Background

Gaura neomexicana ssp. coloradensis was initially described as *G. coloradensis* by Rydberg (1904) based on material collected near Fort Collins, Colorado, in 1895. Munz (1938) transferred *G. coloradensis* to *G. neomexicana* and reduced it to variety coloradensis. This taxon is now recognized as *G. n. ssp. coloradensis* (Raven and Gregory 1972).

Gaura neomexicana ssp. coloradensis is a perennial herb that lives vegetatively for several years before bearing fruit once and then dying. It has one or a few reddish, hairy stems that are 50–80 centimeters (cm) (2–3 feet (ft)) tall. The lower leaves are lance-shaped with smooth or wavy-toothed margins and average 3–15 cm (2–6 inches (in.)) long, while those on the stem are smaller and reduced in number. Flowers are arranged in a branched, elongate pattern above the leaves. Only a few flowers are open at any one time and these are located below the rounded buds and above the mature fruits. Individual flowers are 5–14 millimeters (¼–½ in.) long with four reddish sepals (modified leaves surrounding the flower) and four white petals that turn pink or red with age. The hard, nutlike fruits are 4-angled and have no stalk. Nonflowering plants consist of a stemless, basal rosette of oblance, leafless leaves 3–18 cm (1–7 in.) long (Marriott 1987; Fertig 1994; Fertig et al. 1994).

Gaura neomexicana ssp. coloradensis occurs on subirrigated, alluvial (stream deposited) soils on level or slightly sloping floodplains and drainage bottoms at elevations of 1,524–1,951 meters (5,000–6,400 ft). Colonies are often found in low depressions or along bends in wide, active, meandering stream channels a short distance upslope of the actual channel. The plant requires early-to mid-succession riparian (river bank) habitat. It commonly occurs in communities dominated by *Agrostis stolonifera* (redtop) and *Poa pratensis* (Kentucky bluegrass) on wetter sites, and *Glycyrrhiza lepidota* (wild licorice), *Cirsium arvense* (Canada thistle), or *Euphorbia esula* (leafy spurge), which prevents new seedlings from becoming established and replacing plants that have died (Floyd 1995a; Fertig 1996).

Little is known about the historical distribution of *Gaura neomexicana* ssp. *coloradensis*. Prior to 1984, no extensive documentation of the plant’s range had been conducted. The plant was known from several historical (and presumably extirpated (Fertig 1994)) locations in southeastern Wyoming, and at least four historical (and presumably extirpated (Fertig 1994)) locations in northern Colorado; and from three extant populations in Laramie County,
Wyoming, and Weld County, Colorado. In 1979, the total known population size was estimated in the low hundreds (Dorn 1979). Intensive range-wide surveys from 1984 to 1986 resulted in the discovery or confirmation of more than 20 populations in Wyoming, Colorado, and Nebraska, containing approximately 20,000 flowering individuals (Marriott 1987). Additional surveys since 1992 have resulted in the discovery of additional populations in Wyoming and Colorado (Fertig 1994; Floyd 1995b).

All currently known populations are within a small area (6.880 hectares (ha) or 17,000 acres (ac)) in southeastern Wyoming, western Nebraska, and north-central Colorado. Two of the populations occur on F.E. Warren Air Force Base in Cheyenne, Wyoming, and five small populations on State land (Chambers Preserve, CO; Oliver Reservoir State Recreation Area, NE; and state school trust land, WY). One population occurs on the Meadow Springs Ranch, northern Colorado (owned by City of Fort Collins). The remaining populations occur on private lands.

Extensive surveys were conducted during 1998 to document the status of previously known populations at 14 sites in Wyoming and Colorado (Fertig 1998b). All 14 sites still supported populations of Gaura neomexicana ssp. coloradensis. Repeated survey information led Fertig (1998b) to conclude that 10 of these populations were either relatively stable or increasing over the long term. Fertig (1998b) estimated the entire population of this taxon to contain between 47,000 and 50,000 reproductive plants. Twelve previously known populations were not surveyed in 1998, so their current status is unknown. Three of these populations were surveyed from 1989 until 1992 and were found to contain only 807 reproductive plants (Fertig 1998b). However, four populations in Colorado and five in Wyoming identified in previous surveys had not been relocated since 1986 and may be extirpated. Thus, of 26 previously and currently known populations, 9 may be extirpated; 3 are probably small, but have not been surveyed since 1992; 4 are still extant, but declining; and 10 are stable or increasing.

Previous Federal Action

Federal action on these plants began as a result of section 12 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.), which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct in the United States. This report (House Document No. 94–51) was presented to Congress on January 9, 1975, and included Gaura neomexicana ssp. coloradensis. We published a notice in the July 1, 1975, Federal Register (40 FR 27823) of our acceptance of the Smithsonian Institution report as a petition within the context of section 4(c)(2) (petition provisions are now found in section 4(b)(3)) of the Act, and our intention to review the status of the reported plant species.

