SSA report that Coast Range, Portland, and Southwest (SW) Washington are known to have the minimum number of populations but do not meet the recovery goals for abundance.

Response (3): At the time the SSA report was written, recovery goals for abundance in the Coast Range (15,000 plants), Portland (5,000 plants), and SW Washington (10,000 plants) recovery zones had not been met. Since that time, more than 11 new introduction sites have been established across the species' range. While the Coast Range and SW Washington recovery zones remain below their abundance goals, the Portland recovery zone now exceeds its abundance goal. Recent surveys also show increasing trends in plant abundance across the species' range with the total number of plants increasing from 334,968 at the time of the SSA report (Service 2021, p. 15) to 426,032 in 2022 (Service 2022, pp. 2–3). Support for the ongoing conservation of Nelson's checker-mallow has been high among government agencies, nongovernmental conservation organizations, and some private landowners. It is anticipated that priority recovery and management actions, including additional reintroduction efforts, will continue at approximately the current pace and that the species will continue to benefit from this ongoing conservation support.

Comment (4): ODA expressed a concern about the species' ability to adapt to climate change given the recent drought and extreme heat coupled with the most successful recovery zones occurring at the southern end of the species' range. They emphasized the need for a better understanding of the magnitude and urgency of the threats and that data beyond 2020/2021 would be helpful in understanding the species' response to future climate conditions.

Response (4): The Service reviews the best scientific and commercial information available when conducting a threats analysis. The identification of factors that could impact a species negatively is not sufficient to compel a finding that listing (or maintaining a currently listed species) on the Federal Lists of Endangered or Threatened Wildlife and Plants is appropriate. In determining whether a species meets the definition of a threatened or endangered species, 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, as well as the cumulative effect of the threats.

In our assessment of future viability of the species in the SSA report, we considered a worst case scenario that assumed that the anticipated effects of climate change would result in the reduction of Nelson's checker-mallow populations by 50 percent within a period of 25 to 50 years (Service 2021, pp. 29–30). However, even under this scenario, our analysis suggests that loss of resiliency will be modest, with 60 sites remaining in moderate or high condition, no change in the number of recovery zones that meet recovery goals, and no major changes in redundancy or representation expected. Collectively, this suggests that in 25 to 50 years, viability of the species will not be significantly reduced (Service 2021, p. 31). In addition, Nelson's checker-mallow has a deep taproot that allows it to access groundwater and soil water that may help it survive extended periods of drought. At present, quantitative estimates of the impacts of increased temperatures and precipitation changes on Nelson's

checker-mallow are not available outside of our analysis.

Current data are insufficient to analyze how populations are affected by year-to-year variation in weather. All species have the potential to be negatively impacted by climate change. Recovery efforts have increased this species' resiliency, redundancy, and representation such that the species is now better able to recover from impacts. Effects may be further buffered if adaptive management strategies are implemented at sites under public or conservation organization ownership. Many of the populations of Nelson's checker-mallow are on lands that will be managed in perpetuity. While 30 populations are in the two southernmost zones, there are 12 additional independent populations dispersed across other recovery zones that were considered in the analysis of the species' resiliency, redundancy, and representation. In addition, there are currently more than 900 pounds of seed in storage with more in production, and reintroduction efforts are expected to continue as part of prairie restoration at both public and private sites.

Background

Nelson's checker-mallow is an herbaceous perennial plant in the mallow family (Malvaceae). It produces 30 to 100 lavender to deep-pink flowers arranged on an elongated, branched stalk. Plants range from 50 to 150 centimeters (20 to 60 inches) in height. Plants produce short, thick, twisted rhizomes (creeping underground stems), as well as a system of fine roots extending from a taproot (a stout main root) (Service 2010, appendix F, pp. F–3–F–4).

Nelson's checker-mallow is found in the Willamette Valley and the Coast Range of Oregon and Washington. It occupies a variety of prairie habitats and soil types but is typically associated with open sites. In the Willamette Valley, the species occasionally occurs in the understory of Oregon ash (*Fraxinus latifolia*) woodlands or among woody shrubs, but more frequently occupies native prairie remnants, including those at the margins of sloughs, ditches, streams, roadsides, fence rows, drainage swales, and fallow fields (Glad et al. 1994, pp. 314–321). In the Coast Range, Nelson's checker-mallow typically occurs in open, wet to dry meadows; in intermittent stream channels; and along margins of coniferous forests (Glad et al. 1987, pp. 259–262).

Once established, Nelson's checker-mallow plants are hardy; if plants become established at a site, they usually persist (Bartow 2020, pers. comm.). Their long taproot allows them to access subsurface water sources, and individual plants are long-lived (Dillon 2021, pers. comm.). In addition, regeneration from the taproot is possible after the aboveground and upper taproot portions of the plant have been removed (Dillon 2021, pers. comm.).

A thorough review of the taxonomy, life history, and ecology of Nelson's checker-mallow is presented in version 1.0 of the SSA report (Service 2021, entire).

Recovery Criteria

Section 4(f) of the Act directs us to develop and implement recovery plans for the conservation and survival of endangered and threatened species unless we determine that such a plan will not promote the conservation of the species. Under section 4(f)(1)(B)(ii), recovery plans must, to the maximum extent practicable, include objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of section 4 of the Act, that the species be removed from the List.

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

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

The Recovery Plan for the Prairie Species of Western Oregon and Southwestern Washington (recovery plan) divides the geographic area covered by included species into recovery zones, which provides a framework for recovering the species' historical ranges. Nelson's checker-mallow historically occupied seven recovery zones: SW Washington, Portland, Coast Range, Salem East, Salem West, Corvallis East, and Corvallis West. The following discussion provides an assessment of the species' status relative to the five delisting criteria outlined in the recovery plan.

Delisting Criterion 1: Distribution and Abundance

The recovery plan specifies that the distribution of populations should reflect the extent of the species' historical geographic distribution to the extent practicable and identifies goals for a minimum number of populations and target number of plants per recovery zone, as follows: 5,000 plants in 1 population in the Portland recovery zone; 10,000 plants in 2 populations in the SW Washington, Salem East, and Corvallis East recovery zones; 15,000 plants in 3 populations in the Coast Range recovery zone; and 20,000 plants in 4 populations in the Salem West and Corvallis West recovery zones.

The recovery plan further specifies that, with the exception of the Portland recovery zone, this may be achieved with a combination of at least 2 populations that number at least 2,000 individuals; scattered independent populations must number at least 200 individuals to add up to the target number in each zone. The range-wide delisting goal is 100,000 plants occurring in 20 populations.

At the time of the SSA report, a total of 334,968 individual plants were distributed across the historical range of the species. Considering only the sites considered independent populations (having at least 200 plants), there were 332,935 individual plants, found in 42 populations distributed across 6 of the 7 recovery zones (Service 2021, pp. 15, 27). Recent surveys show continued increases in plant abundance across the

species' range, with the total number of plants increasing to 426,032 in 2022 (Service 2022, pp. 2–3).

