DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB56

Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Plant "Sidalcea nelsoniana" (Nelson's Checker-mallow)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) determines the plant *Sidalcea nelsoniana* (Nelson's checker-mallow) to be a threatened species under the authority contained in the Endangered Species Act of 1973, as amended (Act). *Sidalcea nelsoniana* is known from restricted areas of the Willamette Valley and the adjacent Coast Range of Oregon and in Cowlitz County, Washington. Mowing, plowing, stream channel alteration, recreational activities, and roadside spraying threaten this plant in the Willamette Valley. In the Coast Range, plans for the construction of a reservoir threaten the largest population of this species. If the reservoir were constructed, all plants at

the site would be inundated. In addition, a proposal to increase the storage capacity of an existing reservoir located in Washington County, Oregon, would destroy some plants. This rule implements the protection and recovery provisions afforded by the Act for this plant.

EFFECTIVE DATE: March 15, 1993.

ADDRESSES: The complete file for this rule is available for public inspection by appointment during normal business hours at the Boise Field Office, 4696 Overland Road, room 576, Boise, Idaho 83705.

FOR FURTHER INFORMATION CONTACT: Robert L. Parenti, at the above address (telephone 208–334–1931).

SUPPLEMENTARY INFORMATION:

Background

Sidalcea nelsoniana was first collected by Elihu Hall in 1871 (Robinson and Parenti 1990). The plant was described by Charles Piper in 1919 based on material collected by J.C. Nelson near Salem, Oregon (Piper 1919). *Sidalcea nelsoniana*, in the mallow family (Malvaceae), is a perennial herb with pinkish-lavender to pinkish-purple flowers born in clusters at the end of 1 to 2.5 feet (ft) (.30 to .76 meters (m)) tall stems. Influorescences of plants from the Willamette Valley are usually somewhat spikelike, usually elongate and somewhat open (Hitchcock 1957). Influorescences of plants from the Coast Range are shorter and not as open (Chambers, botanist and professor emeritus, Oregon State University, pers. comm.). *Sidalcea nelsoniana* is a gynodioecious species, which means that plants have either perfect flowers (male and female) or pistillate flowers (female). The plant can reproduce vegetatively by rhizomes and produces seeds that drop near the parent plant. Flowering can occur as early as mid-May and extend into September in the Willamette Valley, depending on weather and site conditions. Fruits have been observed as early as mid-June and as late as mid-October (CH2M Hill 1991). Coast Range populations generally flower later and produce seed earlier, probably because of the shorter growing season (CH2M Hill 1991).

Sidalcea nelsoniana occurs in two different physiographic provinces as described by Franklin and Dyrness (1973). The majority of sites occur in the Willamette Valley of Oregon; the plant is also found at several sites in the Coast Range of Oregon and at one site in Cowlitz County, in southwestern Washington. The Cowlitz County site is located in the Coast Range, across the Columbia River from Oregon. Thus the range of the plant extends from southern Benton County, Oregon, north to Cowlitz County, Washington, and from central Linn County, Oregon, west to just west of the crest of the Coast Range.

The Willamette Valley Province is described as a broad structural depression oriented north-south and situated in Oregon between the Coast Range on the west and the Cascade Range on the east. The Valley is approximately 124 miles (200 kilometers (km)) long, extending from the Columbia River to the city of Cottage Grove where the two mountain ranges converge. Valley width generally ranges from 19 to 31 miles (31 to 50 km).

Topographically, the valley is characterized by broad alluvial flats separated by groups of low hills. The valley floor has a very gentle, north-facing slope; elevation increases from 164 feet (ft) (50 meters (m)) at Salem to only 423 ft (129 m) at Eugene, 80 miles (129 km) to the south (Franklin and Dyrness 1973).

The Coast Range Province extends from the middle fork of the Coquille River in Oregon northward into southwestern Washington where it includes the area known as the Willapa Hills. The entire southern section of the province is topographically mature, i.e., it has steep mountain slopes with ridges that are often extremely sharp. With the exception of the area drained by the Wilson and Trask Rivers, the proportion of steep slopes decreases in the northern section of the Coast Range (Franklin and Dyrness 1973).

Natural vegetation within the taxon's range includes Franklin and Dyrness' (1973) Willamette Valley and Western Hemlock (*Tsuga heterophylla*) Vegetation Zones. The former is characterized by prairies, in which discontinuous populations of *Sidalcea nelsoniana* were found, interspersed with oak (*Quercus*) and ash (*Fraxinus*) woodlands and coniferous (primarily Douglas-fir (*Pseudotsuga menziesii*)) forest. It is commonly believed that the prairies were maintained by fire (Franklin and Dyrness 1973; Johannessen et al. 1971). Today, few prairie areas remain that have not been severely invaded by introduced grasses and forbs, and *S. nelsoniana* populations are less common (Kagan, Oregon Natural Heritage Program, pers. comm., 1991).