On June 16, 1976, we published a proposal in the Federal Register (41 FR 24523) to determine approximately 1,700 vascular plant species, including Gaura neomexicana ssp. coloradensis, to be endangered species under section 4 of the Act. General comments received in relation to the 1976 proposal were summarized in an April 26, 1978, Federal Register publication (43 FR 7909). The Act Amendments of 1978 required that all proposals over 2 years old be withdrawn. A 1-year grace period was given to those proposals already more than 2 years old. In the December 10, 1979, Federal Register (44 FR 70796), we published a notice of withdrawal of the June 16, 1976, proposal, along with four other proposals that had expired.

We published an updated Notice of Review (NOR) for plants on December 15, 1980 (45 FR 82480), which included Gaura neomexicana ssp. coloradensis as a Category 1 candidate species. Category 1 candidates were formerly defined as species for which we had on file substantial information on biological vulnerability and threats to support preparation of listing proposals, but issuance of a proposed rule was precluded by other listing activities of the agency. We published a NOR in the Federal Register on September 27, 1985 (50 FR 39526), February 21, 1990 (55 FR 6184), and September 30, 1993 (58 FR 51144).

On February 28, 1996, we published a NOR in the Federal Register (61 FR 7596) that discontinued the designation of category 2 species as candidates. That notice included as candidates only those species meeting the former definition of category 1. Gaura neomexicana ssp. coloradensis was included as a candidate in this notice and has retained that status in the subsequent NOR, published in the Federal Register on September 19, 1997 (62 FR 49384).

As part of a settlement agreement in Fund for Animals et al. v. Lujan et al. (D.D.C. Civ. No. 92–800), the proposed rule to list this subspecies as threatened was published in the Federal Register on March 24, 1998 (63 FR 14060). The comment period on the proposed rule to list Gaura neomexicana ssp. coloradensis was reopened in the Federal Register on May 17, 2000 (65 FR 31298), to accommodate the public notice requirement of the Act to consider any new scientific information.

On January 18, 1982, we signed a Memorandum of Understanding with the Commander of the F.E. Warren Air Force Base to ensure continued survival of the two populations of Gaura neomexicana ssp. coloradensis that occur on the base. The agreement has been updated several times since 1982. In 1990 a Research Natural Area was established to include all the known naturally occurring populations on the base. The 1992 Memorandum of Understanding also included The Nature Conservancy, supported demographic studies of the G. n. ssp. coloradensis populations on the base, and provided for ongoing protective efforts. The most recent Memorandum of Agreement (signed March 31, 1999, and effective through December 31, 2003) supports continued protection of the plant populations on the base, development of a weed control plan, and research on reproduction, genetic variability, and other ecological and biological aspects of the plant.

We have updated this rule to reflect any changes in information concerning distribution, status, and threats since the publication of the proposed rule and to incorporate information obtained through the public comment periods. This additional information did not alter our decision to list the subspecies.

Summary of Comments and Recommendations

In the March 24, 1998, proposed rule (63 FR 14060) and the May 17, 2000, reopening of the comment period (65 FR 31298), we requested interested parties to submit factual reports or information that might contribute to the development of a final rule. We sent announcements of the proposed rule to appropriate Federal and State agencies, county governments, scientific organizations, and other interested parties. We also published announcements of the proposed rule in three local newspapers (Fort Collins Coloradoan, the Wyoming Tribune Eagle, and the Western Skunk Observer) on May 18 and 19, 2000, inviting public comment.
We received a total of ten comments (four from private organizations, four from agricultural operations, one from State Government, and one from a private individual) that are discussed below. Of these comments, two were provided as supplements to comments already provided during the initial comment period.

**Issue 1:** Two commenters suggested we take an ecosystem approach and adopt a program that would conserve several species, including Preble’s meadow jumping mouse (Zapus hudsonius preblei), even if development of such a program leads to delays in protection for the plant. The commenter also indicated the proposed rule ignores the efforts of the Laramie County Commissioners to amend the county use plan and develop a Habitat Conservation Plan which would include *Gaura neomexicana* ssp. *coloradensis*.

**Our Response:** We actively support ecosystem-level conservation efforts and encourage multi-species planning efforts to avoid or reduce the need for future listing actions and facilitate recovery of listed species within designated planning areas. Our 1994 policy regarding the ecosystem approach to the Act, published in the *Federal Register* on July 1, 1994 (59 FR 34273), directs us to make listing decisions for groups of species where possible and implement recovery plans for multiple listed and candidate species. However, we also are required to determine whether a species is endangered or threatened within specific time frames and based on the five factors listed under section 4(a)(1) of the Act. Based on these factors, the decision to propose listing this subspecies was made in 1998. Once a listing is proposed, we have a responsibility to either finalize the listing or withdraw the proposal. After reviewing the available data and the comments received, we determined that finalizing the listing proposal was the appropriate action to take.

Although the Laramie County Habitat Conservation Plan may address the majority of *Gaura neomexicana* ssp. *coloradensis* populations, the effort is still in the early planning process with no certainty of its completion, approval, or implementation. Therefore, we are not able to consider the effectiveness of this Habitat Conservation Plan in reducing or eliminating the threats to this subspecies in the future as part of our listing decision. We must evaluate the threats to *G. n.* ssp. *coloradensis* based upon existing land-use and regulations, which have not always proven adequate in the past to conserve the subspecies effectively.