At the time of the SSA report, the Corvallis West and Salem West recovery zones met both the abundance and distribution goals outlined in the recovery plan. Collectively, these 2 recovery zones contained 71 percent of the populations (30 populations) and 95 percent of the individual plants (313,662 plants) known to exist. A third zone, Salem East, contained 9,519 plants, occurring in three populations, essentially meeting the distribution and abundance goals of 10,000 plants distributed among 2 populations. Three zones (Coast Range, Portland, and SW Washington) had the minimum number of populations but did not meet the recovery goals for abundance. The remaining zone, Corvallis East, did not have any sites that met the definition of an independent population.

Surveys in 2022 included a new site in the Corvallis East zone, so all recovery zones are now occupied (Service 2022, p. 3). Introduced populations in the Salem East and Portland zones have been established, and those zones now meet overall abundance goals per the recovery plan. Overall, the population at the sites that were included in our analysis for the SSA increased from about 333,000 plants (Service 2021, p. 17) to about 370,000 plants in 2022 (Service 2022, p. 3).

The abundance and distribution goal of 100,000 plants in 20 populations has been exceeded, with numbers of nearly 333,000 plants in 42 populations, per the SSA report (Service 2021, p. 17) and more than 370,000 plants in those 42 populations in 2022 (Service 2022, pp. 2–3). While the plants and populations are not distributed among recovery zones precisely as identified in the recovery plan, they are distributed throughout the historical range of the species. We conclude that the intent of this criterion, which is to minimize extinction risk by ensuring a sufficient number and distribution of plants and populations, has been satisfied.

Delisting Criterion 2: Population Trend and Evidence of Reproduction

The recovery plan notes that the number of individuals in the population (or area of foliar cover) shall have been stable or increasing over a period of at least 15 years. Stable does not mean that the population size is static over time; over a period of 15 years, the number of individuals in the population may exhibit natural year-to-year variability, but the trend must not be declining. Populations must show evidence of reproduction by seed set or presence of seedlings.

While taking into account varying methodologies and irregular population monitoring throughout the species' range, the overall abundance of Nelson's checker-mallow has increased markedly since listing in 1993. Range-wide, both the number of independent populations (having 200 plants or more) and the total number of plants continue to increase. In addition, more populations have a larger number of individuals than at the time of listing, as shown in table 1, below (Service 2012, pp. 17–19; Service 2021, p. 18), and these data indicate an overall positive trend since the time of listing and since the 2012 5-year review.

TABLE 1—NUMBER OF SITES WITH MORE THAN 100 PLANTS AND MORE THAN 1,000 PLANTS FOR EXAMPLE YEARS

Year	Sites with 100–999 plants	Sites with ≥1,000 plants
1993	19	5
2012	26	4
2021	28	24

Additionally, seedlings were observed on most sites, as confirmed on 35 of 65 surveyed sites (Silvernail et al. 2016, pp. 21–24), and overall abundance is increasing throughout the recovery zones. Given that the number of individual plants has increased, and large populations have been successfully established, we conclude that this criterion has been met.

Delisting Criterion 3: Habitat Quality and Management

The recovery plan specifies that sites supporting populations of Nelson's checker-mallow must meet the following three criteria related to habitat quality and management:

1. *Prairie quality.* Sites supporting populations of Nelson's checker-mallow must be managed for high-quality prairie habitat, which consists of a diversity of native, non-woody plant species; low frequency of aggressive, nonnative plant species and encroaching woody species; and essential habitat elements for native pollinators.

2. *Security of habitat.* A substantial portion of the habitat for the populations should either be owned or managed by a government agency or private conservation organization that identifies maintenance of the species and the prairie ecosystem upon which it depends as the primary management objective for the site, or the site must be protected by a permanent or long-term conservation easement or covenant that commits present and future landowners to the conservation of the species.

3. *Management, monitoring, and control of threats.* Each population must be managed appropriately to ensure the maintenance or restoration of quality prairie habitat and to control threats to the species. Use of herbicides, mowing, burning, or livestock grazing in management should be implemented with appropriate methods and timing to avoid impacts to listed plant species. Management should be coordinated with adjacent landowners to minimize effects of pesticide drift, changes in hydrology, timber harvest, or road/utility maintenance. Species that may hybridize with Nelson's checker-mallow should be managed as appropriate to avoid contact with these taxa. Other potential threats relating to scientific research, overcollection, vandalism, recreational impacts, or natural herbivory/parasitism should be successfully managed so as not to significantly impair recovery of the species. Management and monitoring plans must be approved by the Service and should include standardized monitoring and performance criteria that will be used to assess the plans' effectiveness following implementation and to allow for adaptive management, as necessary. Management plans should include a focus on protecting habitat heterogeneity within protected sites and across a range of elevations and aspects to buffer the potential effects of climate change.

Of the 42 independent populations of Nelson's checker-mallow (having 200 plants or more), 38 have formal management plans that address habitat quality and threats. Of these 38 populations, 26 are in public ownership and thus are considered protected in perpetuity from development; one site is owned and protected by a nongovernmental conservation organization; and the remaining 11 privately owned sites are protected by conservation easements. Four of the 42 populations, which account for less than 1 percent of the total number of Nelson's checker-mallow plants, and 10 percent of the populations, have no protection and lack management plans. Given that a majority of populations are managed in accordance with a formal management plan and are protected by virtue of ownership or conservation easement, we conclude that this recovery criterion has been met.

Delisting Criterion 4: Genetic Material Is Stored in a Facility Approved by the Center for Plant Conservation

The recovery plan specifies that stored genetic material in the form of seeds must represent the species' geographic distribution and genetic diversity through collections across the full range of the species. Collections from large populations are particularly important as reservoirs of genetic variability within the species.

Nelson's checker-mallow seeds are currently stored at four separate repositories. The majority of stored seeds, approximately 408 kilograms (900 pounds) or about 112,500,000 seeds, are located at the Corvallis Plant Materials Center (PMC) operated by the Natural Resources Conservation Service (NRCS) of the U.S. Department of Agriculture (USDA) in Corvallis, Oregon. Seeds in this collection were sourced primarily from production fields, which are maintained specifically to produce seed, and are used for habitat restoration, population augmentation, and out-planting throughout the range of the species. In addition, approximately 29,000 seeds are stored at the Rae Selling Berry Seed Bank at Portland State University in Portland, Oregon. This collection was sourced from Lane, Linn, Benton, Marion, Polk, Yamhill, and Tillamook Counties in Oregon, and Lewis County in Washington. A third, smaller collection of approximately 705 Nelson's checker-mallow seeds from locations in Washington is held at the Miller Seed Vault at the University of Washington's Botanical Gardens in Seattle, Washington.

In addition to storage in these three regional repositories, a subset of seeds from the Rae Selling Berry Seed Bank and the Miller Seed Vault has been sent to the National Laboratory for Genetic Resource Preservation at Colorado State University in Fort Collins, Colorado. Both the Rae Selling Berry Seed Bank and Colorado State University facility are certified by the Center for Plant Conservation. Collectively, the stored seed represents the geographic range of Nelson's checker-mallow, and part of this stored seed is in facilities certified by the Center for Plant Conservation. Therefore, we conclude that this criterion has been met.