The Oregon Coast Range portion of the Western Hemlock Vegetation Zone supports Douglas-fir forests, with western hemlock, western red cedar (*Thuja plicata*), and red alder (*Alnus rubra*) as frequent components. Extensive logging has occurred throughout the Coast Range for more than a century, leading to the introduction of weedy species into natural plant communities (Franklin and Dyrness 1973). *Sidalcea nelsoniana* occurs along streams in meadows and other relatively open areas such as along roadsides.

Sidalcea nelsoniana was once very occasional in the Willamette Valley, Oregon, from Linn and Benton Counties north to near Portland and westward to eastern Tillamook County, but mainly occurred in Marion County, on more or less gravelly, well drained soils (Hitchcock 1957). Since the Hitchcock report, other habitat descriptions have been offered. Peck (1961) described the plant's habitat as "moist, open ground and thickets." Others have described the plant as growing on moist to dry sites with poorly drained to well drained clay, clay loam, and gravelly loam soils, in meadow, and rarely, wooded habitats (CH2M Hill 1986, Glad et al. 1987). *Sidalcea nelsoniana* is occasionally found in areas where prairie or grassland remnants persist, such as along fence rows, drainage swales, and at the edges of plowed fields adjacent to wooded areas.

Within the Willamette Valley, *Sidalcea nelsoniana* most frequently occurs in *Fraxinus* (ash) swales and meadows with wet depressions, or along streams. *Sidalcea nelsoniana* also grows in wetlands within remnant prairie grasslands. Some sites occur along roadsides at stream crossings where exotics such as blackberry (*Rubus* spp.) and Queen Anne's lace (*Daucus carrota*) are also present (Bureau of Land Management 1985). The woody, rhizomatous (underground) stem of *Sidalcea nelsoniana* enables the plant to persist in some disturbed situations such as roadside ditches and mowed hayfields.

Sidalcea nelsoniana primarily occurs in open areas with little or no shade and will not tolerate encroachment of woody species. The most commonly associated plant species include yarrow (*Achillea*), various grasses (*Festuca*, *Agrostis*, and *Elymus*), and sedges (*Carex*). Standing water is present at some sites. Prior to European colonization of the Willamette Valley, naturally occurring fires and fires set by Native Americans maintained suitable *Sidalcea nelsoniana* habitat. Current fire control and prevention practices allow succession of introduced and native species, which may gradually replace habitat for *Sidalcea nelsoniana* (Bureau of Land Management 1985). No natural prairie remains in the Willamette Valley without the obvious effects of livestock grazing, fire suppression, or agricultural activities (Moir and Mika 1972).

A population center is a geographical area that, at least historically, was composed of interbreeding populations. Based on current and historic distribution, *Sidalcea nelsoniana* occurred in at least six population centers in Oregon. Since the extirpation of one population center in the Willamette Valley, currently in Oregon one population center remains in the Coast Range, and four remain in the Willamette Valley. The Cowlitz County population in Washington represents a separate population center. Thus, a total of six population centers remain throughout the range of *Sidalcea nelsoniana*.

Sidalcea nelsoniana has been extirpated from one Williamette Valley population center and is reduced to relict remnant populations in the four remaining Willamette Valley centers, as a result of agricultural land conversion and stream channel alterations, such as straightening, splash dams, and rip-rapping (Rosentreter, Bureau of Land Management, Idaho, pers. comm., 1991). These stream channel alterations cause an increase in instream flow and reduce the amount of water that is diverted naturally into adjacent meadow areas as a result of meandering water and the formation of secondary channels. As a result of the decrease in meanders and secondary channels, areas that would support *Sidalcea nelsoniana* are lost (Rosentreter, pers. comm., 1991).

Sidalcea nelsoniana occurs at 48 sites within the five population centers in Oregon, and at one site in the population center in Washington (CH2M Hill 1991). Four additional sites with previously recorded occurrences (since 1985) apparently have been extirpated as a result of plowing, deposition of fill material or yard debris, or intense roadside vegetation management (CH2M Hill 1986, 1987, 1991). Counts were made at 9 of the 52 population sites. Six population sites had more than 1,000 plants each, 18 population sites contained between 100 and 999 plants, 16 included between 10 and 99 plants, and 12 contained fewer than 10 plants (CH2M Hill 1991). Over half of the Willamette Valley locales have fewer than 100 plants and appear to be remnants of once more extensive populations (CH2M Hill 1991). The Salem, Oregon, Airport population was severely damaged in late 1991 or in early spring 1992 due primarily to plowing. Of the 1,429 plants reported at the Salem Airport in 1990, only 526 were found in 1992 (CH2M Hill 1992). As a result of the Salem Airport loss, there are only five population sites with more than 1,000 plants.