**Issue 2:** One commenter stated the proposed rule did not provide compelling reasons for not designating critical habitat.

**Our Response:** After further review of the available data, we found that designating critical habitat is prudent for this subspecies, but we are deferring the designation to allow ourselves to concentrate our limited resources on higher priority critical habitat (including court ordered designations) and other listing actions, while establishing protections needed for the conservation of *Gaura neomexicana* ssp. *coloradensis* without further delay.

**Issue 3:** Two commenters stated *Gaura neomexicana* ssp. *coloradensis* should be listed as endangered and not threatened.

**Our Response:** As mentioned above, extensive surveys conducted during 1998 showed populations of *Gaura neomexicana* ssp. *coloradensis* still occurring at the 14 surveyed sites, with 10 of these populations either stable or increasing over the long term. The entire population of this taxon is estimated to contain between 47,000 and 50,000 reproductive plants. Although the majority of populations occur on private land, two populations, which are considered stable, occur on F.E. Warren Air Force Base, and are protected through the Research Natural Area designation and through the current Memorandum of Agreement.

Additionally, a seed bank has been established at the Nebraska State Arboretum, and experimental populations have been established at the University of Colorado and the University of Wyoming. As a result, *G. n.* ssp. *coloradensis* does not meet the definition of an endangered species under the Act, because it is not in imminent danger of extinction in the foreseeable future (see “Summary of Factors Affecting the Species” below). Therefore, listing as threatened is appropriate.

**Issue 4:** Three commenters discussed the value of private land in plant conservation, saying that the plant’s presence on private land is an indication that those lands are being managed consistently with the conservation of the subspecies. The commenters expressed concern over the hardship landowners may have to endure as a result of the listing, and one thought conservation efforts should be voluntary without fear of fines.

**Our Response:** We believe private lands will be of great importance in the conservation of *Gaura neomexicana* ssp. *coloradensis*, which have not always proven adequate in the past to conserve the subspecies effectively. We expect to find most suitable habitat and most populations of the plant on private lands. We acknowledge that healthy populations of *G. n.* ssp. *coloradensis* with stable or increasing long-term trends probably reflect land management practices that are compatible with the needs of the plant. We encourage the continuation of such practices. Additionally, the prohibitions outlined in section 9 of the Act are much less restrictive for threatened plants on private lands than for animals (see “Available Conservation Measures” below). Few actions are actually restricted and, therefore, there is little likelihood of landowners suffering hardships because of the presence of a listed plant on their property.

**Issue 5:** Three commenters stated that many agricultural practices benefit *Gaura neomexicana* ssp. *coloradensis*. Our Response: As described above, we recognize that certain agricultural practices and disturbances, particularly those that reduce competition from later-flowering plants, may result in creation of suitable habitat in some areas, while adversely affecting existing suitable habitat through direct habitat loss and changes in hydrology. Further coordination between the Service and the agriculture industry will improve our understanding of how agriculture affects the plant and its habitat.

**Issue 6:** Five commenters discussed noxious weed control. Two commenters pointed out that limited or timely spraying of noxious weeds may help *Gaura neomexicana* ssp. *coloradensis* by eliminating plants that aggressively compete for resources, while late haying may allow noxious weeds to flourish. Other commenters wanted the Service to identify alternatives to herbicides to control noxious weeds.

**Our Response:** We recognize the need to control noxious weeds and acknowledge that competition from these subspecies may have serious negative implications for *Gaura neomexicana* ssp. *coloradensis*. However, *G. n.* ssp. *coloradensis* is highly susceptible to commonly-used herbicides when they are applied non-
selectively. Alternative means of herbicide application and the use of biological control agents should continue to be investigated. Further studies at F.E. Warren Air Force Base may help identify the best methods for noxious weed control in *G. n. ssp. coloradensis* habitat.

**Issue 7:** One commenter wanted the Service to disclose what percentage of suitable habitat within the historical habitat has been surveyed and either quantify the level of habitat impacts or quantify the remaining habitat available for recovery.

**Our Response:** *Gaura neomexicana* ssp. *coloradensis* has a restricted geographic range and high habitat specificity (Fertig 1998b), making habitat identification straightforward. The extensive effort associated with 1984–1986 surveys is outlined by Marriott (1987), who indicated that the majority of suitable habitat had been surveyed for the presence of this plant. However, no effort has been made to precisely quantify the percentage of suitable habitat that has been surveyed or the remaining habitat available for recovery. As access to private lands is occasionally restricted and funding for surveys is minimal, our ability to identify and survey all suitable habitat or monitor habitat for impact is limited. Moreover, disturbance regimes and plant succession continually change habitat characteristics, making quantification of habitat available for recovery of limited value. Therefore, we have based our listing determination on the best available information gained from known populations and accessible suitable habitat.

**Issue 8:** One commenter indicated few *Gaura neomexicana* ssp. *coloradensis* plants occur in Nebraska, although many occur elsewhere within the plant’s range. We interpreted this comment to indicate the commenter believed the plant should not be listed in Nebraska.