Delisting Criterion 5: Post-Delisting Monitoring (PDM) Plans and Agreements To Continue PDM Are in Place and Ready for Implementation at the Time of Delisting

The recovery plan specifies that monitoring of populations following delisting will verify the ongoing recovery of the species, provide a basis for determining whether the species should be again placed under the protection of the Act, and provide a means of assessing the continuing effectiveness of management actions.

The PDM plan for Nelson's checker-mallow outlines an approach to monitoring Nelson's checker-mallow for a period of 10 years after the species is delisted. This plan addresses the current status of the species and provides details associated with monitoring methods and implementation, including site selection, data analysis, monitoring schedules, and reporting expectations. It also describes potential outcomes in the context of how secure the species remains after delisting. In addition, the PDM plan outlines roles and responsibilities and estimates associated costs. The PDM plan is available at Docket No. FWS–R1–ES–2021–0154 on *https://www.regulations.gov.*

Regulatory and Analytical Framework

Regulatory Framework

Section 4 of the Act (16 U.S.C. 1533) and the implementing regulations in title 50 of the Code of Federal Regulations set forth the procedures for determining whether a species is an endangered species or a threatened species, issuing protective regulations for threatened species, and designating critical habitat for endangered and threatened species. In 2019, jointly with the National Marine Fisheries Service, the Service issued a final rule that revised the regulations in 50 CFR part 424 regarding how we add, remove, and reclassify endangered and threatened species and the criteria for designating listed species' critical habitat (84 FR 45020; August 27, 2019). On the same day, the Service also issued final regulations that, for species listed as threatened species after September 26, 2019, eliminated the Service's general protective regulations automatically applying to threatened species the prohibitions that section 9 of the Act applies to endangered species (84 FR 44753; August 27, 2019).

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

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

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

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

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

These factors represent broad categories of natural or human-caused actions or conditions that could have an effect on a species' continued existence. In evaluating these actions and conditions, we look for those that may have a negative effect on individuals of the species, as well as other actions or conditions that may ameliorate any negative effects or may have positive effects. We consider these same five factors in delisting a species (50 CFR 424.11(c) and (e)).

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—at 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 a cumulative analysis and describing the expected effect on the species now and in the foreseeable future.

The Act does not define the term ''foreseeable future,'' which appears in

the statutory definition of ''threatened species.'' Our implementing regulations at 50 CFR 424.11(d) set forth a framework for evaluating the foreseeable future on a case-by-case basis. The term foreseeable future extends only so far into the future as we can reasonably determine that both the future threats and the species' responses to those threats are likely. In other words, the foreseeable future is the period of time in which we can make reliable predictions. ''Reliable'' does not mean ''certain''; it means sufficient to provide a reasonable degree of confidence in the prediction. Thus, a prediction is reliable if it is reasonable to depend on it when making decisions.

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

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 decision, which involves the further application of standards within the Act and its implementing regulations and policies. 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–R1–ES–2021–0154 on *https://www.regulations.gov.*

To assess Nelson's checker-mallow 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, pathogen). 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 species' life-history needs. The next stage involved an assessment of the historical and current condition of the species' demographics and habitat characteristics, including an explanation of how the species arrived at its current condition. The final stage of the SSA involved making predictions about the species' responses to positive and negative environmental and anthropogenic influences. Throughout all of these stages, we used the best available information to characterize viability as the ability of a species to sustain populations in the wild over time. We use this information to inform our regulatory decisions.

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.

Ecological Needs

Nelson's checker-mallow usually occupies open habitats that are free from encroachment of trees and shrubs. In the absence of disturbance to set back succession, prairie habitat is subject to woody species encroachment, gradually transitioning into shrub or woodland habitat. Periodic disturbance, such as fire or fall mowing, are necessary to maintain the open, high-light prairie habitats that Nelson's checker-mallow populations thrive in. In addition, resilient Nelson's checker-mallow populations need a sufficient number of individuals to withstand stochastic events and disturbances. The minimum viable population size for Nelson's checker-mallow is not identified. However, the recovery plan specifies that independent populations should number at least 200 individuals (Service 2010, p. IV–20), which provides a basis for evaluating population status.

For Nelson's checker-mallow to be considered viable, the species must be able to withstand catastrophic events and adapt to environmental changes. This can be achieved with a sufficient number of resilient populations distributed across its geographic range and representing the range of ecological settings in which the species is known to exist. The minimum number of populations required for Nelson's checker-mallow has not been determined. However, distribution and abundance goals laid out in the recovery plan (Service 2010, pp. IV–35–IV–36) and described under *Recovery Criteria,* above, provide a benchmark for evaluating the species.

Factors Influencing the Species

At the time of listing in 1993, the primary threats identified affecting Nelson's checker-mallow were urban and agricultural development, ecological succession that results in shrub and tree encroachment of open prairie habitats, and competition with invasive weeds. Planned construction and expansion of a reservoir on Walker Creek (a tributary to the Nestucca River) was identified as a future threat as associated inundation would result in the loss of many plants, including the largest population of the species known to exist at the time. The listing rule (58 FR 8235; February 12, 1993) also noted the potentially negative effects of overcollection for scientific and horticultural purposes, predation by weevils, and small population size. Some inadequacies in regulatory mechanisms were also identified. Subsequent to listing, climate change and hybridization were also identified as potential threats to the viability of Nelson's checker-mallow.

We considered all of these threats when considering whether the species continues to warrant protection under the Act. The threat of inundation never materialized; the proposed reservoir was not constructed, given that Walker Creek was designated as part of Oregon's State Scenic Waterway program in 1992, and as part of the National Wild and Scenic Rivers program in 2019 (Oregon Department of Parks and Recreation 2021, p. 1). These two designations make construction of a reservoir in this area unlikely at this time or in the future due to additional regulatory requirements. We previously determined that overcollection does not occur to such a degree that it has a population-level effect, and that regulatory mechanisms are adequately reducing the effects of threats that could act at a population scale (Service 2012, pp. 22–28). Weevil predation

occasionally impacts individual plants and may locally affect some populations; however, it is seasonal in nature and unpredictable. We did not find that weevil predation occurs at spatial and temporal scales large enough to affect the overall status of Nelson's checker-mallow given the plant's current population levels.

Many sites with small numbers of Nelson's checker-mallow remain distributed throughout the species' range. However, the number of populations with more than 1,000 plants has increased from 5 when the species was listed in 1993 to 24 populations in 2021 (see table 1, above; Service 2012, pp. 17–19; Service 2021, p. 18). Therefore, we conclude that small population size no longer puts the species at risk of extinction. The potential for hybridization among species of the same genus remains present. However, we found that the best available data indicate that hybridization does not pose a threat to the overall status of the species. Additional discussion of these threats is available in the recovery plan (Service 2010, pp. II–30–II–31 and chapter III), the 2012 5-year review (Service 2012, pp. 22–28), and in the 2021 SSA report (Service 2021, pp. 8–10).