Sidalcea nelsoniana occurs on two sites that are at least partially under Federal management. Those are Finley National Wildlife Refuge in the Willamette Valley, which is managed by the Service, and portions of Walker Flat in the Coast Range, which is under the jurisdiction of the Bureau of Land Management. Eight sites occur partially or entirely on State-owned land; the remainder occur on county, city, or private land.

Many of the plants in the Willamette Valley populations appear to be in poor condition, having been adversely affected by weevils, encroachment of woody species, and road management activities (i.e., spraying and mowing). Aside from the four populations mentioned above that have been extirpated since 1985, several other populations have been partially disturbed or destroyed as a result of plowing or clearing (CH2M Hill 1991).

McMinnville Water and Light, a publicly-owned water and electric utility, had planned to construct a reservoir on Walker Creek, a tributary of the Nestucca River in the Coast Range, to provide water for the City of McMinnville. Construction of the reservoir would inundate the entire Walker Flat population, the largest population of *Sidalcea nelsoniana*, containing over 30 percent of the known individuals of this species. Walker Creek has been tentatively included in the Oregon State Scenic Waterway System, which does provide some protection from development, including the construction of dams. However, this designation could be rescinded in the future. There were attempts by the State legislature in 1989 to remove Walker Creek from the Oregon State Scenic Waterway System (Oregon Natural Resources Council 1991). If designation under the State Scenic Waterway System were removed, it is likely that construction of the reservoir would proceed.

Federal involvement with *Sidalcea nelsoniana* began as a result of section 12 of the Endangered Species Act of 1973, which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94–51, was presented to Congress on January 9, 1975. The Service published a notice in the July 1, 1975, **Federal Register** (40 FR 27823) of its acceptance of this report as a petition within the context of section 4(c)(2) (now section 4(b)(3)) of the Act and of its intent thereby to review the status of the plant taxa named therein. In this and subsequent notices, *Sidalcea nelsoniana* was treated as under petition for listing as endangered. The Service published a proposed rule in the June 16, 1976, **Federal Register** (41 FR 24523) to determine approximately 1,700 vascular plant taxa to be endangered species pursuant to section 4 of the Act. This list, which included *Sidalcea nelsoniana*, was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94–51 and the July 1, 1975, **Federal Register** publication.

General comments received in response to the 1976 proposal are summarized in an April 26, 1978, **Federal Register** publication. In 1978, amendments to the Act required that all proposals over 2 years old be withdrawn. A one-year grace period was given to proposals already over 2 years old. On December 10, 1979, the Service published a notice in the **Federal Register** (44 FR 70796) of the withdrawal of that portion of the June 16, 1976, proposal that had not been made final, along with four other proposals that had expired.

Sidalcea nelsoniana was included as a Category 1 candidate in the December 15, 1980, Notice of Review for plants (45 FR 82537), indicating that sufficient information was available to the Service to support a proposal to list the species at that time. This status was changed to Category 2 in the November 28, 1983, Supplement (48 FR 53659) and remained as such in the September 27, 1985, Notice of Review (50 FR 39527). A Category 2 candidate is a species for which listing may be appropriate but additional biological information is needed to support a listing proposal. In the February 21, 1990, Notice of Review (55 FR 6184) this status was changed to Category 1, as a result of additional information made available to the Service on occurrence and status of the species. A Category 1 candidate is a species for which the Service has enough information on biological vulnerability and threat(s) to support proposals to list them as endangered or threatened species.

Section 4(b)(3)(B) of the Endangered Species Act, as amended in 1982, requires the Secretary to make findings on certain pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending on October 13, 1982, be treated as having been newly submitted on that date. This was the case for *Sidalcea nelsoniana* because of the acceptance of the 1975 Smithsonian Report as a petition. In October of 1983, 1984, 1985, 1986, 1987, 1988, 1989 and 1990, the Service found

that the petition to list *Sidalcea nelsoniana* was warranted but precluded by listing actions of higher priority.

On June 7, 1991, the Service published a proposal to list *Sidalcea nelsoniana* as a threatened species (56 FR 26373). This proposal was based in large part on the aforementioned information and occurrence data, and information on pending projects that would adversely affect the plant. The Service now determines *Sidalcea nelsoniana* to be a threatened species with the publication of this rule.

Summary of Comments and Recommendations

In the June 7, 1991, proposed rule (56 FR 26373) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final listing decision. The public comment period ended on August 19, 1991. Appropriate State agencies, county and city governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment.