**Our Response:** While it is true that few *Gaura neomexicana* ssp. *coloradensis* plants occur in Nebraska, the Act does not allow for the listing of distinct populations of plants. Therefore, any listing action would cover the entire range of the subspecies. Additionally, the Nebraska plants are facing the same threats occurring elsewhere in the range. The loss of these plants would negatively affect conservation of the subspecies.

**Issue 9:** One commenter expressed concern that listing *Gaura neomexicana* ssp. *coloradensis* could affect their ability to sell their land. We interpret this to be an economic concern.
development that is part of interstate commerce.

The Federal government also has the authority under the Property Clause of the Constitution to protect *Gaura neomexicana* ssp. *coloradensis* which occurs on the F.E. Warren Air Force Base. If this subspecies were to become extinct or extripated, the diversity of plant life on the Air Force Base would be diminished. The courts have long recognized Federal authority under the Property Clause to protect Federal resources in such circumstances. See *e.g.*, *Kleppe v. New Mexico*, 422 U.S. 873 (1976); *United States v. Alford*, 274 U.S. 264 (1927); *Camfield v. United States*, 167 U.S. 518 (1897); *United States v. Lindsey*, 595 F.2d 5 (9th Cir. 1979).

*Issue 13:* Two commenters expressed concern regarding the delays in publishing a final listing decision and questioned the need to reopen the comment period. Both commenters believe the Service reopened the comment period to appease political interests. Additionally, one of the commenters indicated there was no new information that would warrant reconsideration of the proposal.

*Our Response:* We acknowledge our tardiness in publishing the final rule. Because of an oversight during the initial comment period for the proposed rule, the legal notices required by the Act (section 4(b)(5)(D)) were not published in any local newspapers. In order to fully comply with the Act, we reopened the comment period and published legal notices in the “Fort Collins Coloradao,” the “Wyoming Tribune Eagle,” and “Western Nebraska Observer.” Six comment letters were received during the reopened comment period, two referencing new information regarding population sizes and trends. While our review of the new information did not ultimately change the proposed action, the Service believed the new information was significant enough to warrant consideration.

**Peer Review**

In accordance with interagency policy published in the *Federal Register* on July 1, 1994 (59 FR 34270), we solicited the expert opinions of three independent specialists regarding pertinent scientific or commercial data and assumptions relating to the taxonomy, population models, and supportive biological and ecological information for the taxon under consideration for listing. The purpose of this review was to ensure listing decisions are based on scientifically sound data, assumptions, and analyses, including input from appropriate experts and specialists. Two scientists responded to our request for peer review of this listing action and provided information which generally supported the biological and ecological data presented in the proposed rule.

One reviewer expressed concern regarding the timeliness of the listing. The reviewer indicated listing alone would result in only limited conservation on private lands, where most of the known populations occur. The reviewer wanted the Service to postpone the listing to allow time for a more significant effort to establish management agreements with willing landowners.

*Our Response:* As stated in response to Issue 1 above, we are required to determine whether a species is endangered or threatened within specific timeframes and based solely on the five factors listed under section 4(a)(1) of the Act. Therefore, the decision was made to list this subspecies.

A second reviewer also felt voluntary conservation measures are more likely to protect this subspecies and its habitat than listing under the Act. The reviewer indicated that threats are clearly present, but many (such as herbicide use) can be mitigated. Additionally, the reviewer believed current management of privately-owned agricultural lands is largely compatible with the needs of the plant or could be made compatible through education. This reviewer believed listing of *Gaura neomexicana* ssp. *coloradensis* as threatened could undermine its conservation if landowners react negatively to its presence, and would do little to improve its management on Federal lands, such as F.E. Warren Air Force Base. The reviewer indicated that the section 9 protections discussed in the proposed rule were reasonable and consistent with the management needs of the subspecies.

*Our Response:* We have to make our listing decision based on conservation measures that are currently in place. Even if formal conservation agreements were in place, those agreements would need to be evaluated based upon the certainty of implementation and effectiveness. Many of the current threats could be minimized and mitigated through implementation of formal conservation agreements, including education programs. However, without those agreements there is not a high level of certainty that any conservation measures will be implemented.

The Service will consider in making a listing decision. However, the Service will conduct outreach in association with this listing decision to try to minimize negative reactions by landowners and others. Additionally, listing the plant will give the Service additional oversight of potential adverse impacts resulting from Federal projects through section 7 consultation. This should enhance conservation of the species.

**Summary of Factors Affecting the Species**

Section 4 of the Act and regulations (50 CFR part 424) issued to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined endangered or threatened due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Gaura neomexicana* ssp. *coloradensis* are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.*

*Gaura neomexicana* ssp. *coloradensis* is restricted to approximately 6,880 ha (17,900 ac) running from Colorado Springs, Colorado, north to Cheyenne, Wyoming, and spreading into a small portion of southwest corner of Nebraska. Of the currently known populations of *G. n.* ssp. *coloradensis*, the vast majority occur on private lands managed primarily for agriculture. Only two populations occur on Federal land, both at F.E. Warren Air Force Base. Small populations are found in special management areas at Chambers Preserve, Colorado, and Oliver Reservoir State Recreation Area, Nebraska. At least three other populations in Wyoming are found partly or fully on state school trust lands managed mostly for agricultural uses. The Meadow Springs Ranch population in northern Colorado is owned by the City of Fort Collins and managed for municipal sewage treatment.