The stressors identified as having population-level effects are habitat-related stressors and climate change. The loss, degradation, and fragmentation of prairie habitats have cascading effects that result in smaller population sizes, loss of genetic diversity, reduced gene flow among populations, destruction of population structure, and increased susceptibility to local population extirpation caused by environmental catastrophes (Service 2010, chapter III). Climate change acts primarily by altering habitat quality. Collectively, these stressors can contribute to reduced viability through reductions in resiliency, redundancy, and representation. The discussion below details the causes and consequences of these stressors on Nelson's checker-mallow.

Alteration of Natural and Human-Mediated Disturbance Processes

Change in community structure due to plant succession has been a serious long-term stressor to Nelson's checker-mallow. Habitats occupied by this species contain native grassland species, as well as numerous introduced taxa, and are prone to transition to a later seral stage of vegetative development. The natural transition of prairie to forest in the absence of disturbance such as fire can lead to the loss of Nelson's checker-mallow sites (Service 2012, p. 24). However, active management of habitat through mowing and prescribed burning is effective in reducing Nelson's checker-mallow's exposure to this stressor.

Habitat Conversion to Agricultural and Urban Use

Agricultural and urban development has modified and destroyed prairie habitats, resulting in fragmented, widely distributed patches (Service 2012, p. 24). Urban development in particular results in permanent loss of habitat and is of special concern where existing prairie habitat exists adjacent to urban areas (Service 2010, p. III–2). The greatest habitat losses due to land conversion are historical, although periodic additional losses of habitat on private lands may occur. Exposure of Nelson's checker-mallow populations to this stressor is mitigated by protections associated with public land ownership, conservation measures described later in this document, and State regulations requiring mitigation and restoration of degraded habitat (see *Conservation Efforts and Regulatory Mechanisms,* below).

Invasion by Nonnative Plants

Habitats occupied by Nelson's checker-mallow contain a mix of native and nonnative species. As described above, alteration of disturbance processes results in woody encroachment of prairie habitats. Nonnative woody species have been of particular concern, as they can rapidly proliferate and degrade open prairie sites (Service 2012, p. 24). In addition, nonnative, thatch-forming grasses may effectively limit recruitment (Institute for Applied Ecology (IAE) 2017, p. 1). Although invasion by nonnative plants remains a primary stressor to Nelson's checker-mallow populations, management practices including mowing, burning, and shrub removal are an effective approach to mediating these effects.

Climate Change

In the Pacific Northwest, temperature increases of 3 to 6 degrees Celsius (°C) (5.4 to 10.8 degrees Fahrenheit (°F)) are predicted by the end of the 21st century (Bachelet et al. 2011, p. 414). Although winter precipitation is predicted to increase, increased summer temperatures are expected to cause increased evapotranspiration, resulting in reduced growing season soil moisture (Bachelet et al. 2011, p. 414) and ultimately affecting prairie habitat quality. Detailed quantitative estimates of the effects of these conditions on Nelson's checker-mallow populations are not available. However, vulnerability assessments show the species to be moderately vulnerable to the effects of climate change (Steel et al. 2011, p. 9).

In order for the species to be resilient to changing environmental conditions and remain viable into the future, maintenance of large populations in heterogenous habitats across the range of the species is required (Service 2010, p. IV–6). Management activities that maintain open prairie habitats, including mowing, burning, and shrub removal, have resulted in an increase in the number of large populations throughout the range of the species. As described below, the majority of Nelson's checker-mallow sites are managed in accordance with conservation programs that ensure maintenance of prairie conditions and promote the existence of viable populations into the future.

Current Condition

We assessed the current condition of Nelson's checker-mallow by using the best available information to estimate resiliency, redundancy, and representation. We sourced data for this analysis primarily from the Threatened and Endangered Plant Geodatabase (version 12/31/2019), developed by IAE under a cooperative agreement with the Service for the purposes of tracking the status of species listed under the Act in the Willamette Valley. Additional data were compiled from supplementary reports (IAE 2019, entire), location-specific records, and other information in our files. We use the term ''site'' rather than ''population'' to refer to our analytical units throughout our current and future conditions analyses to avoid confusion; the recovery plan defines an independent population as one that contains more than 200 individual plants, but we evaluated sites of all sizes.

Resiliency

Resiliency, the ability of populations to withstand stochastic events, is commonly determined as a function of metrics such as population size, growth rate, or habitat quality and quantity. We evaluated the current resiliency of Nelson's checker-mallow sites on the basis of abundance, as well as measurable habitat characteristics that represent the habitat-related stressors discussed above. The four specific metrics we included in our assessment of resiliency (abundance, prairie habitat condition, site management, and site protection) are discussed in more detail below. A complete description of our analytical approach to current

conditions is available in the SSA report (Service 2021, pp. 19–22). Abundance was scored based upon the total number of plants within a site, based on the most recent surveys. Sites were scored as 1 (Low: fewer than 200 plants), 2 (Moderate: 200–1,999 plants), or 3 (High: equal to or more than 2,000 plants). These categorical thresholds correspond to recovery goals, which state that recovery targets may be achieved with a combination of at least 2 populations that number at least 2,000 individuals and sites with less than 200 plants are not considered independent populations.

Prairie habitat condition is a measure of overall habitat quality and was calculated using four distinct habitat metrics that are likely to influence population resiliency: percent woody cover, percent native cover, native plant richness (number of unique species present), and invasive plant cover. For each site where data on these criteria are available, we assigned a score of 1 (Poor), 2 (Fair), or 3 (Good) for each habitat metric. We then determined overall prairie habitat condition for each site by averaging individual habitat metric scores. Additional detail about scoring categories for each individual metric is available in the SSA report (Service 2021, pp. 19–22).

Site management reflects the potential for prairie habitat degradation due to natural succession in the absence of natural and anthropogenic disturbance regimes. Site management may also be influential in mediating the effects of climate change through the maintenance of large populations in heterogenous habitats distributed across the range of the species. To account for existing site management that serves to offset these stressors, we assigned each site a score of 1 (Poor: not managed for prairie conditions or unknown), 2 (Fair: generally managed for prairie conditions but no management plan in place), or 3 (Good: managed for prairie conditions with a management plan in place).

Site protection is a measure of the potential for losing Nelson's checker-mallow sites to agricultural and urban development. We used site ownership and the existence of conservation agreements to assess how well each site is protected from development, assigning each site a score of 1 (Poor: private ownership with no conservation easement or similar program), 2 (Fair: private ownership with conservation easement or similar program), or 3 (Good: public ownership or private conservation organization ownership).

To estimate resiliency for each site, we calculated a condition score by averaging the scores for abundance, mean prairie habitat condition, site management, and site protection. We weighted management twice as much as the other factors due to its relative importance to long-term population resiliency (Service 2010, p. IV–5; Service 2021, p. 21). Based on overall scores, current condition of each site was classified as high (score of greater than or equal to 2.5), moderate (score of 1.75–2.49), or low (score of less than 1.75).

Currently, we know of 66 sites containing Nelson's checker-mallow. Thirty-one of these sites (47 percent) are in high condition, while 29 of them (44 percent) are in moderate condition. Range-wide, only six sites (9 percent) are in low condition (Service 2021, pp. 21–26). If this analysis were limited to the 42 independent populations (having 200 plants or more), 31 populations (74 percent) would score as high condition, 7 populations (17 percent) would score as moderate condition, and 4 populations (9 percent) would score as low. These results demonstrate relatively high resiliency across the range of Nelson's checker-mallow.