In response to a request for a public hearing, the Service published a notice in the Federal Register on July 23, 1991, announcing a hearing and an extension of the comment period (56 FR 33741). The hearing was held on August 9, 1991, at the City of McMinnville Community Center, in McMinnville, Oregon. Testimony was taken from 7 p.m. to 9 p.m. Notices of the proposal and public hearing were published in the McMinnville News Register (July 24, 1991), the Oregonian (July 23, 1991), and the Salem Statesman Journal (July 23, 1991). During the comment period, the Service received 21 comments (e.g., letters and oral testimony from 18 individuals). Ten commenters expressed support for the listing proposal, while 8 commenters were opposed. Some individuals provided locality or miscellaneous data on the plant.

Written comments or oral statements presented at the public hearing and received during the comment period are covered in the following summary. Comments of a similar nature or point are grouped into a number of general issues. These issues and the Service's response to each, are summarized as follows:

Issue 1: Some commenters said that although a few locations of *Sidalcea nelsoniana* have been extirpated due to site disturbance, those losses have been made up for by a reported increase in the number of plants within known locations and the discovery of new sites. Some commenters noted that the proposed rule failed to identify the Cowlitz County, Washington, site in the range description for the plant; they contend that the plant is currently known over a wider range than it was historically, because of this and other newly discovered sites.

Service Response: The most recent data on the status of *Sidalcea nelsoniana* indicate the plant occurs in seven counties in Oregon and Cowlitz County, Washington (CH2M Hill 1991). At the time of the proposed rule, the site in Washington had not yet been discovered or verified; this new site has been incorporated into this rule. In 1985, when the Bureau of Land Management and McMinnville Water and Light began studies on this plant, 22 sites were reported (CH2M Hill 1991). Since then, four sites have been completely extirpated, and five sites have been partially destroyed (CH2M Hill 1986, 1987, 1991). During this time, *S. nelsoniana* has been found at additional sites; there are currently 48 extant sites.

With the exception of the Cowlitz County, Washington, site, the additional sites that have been reported since studies began on this plant all occur within the known range of *Sidalcea nelsoniana*. The Service believes that the number of occurrences alone should not form the basis for determining whether listing of the species is warranted, especially when those sites occur in clusters or in relatively close proximity to one another. Rather, a determination of threatened or endangered status should be based on the threats to those sites and the adequacy of existing protective measures.

In the case of *Sidalcea nelsoniana*, activities including mowing, conversion of habitat to agricultural uses, logging, and recreational activities threaten portions of all population centers. The potential construction of a reservoir threatens the largest population of this plant, representing over 30 percent of the total number of individuals. In addition, a significant number of sites (23 of 48) are threatened with stochastic extinction due to the small number of plants (100 or fewer) at these sites (see Summary of Factors section for discussion on threats). Two sites are at least partially located on federally owned land (Finley National Wildlife Refuge owned by the Fish and Wildlife Service, and Walker Flat, partially owned by the Bureau of Land Management), and eight sites occur on State-owned land. Although theoretically these sites should receive some level of protection, in reality, little management specifically for *Sidalcea nelsoniana* is in effect. For example, on the Refuge, management efforts to benefit geese have secondarily benefited *Sidalcea nelsoniana*. The remaining (and majority) of the sites occur on county, city, or private land; many of these sites are vulnerable to development or habitat disturbance.

Thus, *Sidalcea nelsoniana* remains vulnerable because sufficient habitat is secure from the above mentioned threats. Without protection under the Act, the Service believes this species is likely to become endangered in the foreseeable future.

Issue 2: Some commenters said that *Sidalcea nelsoniana* is not as rare as was previously thought, that there is no evidence that it is less abundant today than it was historically or during presettlement time in the Willamette Valley, and that it is not a remnant of a once larger population.

Service Response: There is little, if any, native grassland, meadow, and wetland habitat remaining in the Willamette Valley. Ninety-five percent or more of the Willamette Valley is now converted from presettlement habitat to an agricultural and/or urban landscape (Meinke 1992). It seems highly unlikely that with this high percentage of native habitat destroyed or disturbed, *Sidalcea nelsoniana* could be as abundant today as it was historically. The only remaining natural habitats for *S. nelsoniana* are in the Finley National Wildlife Refuge and at Walker Flat (Kagan, Natural Heritage Database, pers. comm.).

Issue 3: Several commenters claimed that the plant is not threatened because it occurs in a wide variety of habitats. One commenter stated that the plant thrives in roadside ditches in the presence of exotic species and is therefore adaptable.