Haying and mowing at certain times of the year, water development, land conversion for cultivation, competition from exotic plants, non-selective use of herbicides, and loss of habitat to urban growth are the main threats to the plant on these lands (Marriott 1987; Fertig 1994). On some sites, including F.E. Warren Air Force Base, habitat degradation resulting from plant succession and noxious weed competition is the main threat to the long-term survival of populations. High recreational use by campers, motorists, and fishermen is a threat to populations on State park lands in Nebraska.
Conversion of moist, native grasslands to commercial croplands has been widespread throughout southeastern Wyoming and northeastern Colorado (Compton and Hugie 1993). Since much of the agricultural lands are irrigated hay fields, mowing of Gaura neomexicana ssp. coloradensis habitat for hay production has been suggested as a potential threat if conducted at an inappropriate time of year (Jennings et al. 1997). Although this threat can be significant if cutting occurs before the plant’s fruits have ripened, if cutting is delayed until late in the growing season when a hard fruit wall is developed, the seeds are not damaged by cutting and may actually be dispersed in the process. Likewise, early season mowing (before the flower stalks have bolted) may provide some advantages to the plant by reducing the cover of competing vegetation (Fertig 1994).

Construction of stock ponds and reservoirs has inundated some Gaura neomexicana ssp. coloradensis habitat and made it unsuitable for the subspecies. The development of irrigation canals to move water to croplands may remove moisture from occupied or potentially suitable habitat leaving it in a drier, unsuitable condition. Additionally, the management of water resources for domestic and commercial uses, coupled with encroaching agricultural land use, has had a tendency to channelize and isolate water resources and fragment, realign, and reduce riparian and moist lowland habitat that could otherwise serve as potential G. n. ssp. coloradensis habitat (Compton and Hugie 1993).

Residential and urban development around the cities of Cheyenne and Fort Collins has converted areas of formerly suitable Gaura neomexicana ssp. coloradensis habitat. The high rate of development occurring from Colorado Springs, Colorado, to Cheyenne, Wyoming, has been cited as a continuing threat to remaining populations of the Preble’s meadow jumping mouse, a threatened species that also occurs in riparian habitats and whose historic range overlaps much of that of G. n. ssp. coloradensis (62 FR 14093).

In nonagricultural, undeveloped areas, a significant threat to Gaura neomexicana ssp. coloradensis populations is habitat degradation resulting from succession of the plant community. Without periodic disturbance events, the semi-open habitats preferred by this subspecies can become choked by tall and dense growth of wild grasses, and exotic weeds (Fertig 1994). Natural disturbances, such as flooding, fire, and native ungulate grazing, were sufficient in the past to create favorable habitat conditions for the plant. However, the natural flooding regime within the subspecies’ floodplain habitat has been altered by construction of flood control structures and by irrigation and channelization practices. In the absence of such natural disturbances today, managed disturbance may be necessary to maintain and create areas of suitable habitat (Fertig 1994, 1996). However, many Federal programs, such as those administered by the USDA Natural Resources Conservation Service, focus on enhancing or protecting riparian areas by removing the types of disturbance the plant needs, increasing vegetative cover, and pushing the habitat into later successional stages.

B. Overutilization for commercial, recreational, scientific, or educational purposes. Given the limited range and concentration of the subpopulations, overcollection could be a problem. However, currently, there does not appear to be any commercial demand for the subspecies, nor is it anticipated that there would be any substantial threat of overcollection due to scientific or educational demands.

C. Disease or predation. There are no known diseases affecting Gaura neomexicana ssp. coloradensis populations, although the subspecies is occasionally affected by insect galls. G. n. ssp. coloradensis is highly palatable to a variety of insect and mammalian herbivores (e.g., cattle, horses, and pronghorn (Antilocapra americana)), but appears to compensate for herbivory by increasing branch and fruit production. Livestock grazing can be a threat at some sites if grazing pressures are high due to animals not being rotated among pastures or concentrated use during the summer flowering period. Additionally, plants are occasionally uprooted or trampled by livestock and wildlife grazing in the vicinity. In at least one location where a population of G. n. ssp. coloradensis was divided by a fence, the heavily-grazed side had few or no G. n. ssp. coloradensis plants (J. Miller, U.S. Fish and Wildlife Service, in litt. 1987). The primary author of this rule also has observed a site adversely affected by higher-intensity grazing. However, in a similar situation, the more heavily-grazed side of the fence had numerous rosettes, but the side with no grazing had dense willow cover and no G. n. ssp. coloradensis (Walt Fertig, The Nature Conservancy, in litt. 1998). In addition to the intensity of grazing, the timing of grazing is key to G. n. ssp. coloradensis survival. Observations have shown that the plant can persist and thrive in habitats that are winter-grazed or managed on a short-term rotation cycle (Jennings et al. 1997). Light to medium grazing can provide additional benefits by reducing the competing vegetative cover and allowing G. n. ssp. coloradensis seedlings to become established.