Redundancy

Redundancy is defined as a species' ability to withstand catastrophic events and is determined as a function of the number of populations, as well as their distribution and connectivity. The historical distribution of Nelson's checker-mallow populations is largely unknown. Throughout its range, Nelson's checker-mallow is restricted to remnant prairie habitats that are highly fragmented due to a history of land conversion and natural succession following alterations to disturbance cycles. However, since the time of listing in 1993, habitat restoration, reintroductions, and habitat protection have collectively improved the status of the species. Among the 42 independent populations, more than 330,000 individual plants are distributed across 6 of the 7 recovery zones (Service 2021, pp. 15, 27), demonstrating overall good redundancy.

Representation

Representation refers to the ability of a species to adapt to change, and is based upon considerations of geographic, genetic, ecological, and niche diversity. Because we lack information about the genetic diversity of the species, we rely on geographical and ecological diversity in our assessment of representation. Populations (sites with 200 plants or more) of Nelson's checker-mallow are currently distributed in 6 of the 7 recovery zones and occur in both the Willamette Valley and in the Coast Range. The species occupies a range of prairie sites with various soil textures and moisture levels and occurs in a wide range of plant communities including meadows, marshes, wetlands, riparian/tree shrub forests, and disturbed areas. This indicates that the species has the capacity to adapt to a variety of environmental conditions and has good representation.

Future Viability

To assess the future viability of Nelson's checker-mallow, we considered the factors that will influence the species in the foreseeable future. We define the foreseeable future as 25 to 50 years. This interval was chosen because it encompasses the length of time over which we conclude we can make reliable predictions about the anticipated effect of climate change. In addition, this period of time is sufficient to observe population trends for the species, based on its life-history characteristics. It also captures the terms of many of the management plans and conservation easements that are in effect at Nelson's checker-mallow sites.

We determined that Nelson's checker-mallow will continue to be influenced by the factors that have historically influenced and are currently influencing the species, albeit at different relative rates into the future. Therefore, in our analysis of future viability, we considered habitat-related changes and climate change. We considered the specific sources of habitat loss, degradation, and fragmentation (alteration of natural and human-mediated disturbance processes, habitat conversion to agricultural and urban use, and invasion by nonnative plants) in light of ongoing conservation support, including habitat management and site protection.

We make several assumptions about ongoing conservation support in the foreseeable future. Support for the conservation of Nelson's checker-mallow has been high among government agencies, nongovernmental conservation organizations, and some private landowners. We assume that management of existing sites and priority recovery and management actions for the species will continue at approximately the current pace, and that the species will continue to benefit from this ongoing conservation support. We base this assumption on the number of Nelson's checker-mallow sites that have long-term or perpetual management agreements. These plans vary in scope and complexity across ownerships, but all provide at least a basic level of habitat management that

will benefit Nelson's checker-mallow. We expect adaptive management in response to changing conditions at sites with current plans, and efforts to develop new management plans at sites without plans. This is based on the commitment of the wide variety of conservation partners with whom we collaborate on similar prairie habitat conservation efforts. These partners typically tier their conservation efforts to the 2010 recovery plan that includes Nelson's checker-mallow with several other listed plants and insects, emphasizing restoration and maintenance of prairie habitat for the benefit of numerous species. This provides an impetus for continued formalized management of these sites and maintenance of Nelson's checker-mallow habitat.

Although sites not protected by virtue of ownership or conservation easement may be at risk due to development in the future, these sites are in the minority and their unprotected status is reflected in our analysis.

Resiliency

To assess the future viability of Nelson's checker-mallow, we considered a single scenario where we assumed that climate change will result in a dramatic reduction in abundance across the species' range but site management and protection will remain intact, as discussed above. We then reassessed population condition, applying the same methodology used for assessing current condition.

Published assessments do not provide detailed quantitative estimates of the effects of climate change on Nelson's checker-mallow populations. To evaluate the effects of climate change on individual sites, we characterized a worst-case future scenario in terms we could use in our analysis of future condition. In consultation with species experts and conservation partners, we defined the worst-case scenario as one where increased mortality and decreased recruitment culminate in a 50 percent reduction in abundance at all sites. We consider a 50 percent reduction to represent the upper boundary of plausibility as the actual effects of climate change on population sizes are likely to be more moderate based on climate change vulnerability assessment modeling (Steel et al. 2011, p. 30), and sites are expected to be protected and adaptively managed as described above. Nevertheless, assuming a 50 percent reduction provides a generous margin of error if these assumptions are violated. We acknowledge that a uniform response to climate change across the species' range is not likely, and that some populations may fare better than others under future conditions. However, this approach serves to demonstrate future viability under challenging future conditions.

In the scenario described above, resiliency declined modestly, with 60 sites remaining in high or moderate condition (see figure 1, below). The number of sites in high overall condition decreased from 31 to 25, relative to current condition, while the number of sites in moderate condition increased from 29 to 35. Sites reduced to moderate condition are relatively well-distributed throughout the range of the species, with one site occurring in the Coast Range recovery zone, three sites occurring in the Corvallis West recovery zone, one site occurring in the Portland recovery zone, and one site occurring in the Salem West recovery zone. The number of sites in overall low condition (six sites) does not change in the foreseeable future.

These changes in overall future condition are driven by changes in abundance. In our future scenario, 6 additional sites fall below 200 individual plants and, therefore, receive a low score for abundance. Sites with low abundance are more vulnerable to stochastic events and carry a higher risk for extirpation in the future. If we only consider sites that retain independent populations with 200 plants or more, the number of populations in high condition decrease from 31 to 27, the number in moderate condition remain at 7, and the number in low condition decrease from 4 to 2 for future overall condition. The relative importance of site management and protection in guarding against habitat loss and maintaining site resiliency even in sites with small numbers of plants is reflected in the relatively modest downward shift in overall future condition, relative to current condition (see figure 2, below).

Redundancy

Our analysis of future condition indicates that redundancy will be maintained in the foreseeable future; 66 extant sites will remain well-distributed throughout the current known range of the species. Consequently, no major changes in the species' ability to withstand catastrophes in the future is expected.

Representation

The distribution of extant Nelson's checker-mallow sites does not change under the parameters of our future condition analysis. Consequently, changes in ecological diversity are not projected to materialize as a result of climate change, and the species is likely to continue to occupy prairie habitat throughout its range and retain its adaptive capacity.