Service Response: The perennial root of *Sidalcea nelsoniana* enables it to persist in spite of some forms of disturbance. The known sites for the plan are wetlands such as meadows or swales. *Sidalcea nelsoniana* is found at a number of sites along roadsides, in the presence of alien species. Most of these sites were likely riparian areas before road construction, based on the color of the soil profile and historical information about the sites (Rosentreter, pers. comm., 1992). Older, established plants may be better able to persist at these sites in the presence of exotic species, because of the rhizome (underground stem) structure of the plant (Meinke 1992). Continued roadside mowing and spraying threatens many of these sites.

Issue 4: Several comments stated that activities such as mowing and logging do not adversely affect *Sidalcea nelsoniana*. Mowing prevents seed production if done too late for plants to produce new flowers and before seed maturation, but it does not necessarily kill plants. Two commenters said that the species can tolerate logging activities; another commenter said that logging actually enhances the habitat.

Service Response: Mowing adversely impacts the plants if it takes place before the plants set seed, compromising their reproductive output. Repeated mowing of the vegetative portions of the plant will, along with reduced seed production, eventually lead to the loss of the plant (Kagan, pers. comm.). Continued reduction in seed production also will compromise the genetic integrity of the species.

In some cases, logging may have the potential to open canopies and allow for the establishment of new plants. However, over time logging may affect the hydrological regime of a site. Also, plants may be directly destroyed as a result of a logging operation, e.g., road construction, skidding, tree fall.

Issue 5: Some commenters suggested that the encroachment of woody species is a part of natural succession, and is only occurring in a few small areas, and therefore does not constitute a threat to the species. Commenters questioned the dependence on fire as a means of enhancing the growth and development of *Sidalcea nelsoniana*.

Service Response: Encroachment of woody species is eliminating *Sidalcea nelsoniana* throughout the Willamette Valley. As discussed under Factor E below, *S. nelsoniana* populations growing in areas where fire has been used to control woody species responded positively. Because of the concern for the small numbers of plants (fewer than 25) in many of the locales, woody species encroachment of these areas will increase their vulnerability to extirpation. Finley National Wildlife Refuge in Benton County, Oregon, used fire to control invading *Fraxinus* to benefit geese. The *S. nelsoniana* population indirectly benefited from this effort. *Sidalcea nelsoniana* appears more robust where fire management efforts have been employed, when compared to plants in another nearby location where the *Fraxinus* forest surrounds Muddy Creek.

Issue 6: Two commenters claimed that disease and predation do not represent threats to the species.

Service Response: Evidence of seed predation by a species of weevil occurs at several sites (see Factor C in Summary of Factors section). The impact of this predation on the overall viability of the species, although not known, probably does not constitute a major threat to the species. However, because this species of weevil lays its eggs inside the seeds of *S. nelsoniana*, the reproductive potential of those particular plants is diminished; in a small population, this factor could constitute a significant threat.

Issue 7: One commenter suggested that the Service review the definition of "individual" due to *Sidalcea nelsoniana* being a rhizomatous plant. There may be fewer "individuals" than described in the proposed rule.

Service Response: The methodology used to count individual plants was developed through a meeting between the Bureau of Land Management, CH2M Hill, and the U.S. Fish and Wildlife Service, in 1987. Based on field data and the growth pattern of the plant, a meter round area was determined to constitute one plant. This determination was based on data showing that rhizomes extend an average of 0.5 meters on either side of a single plant, thus an area 1 meter in diameter is considered as one plant.

Issue 8: Several commenters said that the studies by CH2M Hill show that *Sidalcea nelsoniana* can be easily propagated and transplanted, so even if a major project such as a dam at Walker Flat were constructed, the plant could easily be translocated elsewhere. Some commenters pointed out that extensive unoccupied habitat is available within the species range.

Service Response: The Endangered Species Act states that the purpose of the Act, in part, is to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved. Although the results of the CH2M Hill studies so far are encouraging, long-term monitoring will be necessary before any determination can be made as to whether the translocated plants are functioning as a fully successful, self-sustaining component of the ecosystem. The determination to list *Sidalcea nelsoniana* is based on the status of the existing, natural populations of this plant. The benefits of propagating and transplanting this species may be considered as part of the recovery planning process.

None of the habitats described as unoccupied, aside from the meadows around Walker Flat, provide any potential for long-term viable population maintenance. There have not been any experimental populations established in the Williamette Valley. Agriculture practices have essentially eliminated available habitat for plant expansion. The "mountain meadows" found in the Coast Range, such as the Walker Flat site, are limited in area. They too are threatened by agriculture and, in addition, water development projects. They are also susceptible to adverse effects from succession.