D. The inadequacy of existing regulatory mechanisms. No Federal or State laws or regulations specifically protect Gaura neomexicana ssp. coloradensis or its habitat. The plant is listed as Sensitive by the U.S. Forest Service, although no populations are currently known from Forest Service lands (D. Hazlett, Plants and People Consulting, pers. comm. 1994). Fertig (1998b) considers the inadequacy of existing regulatory mechanisms to be the main impediment to long-term conservation of G. n. ssp. coloradensis. Although the Preble’s meadow jumping mouse, a threatened species, inhabits riparian areas within the range of G. n. ssp. coloradensis, these two species prefer different stages of vegetational succession. Therefore, measures to protect habitat for the mouse may not protect G. n. ssp. coloradensis.

E. Other natural or manmade factors affecting its continued existence. The most serious threat on agricultural lands is non-selective use of broadleaf herbicides for the control of Cirsium arvense (Canada thistle), Euphorbia esula (leafy spurge), and other exotic plants (Marriott 1987). The noxious weed problem in Laramie County, Wyoming, is particularly evident on F.E. Warren Air Force Base. Although competition from these subspecies may have serious negative implications for populations of Gaura neomexicana ssp. coloradensis, the plant appears to be highly susceptible to commonly used herbicides when they are applied non-selectively. In 1983, nearly one-half of the mapped populations on F.E. Warren Air Force Base were inadvertently destroyed when sprayed with Tordon, a persistent herbicide. Additionally, herbicide use along road crossings in and adjacent to G. n. ssp. coloradensis populations also has been noted (J. Miller, U.S. Fish and Wildlife Service, in litt. 1987). Biological control agents have been used at F.E. Warren Air Force Base, but have not yet been fully effective in controlling Canada thistle or leafy spurge. Introduced gall-forming flies have slowly become established on the Base and have reduced the vigor, height, and reproductive ability of small patches of Canada thistle (Fertig 1997). The first evidence of successful establishment of flea beetles, a bioccontrol agent for leafy spurge, was
observed on the Base in 1997 (Fertig 1998a).

In order for a population to sustain itself, there must be enough reproducing individuals and sufficient habitat to ensure survival of the population. It is not known if the scattered populations of Gaura neomexicana ssp. coloradensis contain sufficient individuals and diversity to ensure their continued existence over the long term.

The most recent survey information for the known populations of Gaura neomexicana ssp. coloradensis shows that only 5 of the 14 surveyed populations are large (i.e., with at least 3,000 or more flowering individuals). Only one of these occurs on Federal lands. Seven of the surveyed populations (one of them occurring on Federal lands) are moderately sized, containing between 500 and 2,500 flowering individuals each. The remaining 2 surveyed populations are smaller, with less than 200 reproductive individuals each. These small populations are threatened by a possible reduction in vigor and fecundity (often evidenced by reduced seed set), as random genetic changes occur and genetic variability is lost as a result of inbreeding which is inevitable in small populations (Ehrlich 1981; Ledig 1986). Because of the small, isolated nature of the populations and the few individuals present in many of them, G. n. ssp. coloradensis also is more susceptible to random events, such as fires, insect or disease outbreaks, or other events that can easily cause the extirpation of a small population.

Although the plant evolved with and even depended upon the disturbance associated with these types of events, they may now pose a threat to Gaura neomexicana ssp. coloradensis. Individual plants may not survive such events, and because of low numbers and the now highly restricted range of the subspecies, events such as fires and floods pose a threat. A flood in 1983 along Crow Creek on the F.E. Warren Air Force Base impacted several populations and experimental seed plots established in 1981 (U.S. Fish and Wildlife Service, in litt. 1984). However, these populations rebounded and have been censused annually since 1986 (Walt Fertig, The Nature Conservancy, in litt. 1998).

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats to Gaura neomexicana ssp. coloradensis in determining to issue this final rule. While not a danger of extinction, G. n. ssp. coloradensis is likely to become an endangered species in the foreseeable future if the present threats and declines continue. Although some conservation efforts are being conducted on Federal and private lands, these efforts are currently not sufficient to provide adequate protection for the subspecies. Therefore, Federal listing under authority of the Act is the only mechanism we can presently identify that will help ensure protection for G. n. ssp. coloradensis throughout its limited range.

Critical Habitat

Critical habitat is defined in section 3, paragraph (5)(A) of the Act as the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and specific areas outside the geographical area occupied by a species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination by the Secretary that such areas are essential for the conservation of the species. “Conservation” means the use of all methods and procedures needed to bring the species to a status where it will have a high probability of survival and recovery in the wild, in the absence of threats.