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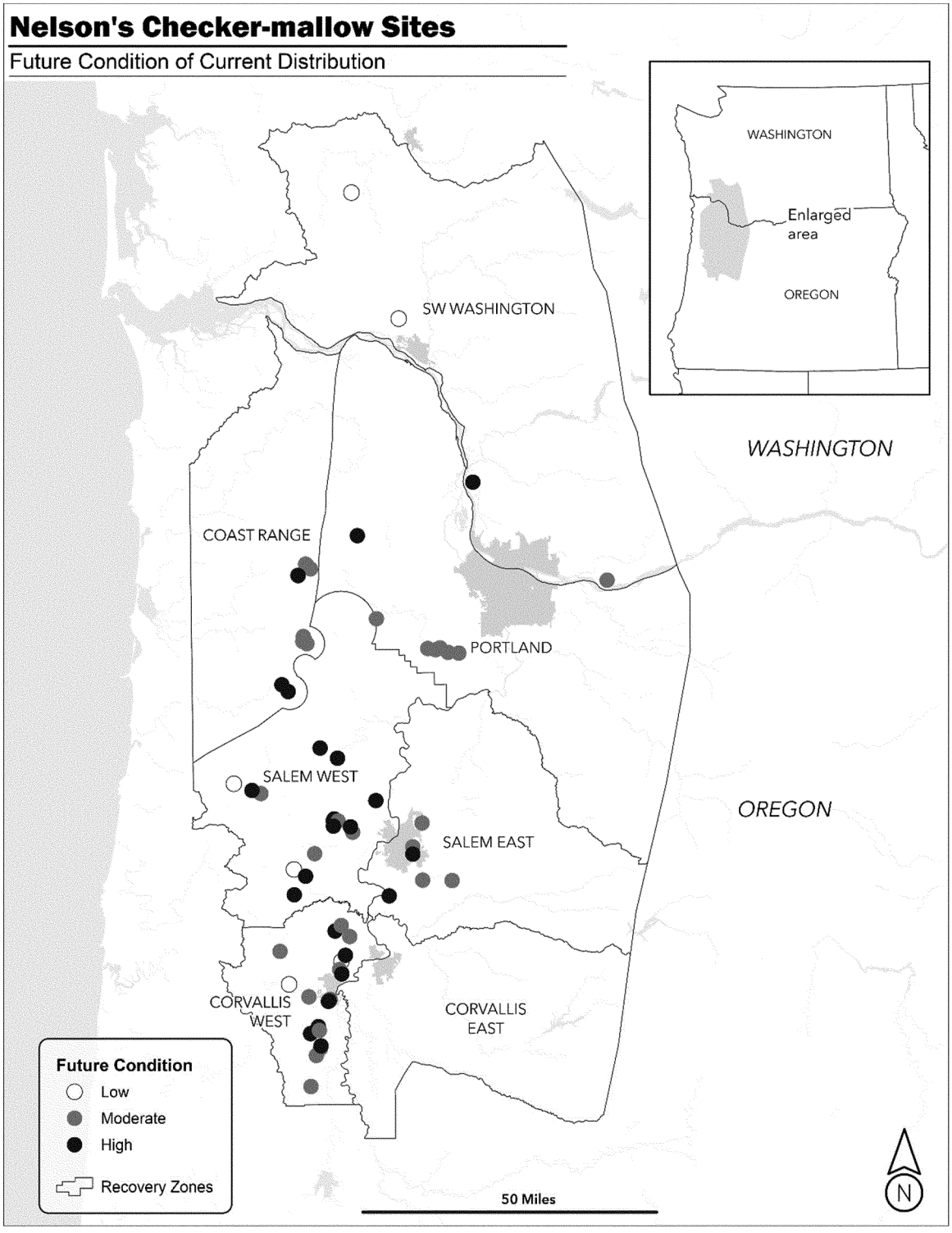

Figure 1. Overall future condition of all Nelson's checker-mallow sites.

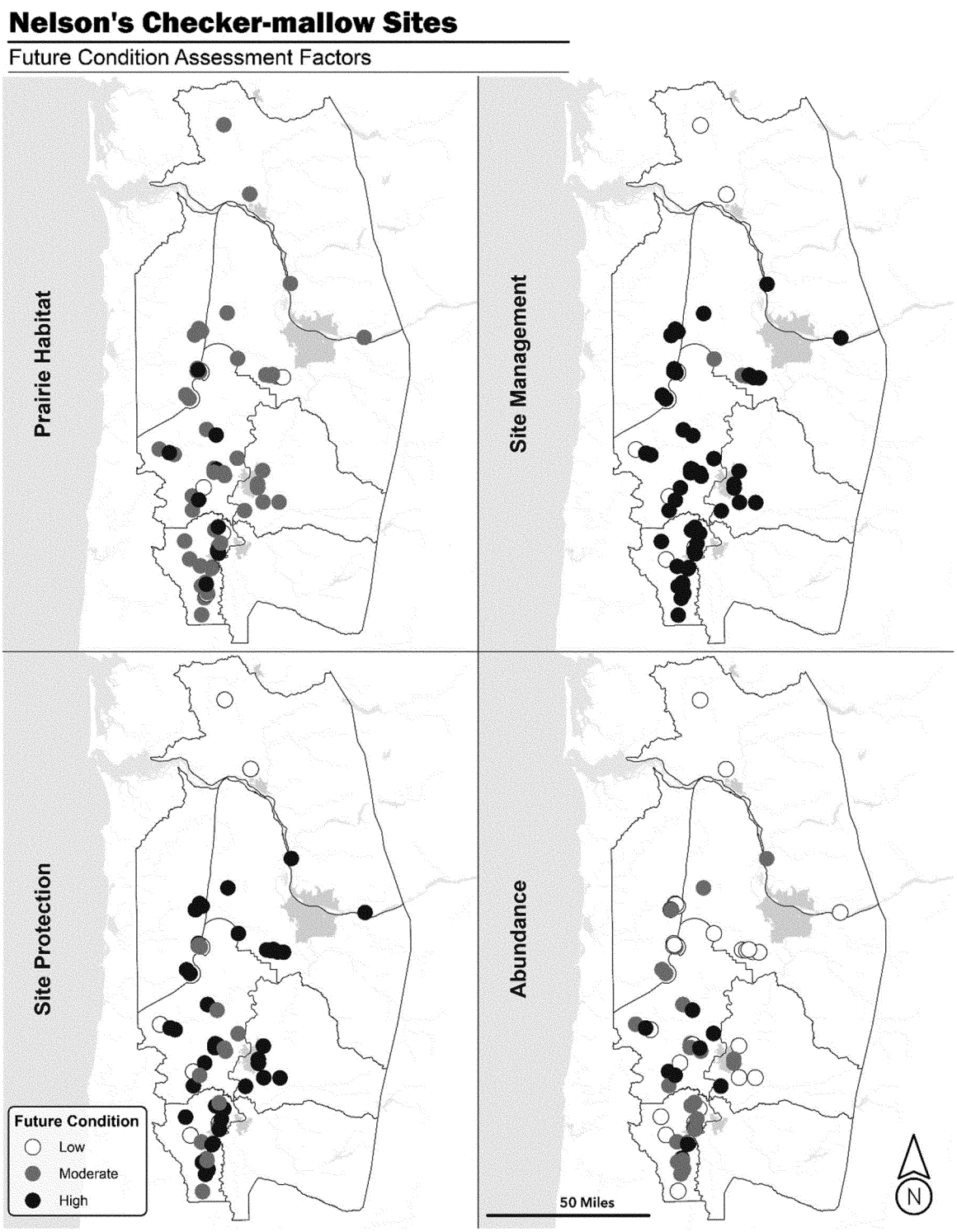

Figure 2. Future condition of Nelson's checker-mallow sites, by the individual assessment metrics: Area of prairie habitat, site management, site protection, and abundance.