Issue 9: Several commenters maintained that the species is adequately protected by existing land management designations, and, therefore that listing is not warranted. They noted that the largest population, at Walker Flat, is protected because Walker Creek is included in the State's Scenic River Waterway System. Therefore the threat of dam construction is no longer valid since this activity is incompatible with the State's Scenic River designation. At other sites, plants are protected where they occur on Federal or State land, and also at several sites that McMinnville Water and Light is protecting. Others questioned the Service's assumption that plants on Federal or State land can be protected, whereas those at other locations do not receive protection.

Service Response: As discussed under Factor D below, existing regulatory mechanisms are not adequate to prevent the endangerment of *Sidalcea nelsoniana*. For example, the State Scenic River designation provides only interim protection. During the 1989 legislature, a bill was introduced to remove Walker Creek from the protection of the State Scenic Waterways System (Oregon Natural Resources Council 1991). If such legislation passed, the City of McMinnville would likely increase planning efforts for the dam. None of the known sites are secure or managed for *Sidalcea nelsoniana*.

Issue 10: One commenter questioned the population numbers needed for recovery. The example given was *Mirabilis macfarlanei*, considered recovered if 10 colonies are protected and managed to assure their continued existence. The concern was that *Sidalcea nelsoniana* is subject to different recovery standards than other plant species.

Service Response: Recovery planning takes place following listing and is species-specific. In making decisions about listing a species, and eventually recovery, the Service is more concerned about threats facing the sites, rather than total number of individuals or localities. The recovery planning process also provides for public involvement. The recovery goal for most species defines a number of populations, with a specific vigor or condition, and protective management.

Summary of Factors Affecting the Species

Section 4 of the Endangered Species Act (16 U.S.C. 1533) and regulations promulgated to implement the listing provisions of the Act (codified at 50 CFR part 424) set forth the procedures for adding species to the Federal Lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Sidalcea nelsoniana* Piper (Nelson's checker-mallow) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Five population centers of *Sidalcea nelsoniana* remain in the Willamette Valley and adjacent Coast Range of Oregon. A sixth population center occurs in Cowlitz County, Washington. Four population centers occur in the Willamette Valley, one in the Oregon Coast Range, and one in the Coast Range of southwestern Washington. There are a total of approximately 48 sites (CH2M Hill 1991). Two *Sidalcea nelsoniana* sites are located on Federal lands, Finley National Wildlife Refuge in the Willamette Valley and Walker Flat under the jurisdiction of the Bureau of Land Management in the Coast Range. Eight sites in four population centers occur on State land. The remaining sites occur on county, city, or private lands, which for the most part, are unprotected from development and habitat conversion. Mowing, conversion of habitat to agricultural lands, logging, recreational activities, stream channelization, and water impoundment threaten portions of all remaining population centers of *Sidalcea nelsoniana*.

Since 1985, habitat loss, primarily through conversion to agricultural use (resulting in plant destruction or extirpation) has occurred at several Valley sites: Lewisburg, Philomath North, Mount Jefferson Farm, Dallas South, Starker Park, and the Salem Municipal Airport. In addition, habitat loss has been reported at Van Well Road, Dyck Road, McTimmonds Valley, Hess Road, Nelson's Golden Valley, and Finley National Wildlife Refuge (CH2M Hill 1991).

Stream channel alterations have also adversely impacted the species. Projects such as stream straightening, construction of splash dams, and riprapping have resulted in an increase in instream flow, and reduce the amount of water that is diverted naturally into adjacent meadow habitat. This results in the loss of habitat for the plant.

Mowing adversely impacts the plants if it takes place before the plants set seed. Mowing activities have adversely affected 11 sites in all 4 population centers in the Willamette Valley: Panther Creek, Salem Municipal Airport, Walnut Park, Fletcher Road, Dallas South, McTimmonds Valley, State Highway 22, Monmouth, Decker Road, Starker Park, and State Highway 99W.

Continued logging activities will eventually change the hydrological regime at those areas where they occur. In the case of *Sidalcea nelsoniana*, logging continues at the Nelson's Valley site in the Coast Range. The extent to which these activities will impact the plant is not known; however, logging can directly destroy plants, and a change in the hydrological regime would likely adversely affect this species as well.

McMinnville Water and Light has planned to construct a reservoir on Walker Creek, a tributary of the Nestucca River in the Coast Range. The construction of this dam would inundate the entire Walker Flat population, the largest and one of the most hardy populations of *Sidalcea nelsoniana*. Although the area is currently protected under the state Scenic Waterway System, there have been legislative efforts to remove Walker Creek from this protective designation; these efforts are likely to be renewed in the future.

Recreational motorcyclists use the area at the Devils Lake Fork site in the Coast Range, and have disturbed the site to some degree.

The City of Hillsboro is proposing to raise the height of the Trask River Dam in Washington County, Oregon, by 50 ft to increase the storage capacity of Barney Reservoir from 4,000 to 20,000 acre-feet. The project is proposed in response to the increasing water needs of the City. An Environmental Impact Statement is expected on this project in early 1993. If the project is approved, habitat in the immediate vicinity containing *Sidalcea nelsoniana* will be inundated.