Critical habitat designation directly affects only Federal agency actions through consultation under section 7(a)(2) of the Act. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat. Section 4(a)(3) of the Act, as amended, and our implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, we designate critical habitat at the time the species is determined to be endangered or threatened. Our regulations (50 CFR 424.12(a)(1)) state that designation of critical habitat is not prudent when one or both of the following situations exist: (1) the species is threatened by taking or other activity and the identification of critical habitat can be expected to increase the degree of threat to the species, or (2) such designation of critical habitat would not be beneficial to the species.

In the proposed rule, we indicated that designation of critical habitat was not prudent for Gaura neomexicana ssp. coloradensis because of a concern that critical habitat was not prudent. In the last few years, a series of court decisions have overturned Service determinations that designation of critical habitat for a variety of species would not be prudent (e.g., Natural Resources Defense Council v. U.S. Department of the Interior 113 F. 3d 1121 (9th Cir. 1997); Conservation Council for Hawaii v. Babbitt, 2 F. Supp. 2d 1280 (D. Hawaii 1998)). Based on the standards applied in those judicial opinions, we have reexamined the question of whether critical habitat for Gaura neomexicana ssp. coloradensis would be prudent.

As with other species we list, we have the concern that unrestricted collection, vandalism, or other human activity could be exacerbated by the publication of critical habitat maps and further dissemination of locational information. We also indicated that designation of critical habitat would increase threats to this subspecies of taking or other human activity.

In the absence of a finding that critical habitat would increase threats to a subspecies, if any benefits would result from a critical habitat designation, then a prudent finding is warranted. In the case of this subspecies, designation of critical habitat may provide some benefits. The primary regulatory effect of critical habitat is the section 7 requirement that Federal agencies refrain from taking any action that destroys or adversely modifies critical habitat. While a critical habitat designation for habitat currently occupied by this subspecies would not likely to change the section 7 consultation outcome because an action that destroys or adversely modifies such critical habitat also would be likely to result in jeopardy to the subspecies, in certain instances, section 7 consultation might be triggered only if critical habitat is designated. Examples could include modifications to unoccupied or occupied habitat that may become unoccupied in the future. Designating
critical habitat may provide some educational or informational benefits. Therefore, we find that critical habitat is prudent for *Gaura neomexicana* ssp. *coloradensis*.

As explained in detail in the Final Listing Priority Guidance for Fiscal Year 2000 (64 FR 57114), our listing budget is currently insufficient to allow us to immediately complete all of the listing actions required by the Act. We focus our efforts on those listing actions that provide the most conservation benefit.

Deferral of the critical habitat designation for this subspecies will allow us to concentrate our limited resources on higher priority critical habitat and other listing actions, without delaying the final listing decision for *Gaura neomexicana* ssp. *coloradensis*. We will develop a proposal to designate critical habitat for *G. n. ssp. coloradensis* as soon as feasible, considering our workload priorities and available funding.

Unfortunately, for the immediate future, most of Region 6’s listing budget must be directed to complying with numerous court orders and settlement agreements, as well as due and overdue final listing determinations.

### Available Conservation Measures

The Nebraska State Arboretum currently maintains a seed bank of *Gaura neomexicana* ssp. *coloradensis* collected from sites along Lodgepole Creek in Nebraska (J. Locklear, Nebraska State Arboretum, pers. comm. April 15, 1997). Additional seed has been collected by the Natural Resources Conservation Service for deposit at the Bridger Plant Materials Center in Montana. Seed from other populations throughout the range of this subspecies is needed to ensure adequate genetic representation in cultivated stocks and seed banks. Additional testing is needed to determine the viability of seed after long periods of storage.

Habitat along Crow and Diamond Creeks on F.E. Warren Air Force Base has been designated as the Colorado Butterfly Plant Research Natural Area dedicated to the protection of the largest known population of *Gaura neomexicana* ssp. *coloradensis*, and a management plan has been developed (Marriott and Jones 1988). Two relatively large populations of *G. n. ssp. coloradensis* occur within the Colorado Butterfly Plant Research Natural Area. Under various memoranda of understanding and cooperative agreements with the Service and The Nature Conservancy, the Air Force has been conducting conservation activities for this subspecies since 1982. However, the current Memorandum of Agreement between the Service and the Air Force contains no implementation schedule, is subject to the availability of appropriated and non-appropriated funds and personnel, and can be terminated at any time (with 60 days notice). The Base is currently implementing a weed-control program with special restrictions on the spraying of pesticides in *G. n. ssp. coloradensis* habitat. Continued implementation of conservation actions on the Base will enhance the overall conservation of the subspecies.

In 1983 a population of *Gaura neomexicana* ssp. *coloradensis* was introduced on the Chambers Preserve near Boulder, Colorado. Although the reintroduction was initially successful, whether the population persists today is unknown. Several private landowners with natural populations of the plant have expressed interest in pursuing conservation projects; none are currently in place. Protection for these natural populations should be encouraged.

Additionally, as mentioned above, little is known of the genetic variability within or between populations. Genetic research to determine the degree of genetic variability within and between populations of the plant would enable the Service to focus conservation measures on maintaining the existing genetic diversity of *Gaura neomexicana* ssp. *coloradensis*, thus enhancing the subspecies’ chances of long-term survival. The Air Force is currently funding a genetic study focused on population genetics of *G. n. ssp. coloradensis* at F.E. Warren Air Force Base.