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Collectively, our analysis of the resiliency, redundancy, and representation demonstrates that in 25 to 50 years, the viability of Nelson's checker-mallow will not be significantly reduced.

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.

Conservation Efforts and Regulatory Mechanisms

Despite permanent habitat loss and modification, habitat restoration and protection projects have been implemented on both public and private lands throughout the range of Nelson's checker-mallow. These projects offset some of the permanent habitat losses and, as a result, Nelson's checker-mallow habitat is increasing (Bartow 2020, pers. comm.), particularly in the Corvallis West and Salem West recovery zones. The Wetland Reserve Program and other Farm Bill programs administered by the USDA's NRCS have been widely implemented in the Willamette Valley. Other programs, such as the Service's Partners for Fish and Wildlife program and the Act's section 10 programs (*i.e.,* safe harbor agreements and habitat conservation plans), are also available to landowners. These programs are focused on habitat restoration and protection and have contributed significantly to improving the status of Nelson's checker-mallow.

Range-wide, the majority of the 66 sites known to support Nelson's checker-mallow benefit from some type of conservation measure, by virtue of ownership or habitat management agreements or both. Fifty-seven of the 66 total Nelson's checker-mallow sites are managed in accordance with the conservation programs described above, which ensure maintenance of prairie conditions required by the species. Of these sites, 44 are owned by a public entity. Regarding the 42 independent populations (having 200 plants or more), 38 have formal management plans, 26 of which are in public ownership, which offers protection from prairie habitat conversion to other uses. The terms of management agreements vary, but they are typically valid for 10 to 30 years, with some extending into perpetuity. Collectively, these management regimes ensure habitat protections at a decades-long scale for most sites.

Determination of Nelson's Checker-Mallow'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 Act's definition of an endangered species or a threatened species. The Act defines an ''endangered species'' as a species that is in danger of extinction throughout all or a significant portion of its range, and a ''threatened species'' as a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Act requires that we determine whether 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 primary drivers of the status of Nelson's checker-mallow have been habitat loss, degradation, and fragmentation due to alteration of natural and human-mediated disturbance processes that maintain open prairie habitat, land conversion to agricultural and urban use, and invasion by nonnative plants (Factor A). The best available information indicates that, while still present to some degree, overcollection (Factor B), predation (Factor C), small population size (Factor E), and hybridization (Factor E) are no longer threats to the viability of the species.

Potential inundation of the largest and most vigorous population (Walker Flat) by reservoir development was seen as a major threat at the time of listing. The threat of inundation never materialized as the proposed reservoir was not constructed and is highly unlikely in the future due to the regulatory mechanisms (Factor D) discussed above. Other habitat threats (*i.e.,* alteration of disturbance processes and associated woody encroachment, the threat of invasive plants, land use conversion) are still present on the landscape; however, the magnitude and scope of these threats have decreased from historical levels, and have been offset by a variety of management and conservation measures in the 30 years since Nelson's checker-mallow was listed. Active maintenance of prairie habitat through mowing and prescribed burning has demonstrably reduced the threat posed by alteration of disturbance processes and associated woody encroachment (Factor A). The threat of invasive plants (Factor A) has also been significantly reduced as a result of active management.

Range-wide, 58 of the 66 sites known to contain Nelson's checker-mallow have formalized management plans. This number of formalized management plans is expected to remain relatively constant into the foreseeable future. Similarly, 60 Nelson's checker-mallow sites are either in public ownership, have been acquired by nongovernmental conservation organizations, or are enrolled in conservation easement programs (Factor D), which has substantially reduced the risk of habitat and population losses due to land-use conversion (Factor A). The number of sites protected from conversion to agricultural or urban use due to public or conservation organization ownership is expected to remain relatively constant in the future. In sum, despite the continued presence of habitat-related threats on the landscape, advances in site management and protection have led to a significant reduction in threats and overall improvement in the status of the species since listing.

When Nelson's checker-mallow was listed, we estimated that the species occurred at 48 sites, only 5 of which contained more than 1,000 individuals, and 30 percent of the known individuals of the species were threatened with inundation due to the planned construction of a dam. At the time of the SSA report, 334,968 individual plants were distributed across the historical range of the species. They occurred at 66 sites, 24 of which have at least 1,000 individuals, and inundation was no longer considered a likely threat. Our analysis of current conditions, based on abundance, habitat quality, site management, and site protection, shows that 60 of those sites are in either moderate or high condition, indicating relatively high resiliency. The sites are distributed among six of the seven recovery zones and occur in varied geographical and ecological settings, demonstrating overall high redundancy and representation. Recent surveys also show increasing trends in plant abundance across the species' range, with the total number of plants increasing to 426,032 in 2022 (Service 2022, pp. 2–3).

Subsequent to listing, climate change and its potential to negatively affect prairie habitat was identified as a potential threat to Nelson's checker-mallow. We considered the potential consequences of climate change on the species and evaluated a worst-case future scenario that included a 50 percent reduction in the size of all known populations across the range of the species in the next 25 to 50 years. Even with such severe population

reduction, the species retained appreciable levels of resiliency, redundancy, and representation, with only six sites showing a reduction in resiliency, and the maintenance of geographical and ecological distribution of the species.

We recognize that some habitat-related threats remain present, and they have ongoing impacts to Nelson's checker-mallow populations. We acknowledge that the specific effects of climate change on Nelson's checker-mallow and its habitat are uncertain and may have a negative impact. However, we found that current and expected patterns in site protection and habitat management (Factor D) are sufficient to prevent effects to the species such that it would meet the Act's definition of an endangered species or a threatened species. Thus, after assessing the best available information, we determine that Nelson's checker-mallow is not in danger of extinction now or likely to become so within the foreseeable future 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. The court in *Center for Biological Diversity* v. *Everson,* 435 F. Supp. 3d 69 (D.D.C. 2020) (*Everson*), vacated the provision of the Final Policy on Interpretation of the Phrase ''Significant Portion of Its Range'' in the Endangered Species Act's Definitions of ''Endangered Species'' and ''Threatened Species'' (Final Policy; 79 FR 37578; July 1, 2014) that provided if the Services determine that a species is threatened throughout all of its range, the Services will not analyze whether the species is endangered in a significant portion of its range.

Therefore, we proceed to evaluating whether the species is endangered or likely to become so within the foreseeable future in a significant portion of its range—that is, whether there is any portion of the species' range for which it is true that both (1) the portion is significant, and (2) the species is in danger of extinction now or likely to become so within the foreseeable future in that portion. Depending on the case, it might be more efficient for us to address the ''significance'' question or the ''status'' question first. We can choose to address either question first. Regardless of which question we address first, if we reach a negative answer with respect to the first question that we address, we do not need to evaluate the other question for that portion of the species' range.

Following the court's holding in *Everson,* we now consider whether there are any significant portions of the species' range where the species is in danger of extinction now (*i.e.,* endangered) or likely to become so within the foreseeable future (*i.e.,* threatened). In undertaking this analysis for Nelson's checker-mallow, we choose to address the status question first—we consider information pertaining to the geographic distribution of both the species and the threats that the species faces to identify any portions of the range where the species may be endangered or threatened.