B. Overutilization for Commercial, Recreational, Scientific, or Education Purposes

Although overutilization is not known to have occurred, some plant species have become vulnerable to collection for scientific or horticultural purposes, excessive visits by individuals interested in seeing rare plants, or vandalism following Federal listing. Several *Sidalcea nelsoniana* sites in the Willamette Valley are readily accessible by road and could be vulnerable to vandalism or collection. The Walker Flat site could also be vulnerable to vandalism.

C. Disease or Predation

Although the extent to which this factor adversely affects the species is not known, instances of predation have been observed. A species of weevil utilizes *Sidalcea nelsoniana* plants at several sites. The adult female insect bores a hole through the seed coat and deposits her eggs inside. When the larvae hatch, they feed on the developing seed (Bureau of Land Management 1985). Damage to the seed reduces the reproductive potential of the species.

D. The Inadequacy of Existing Regulatory Mechanisms

Under the Oregon Endangered Species Act (ORS 564.100–564.735) and pursuant regulations (OAR 603, Division 73), the Oregon Department of Agriculture has listed *Sidalcea nelsoniana* as threatened (OAR 603–73–070). The State statute prohibits the "take" of State-listed plants on State-owned or State-leased lands only. *Sidalcea nelsoniana* occurs on many county, city, or privately-owned sites where the plant is not protected from actions the landowner may take that would adversely affect the species.

Because *Sidalcea nelsoniana* occurs in both isolated wetlands and wetlands adjacent to waterways, regulatory mechanisms under the Clean Water Act apply to this species. Under section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (Corps) regulates the discharge of fill into the waters of the United States, including wetlands. To be in compliance with the Clean Water Act, potential applicants are required to notify the Corps prior to undertaking any activity (grading, discharge of soil or other fill material, etc.) that would result in the fill of wetlands under the Corps' jurisdiction. Nationwide Permit Number 26 (see 33 CFR 330.5) has been issued to regulate the fill of wetlands that are relatively small, not more than 10 acres. Where fill would occur in a wetland of 1–10 acres in size, the Corps circulates for comment a predischarge notification to the Service and other interested parties prior to determining whether or not the proposed fill activity qualifies under Nationwide Permit 26. Individual permits are required for the discharge of fill into wetlands that are greater than 10 acres in size. The review process for the issuance of individual permits is more extensive, and conditions may be included that require

the avoidance or mitigation of environmental impacts. The Corps has discretionary authority and can require an applicant to seek an individual permit if the Corps believes that the resources are sufficiently important, regardless of the wetland's size. In practice, the Corps rarely requires an individual permit when a project would qualify for a Nationwide permit, unless a threatened or endangered species occurs on the site. If a federally listed threatened or endangered species may be affected by a proposed project, the Corps must insure that it does not authorize, fund, or carry out any action that is likely to jeopardize the species' continued existence (see discussion below under "Available Conservation Measures").

As discussed previously, the Walker Creek site is currently protected through State Scenic Waterway designation; however, the Service believes the construction of the dam remains a threat to this population since legislative action could remove Walker Creek for the Scenic Waterway System in the future.

The Bureau of Land Management has proposed designating that portion of the Walker Flat area that it manages as an Area of Critical Environmental Concern (ACEC). This designation is still in the proposed stage; no long-term protective designation has been finalized. None of the known sites are specifically managed for this species.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Encroachment of woody species is eliminating *Sidalcea nelsoniana* habitat throughout the Willamette Valley. There is good evidence at Finley National Wildlife Refuge, Willow Creek and Wren Grassland Preserve, the Long Tom Area of Critical Environmental Concern, and the Fern Ridge Resource Natural Area, that secondary succession is occurring at grassland and meadow habitats in the Willamette Valley that adversely affects *S. nelsoniana* (Kagan, pers. comm.).

In the past, occasional fires created openings facilitating the growth of the plant. Fires still regularly occur at the sites that currently have vigorous *Sidalcea nelsoniana* populations. Fire management efforts to control invading *Fraxinus*, which competes with *Sidalcea nelsoniana* at Finley National Wildlife Refuge, have also benefited *Sidalcea nelsoniana*. These efforts were designed to benefit geese. Cutting has also been a management tool used to control encroaching vegetation. *Sidalcea nelsoniana* appears robust at Refuge locations where management efforts have been employed, compared to those plants in another nearby location, the *Fraxinus* forest surrounding Muddy Creek. Since 1985, *Sidalcea nelsoniana* has also increased in vigor at the University turkey farm site, in areas where *Fraxinus* has been controlled for several years to provide better habitat for turkeys (CH2M Hill 1989).

Many populations occur along roadsides where woody vegetation is cut back (Rosentreter, pers. comm.). However, routine maintenance of the road shoulders may adversely affect the plant through grading or application of herbicides.

One of the largest populations in the Willamette Valley, the Oregon State University turkey farm, is regularly trampled by turkeys. Continuous heavy trampling may limit seedling establishment.

An additional concern for the species is the small number of plants in many of the sites. Twenty-three sites (48 percent) contain 100 or fewer plants; 15 sites (31 percent) contain 25 or fewer plants. Within smaller populations, the sex ratios—number of plants with perfect flowers to number of pistillate-flowered plants—may be the controlling factor in seed production. Thus, small isolated *Sidalcea nelsoniana* populations are more vulnerable to extirpation due to demographic effects. In addition, small populations are more vulnerable to extirpation from stochastic (i.e., random) events than are larger populations.

The Service has carefully assessed the best scientific information available concerning the past abundance and subsequent decline of this taxon, as well as the threats faced by its remaining populations. Based on this evaluation, the preferred course of action is to list *Sidalcea nelsoniana* as threatened. Agricultural land conversion, competition from alien plant species, and roadside management activities have reduced *S. nelsoniana* to remnant populations. Future threats include a reservoir project, which, if constructed, would inundate more than 30 percent of the total number of plants, and a proposal to modify an existing dam, which would result in the inundation of additional *Sidalcea nelsoniana* plants. Although the plant occurs in five population centers in Oregon, and one newly discovered site in Washington State, it remains vulnerable to the above threats. The Service believes that *Sidalcea nelsoniana* is likely to become endangered in the foreseeable future throughout all or a significant portion of its range, and therefore fits the Act's definition of a threatened species. For the reasons discussed below, the Service is not proposing to designate critical habitat for this species at this time.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is listed as endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time. As discussed under threat Factor B above, *Sidalcea nelsoniana* is vulnerable to taking and vandalism. Landowners can be alerted about the plant without the publication of critical habitat descriptions and maps. The publication of such descriptions and maps would likely increase the risk of vandalism and taking, and thus increase enforcement problems. Protection of the species' habitat will be addressed through the recovery process and through the section 7 consultation process. Therefore, it would not now be prudent to determine critical habitat for *Sidalcea nelsoniana*.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal recognition, recovery actions, requirements for Federal protection, and prohibitions against certain activities. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions would be initiated by the Service following listing. The protection required by Federal agencies and taking prohibitions are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened, and with respect to its critical habitat, if any is being designated. Regulations implementing this Interagency Cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(2) of the Act requires Federal agencies to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the

responsible Federal agency must enter into consultation with the Service.

The Bureau of Land Management will be required to consult with the Service over any permitting actions that may affect *Sidalcea nelsoniana*. The U.S. Army Corps of Engineers would become involved with this plant through its permitting authority as prescribed under section 404 of the Clean Water Act. By regulation, authorization under nationwide permits may not be granted where a federally listed endangered or threatened species would be affected by the proposed project without first completing formal consultation pursuant to section 7 of the Act.

The Act and implementing regulations found at 50 CFR 17.71 and 17.72 for threatened plant species set forth a series of general prohibitions and exceptions that apply to all threatened plants. With respect to *Sidalcea nelsoniana*, the trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71, apply. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to import or export; transport in interstate or foreign commerce in the course of a commercial activity; sell or offer for sale in interstate or foreign commerce; or to engage in certain activities involving "taking" of the species. Certain exceptions apply to agents of the Service and State conservation agencies. Seeds from cultivated specimens of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. The Act and 50 CFR 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened plant species under certain circumstances. No trade in this species is known. It is anticipated that few trade permits involving *Sidalcea nelsoniana* would ever be sought or issued since the species is not common in cultivation or in the wild.

Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, 4401 North Fairfax Drive, room 432, Arlington, Virginia 22203–3507 (703/358–2104).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined pursuant to the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

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Author

The primary author of this final rule is Dr. Robert Parenti, U.S. Fish and Wildlife Service, 4696 Overland Road, Boise, Idaho 83705 (208/334–1931).

List of Subjects in 50 CFR Part 17

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

Regulations Promulgation

PART 17—[AMENDED]

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

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

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Malvaceae, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
•	•	•	•	•		
Malvaceae—Mallow family:						
•	•	•	•	•		
Sidalcea nelsoniana	Nelson's checker-mallow	U.S.A. (OR, WA)	T	490	NA	NA
•	•	•	•	•		

Dated: February 4, 1993.

Richard N. Smith,

Acting Director, U.S. Fish and Wildlife Service.

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