We evaluated the range of Nelson's checker-mallow to determine if the species is in danger of extinction now or likely to become so in the foreseeable future in any portion of its range. The range of a species can theoretically be divided into portions in an infinite number of ways. We focused our analysis on portions of the species' range that may meet the definition of an endangered or threatened species. For Nelson's checker-mallow, we considered whether the threats or their effects on the species are greater in any biologically meaningful portion of the species' range than in other portions such that the species is in danger of extinction now or likely to become so within the foreseeable future in that portion.

We examined the following threats: habitat loss, degradation, fragmentation due to alteration of natural and human-mediated disturbance processes that maintain open prairie habitat; land conversion to agricultural and urban use; invasion by nonnative plants; and climate change, including cumulative effects.

The threat of habitat loss from alteration of disturbance processes, land-use conversion, and invasion of nonnative plants has decreased in all portions of the species' range since the time of listing, largely due to land protection efforts and active habitat management. Although these residual threats influence the species variably across its range, there is no portion of the range where there is currently a concentration of threats at a biologically meaningful scale, relative to other areas of the range. In the foreseeable future, climate change may interact synergistically with other threats to negatively affect habitat quality. We acknowledge that uniform response across the species' range is not likely, and that some populations may fare worse than others under future conditions. However, the best available information does not indicate that any portion of the species' range will deteriorate disproportionately in the foreseeable future. We anticipate that any negative consequence of co-occurring threats will be successfully addressed through the same active management actions that have contributed to the ongoing recovery of Nelson's checker-mallow and that are expected to continue into the future.

We found no portion of the Nelson's checker-mallow range where the biological condition of the species differs from its condition elsewhere in its range such that the status of the species differs from its condition elsewhere in its range.

Therefore, no portion of the species' range provides a basis for determining that the species is in danger of extinction now or likely to become so within the foreseeable future in a significant portion of its range, and we determine that the species is not in danger of extinction now or likely to become so within the foreseeable future in any significant portion of its range. This does not conflict with the courts' holdings in *Desert Survivors* v. *U.S. Department of the Interior,* 321 F. Supp. 3d 1011, 1070–74 (N.D. Cal. 2018), and *Center for Biological Diversity* v. *Jewell,* 248 F. Supp. 3d 946, 959 (D. Ariz. 2017), because, in reaching this conclusion, we did not need to consider whether any portions are significant and, therefore, did not apply the aspects of the Final Policy's definition of ''significant'' that those court decisions held were invalid.

Determination of Status

Our review of the best available scientific and commercial information indicates that Nelson's checker-mallow does not meet the definition of an endangered species or a threatened species in accordance with sections 3(6) and 3(20) of the Act. In accordance with our regulations at 50 CFR 424.11(e)(2), because Nelson's checker-mallow does not meet the Act's definition of an endangered or a threatened species, we are removing Nelson's checker-mallow from the Federal List of Endangered and Threatened Plants.

Effects of This Rule

This final rule revises 50 CFR 17.12(h) by removing Nelson's checker-mallow from the Federal List of Endangered and Threatened Plants. The prohibitions and conservation measures provided by the Act, particularly through sections 7 and 9, will no longer apply to this species. Federal agencies will no longer be required to consult with the Service under section 7 of the Act in the event

that activities they authorize, fund, or carry out may affect Nelson's checker-mallow. There is no critical habitat designated for this species, so there is no effect to 50 CFR 17.96.

Post-Delisting Monitoring

Section 4(g)(1) of the Act requires us, in cooperation with the States, to implement a monitoring program for not less than 5 years for all species that have been delisted due to recovery. PDM refers to activities undertaken to verify that a species delisted due to recovery remains secure from the risk of extinction after the protections of the Act no longer apply. The primary goal of PDM is to monitor the species to ensure that its status does not deteriorate, and if a decline is detected, to take measures to halt the decline so that proposing it as endangered or threatened is not again needed. If at any time during the monitoring period data indicate that protective status under the Act should be reinstated, we can initiate listing procedures, including, if appropriate, emergency listing.

We are delisting Nelson's checker-mallow due to recovery based on our analysis in the SSA report, expert opinions, and conservation actions taken. We have prepared a PDM plan that discusses the current status of the taxon and describes the methods for monitoring its status. The PDM plan: (1) summarizes the status of Nelson's checker-mallow at the time of delisting; (2) describes frequency and duration of monitoring; (3) discusses monitoring methods and sampling regimes; (4) defines what triggers will be evaluated to address the need for additional monitoring; (5) outlines reporting requirements and procedures; (6) provides a schedule for implementing the PDM plan; and (7) defines responsibilities. It is our intent to work with our partners towards maintaining the recovered status of Nelson's checker-mallow. To view a copy of the PDM plan, see **ADDRESSES**, above.

Required Determinations

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

We have determined that environmental assessments and environmental impact statements, as defined under the authority of the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*), need not be prepared in connection with determining a species' listing status under the Endangered Species Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with federally recognized Tribes on a government-to-government basis. In accordance with Secretary's Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that Tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes. Several Nelson's checker-mallow sites occur on Confederated Tribe of Grand Ronde (Tribe) lands, and some sites may lie within the usual and accustomed places for Tribal collection and gathering of resources. The Tribe has a plan in place to manage and monitor Nelson's checker-mallow and a new memorandum of understanding with the Service for data sharing.

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 Service's Oregon Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this final rule are the staff members of the Fish and Wildlife Service's Species Assessment Team and the Oregon Fish and Wildlife 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 hereby 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.

§ 17.12 [Amended]

■ 2. In § 17.12, in paragraph (h), amend the List of Endangered and Threatened Plants by removing the entry for ''*Sidalcea nelsoniana*'' under FLOWERING PLANTS.

Martha Williams,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 2023–22759 Filed 10–16–23; 8:45 am]

BILLING CODE 4333–15–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

[Docket No. 230316–0077; RTID 0648–XD421]

Fisheries of the Northeastern United States; Atlantic Herring Fishery; Adjustment to the 2023 Specifications

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; inseason adjustment.

SUMMARY: NMFS is adjusting the 2023 Atlantic herring specifications for the remainder of 2023. Herring regulations specify that NMFS will subtract 1,000 metric tons (mt) from the management uncertainty buffer and reallocate it to the herring annual catch limit and Area 1A sub-annual catch limit if NMFS determines that the New Brunswick weir fishery landed less than 2,722 mt of herring through October 1.

DATES: Effective October 12, 2023 through December 31, 2023.

FOR FURTHER INFORMATION CONTACT: Maria Fenton, Fishery Management Specialist, 978–281–9196.

SUPPLEMENTARY INFORMATION: NMFS published final 2023 specifications for the Atlantic herring fishery on March 23, 2023 (88 FR 17397), establishing the 2023 annual catch limit (ACL) and management area sub-ACLs. The regulations at 50 CFR 648.201(h) specify that NMFS will subtract 1,000 mt from the management uncertainty buffer and reallocate it to the herring ACL and Area