Conservation measures provided to subspecies listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in public awareness and conservation actions by Federal, State, and local agencies, private organizations, and individuals. The Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Funding may be available through section 6 of the Act for the States to conduct recovery activities. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants 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 as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation of the Act are codified at 50 CFR part 402. Section 7(a)(2) of the Act requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the listed species or destroy or adversely modify its critical habitat, if designated. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with us, under to section 7(a)(2) of the Act.

Federal agency actions that may require consultation as described in the preceding paragraph include altering vegetation, particularly through the use of herbicides; implementing livestock grazing management that alters vegetation during the flowering season of *Gaura neomexicana* ssp. *coloradensis*; construction of roads or hiking/biking trails along or through riparian areas; channelization and other alteration of perennial streams and their hydrological regimes for flood control and other water management purposes; permanent and temporary damming of streams to create water storage reservoirs or to alter the stream’s course; construction of residential, commercial, and industrial developments, including roads, bridges, public utilities and telephone lines, pipelines, and other structures in *G. n. ssp. coloradensis* habitat; and sand and gravel and other types of mining activities within or upstream of *G. n. coloradensis* habitat. In addition, sections 2(c)(1) and 7(a)(1) of the Act require Federal agencies to utilize their authorities in furtherance of the purposes of the Act to carry out conservation programs for endangered and threatened species.

Listing of this plant as threatened would provide for the development of a recovery plan, which would identify both State and Federal efforts for conservation of the plant and establish a framework for agencies to coordinate activities and cooperate with each other in conservation efforts. The plan would set recovery priorities and describe site-specific management actions necessary to provide for the conservation and or recovery of the plant. Additionally, pursuant to section 6 of the Act, we would be able to grant funds to affected States for management actions promoting the protection and recovery of this subspecies.

The Act and our implementing regulations set forth a series of general prohibitions and exceptions that apply to all threatened plants. All prohibitions set forth in section 9(a)(2) of the Act, except as implemented by 50 CFR 17.71, apply. These prohibitions, in part, 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
remove the species to possession from
areas under Federal jurisdiction. In
addition, for plants listed as
dangerous, the Act prohibits the
malicious damage or destruction on
areas under Federal jurisdiction and the
removal, cutting, digging up, or
damaging or destroying of such plants
in knowing violation of any State law or
regulation, including State criminal
trespass law. Section 4(d) of the Act
allows for the provision of such
protection to threatened species through
regulation. This protection may apply to
this subspecies in the future if such
regulations were to be issued. Seeds
from cultivated specimens of threatened
plants are exempt from these
prohibitions provided that their
containers are marked “Of Cultivated
Origin.” Certain exceptions to the
prohibitions apply to agents of the
Service and State conservation agencies.

The Act and 50 CFR 17.72 also
provide for the issuance of permits to
carry out otherwise prohibited activities
involving threatened plants under
certain circumstances. Such permits are
available for scientific purposes and to
enhance the propagation or survival of the
subspecies. For threatened plants,
permits also are available for botanical
or horticultural exhibition, educational
purposes, or special purposes consistent
with the purposes of the Act. It is
anticipated that few trade permits
would ever be sought or issued because
the subspecies is not in cultivation or
common in the wild.

It is our policy, published in the
Federal Register (59 FR 34272) on July
1, 1994, to identify to the maximum
extent practicable those activities that
would or would not be likely to
constitute a violation of section 9 of the
Act if a species is listed. The intent of
this policy is to increase public
awareness of the effect of the listing on
proposed and ongoing activities within a
species’ range.

Collection of listed plants or activities
that would damage or destroy listed
plants on Federal lands are prohibited
without a Federal endangered species
permit. Such activities on non-Federal
lands would constitute a violation of
section 9 of the Act if they were
conducted in knowing violation of State
law or regulation, or in the course of
violation of State criminal trespass law.
Otherwise, such activities would not
constitute a violation of the Act on non-
Federal lands.

Questions regarding whether specific
activities, such as changes in land use,
will constitute a violation of section 9
should be directed to the Wyoming Field
Supervisor (see ADDRESSES section).
Requests for copies of the
regulations regarding listed species and
inquiries about prohibitions and permits
may be addressed to: Regional Director,
U.S. Fish and Wildlife Service, P.O. Box
25486, Denver Federal Center, Denver,
Colorado 80225–0486.

Paperwork Reduction Act of 1995 (44
U.S.C. 3501 et seq.)

This rule does not contain any
information collection requirements that
require Office of Management and
Budget approval under the Paperwork
Reduction Act.

National Environmental Policy Act

The Service has determined that an
environmental assessment and
environmental impact statement, as
defined under the authority of the
National Environmental Policy Act of
1969, need not be prepared in
connection with regulations adopted
pursuant to section 4(a) of the 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).

References Cited

A complete list of all references cited
herein, as well as others, is available
upon request from the Wyoming Field
Office (see ADDRESSES section).

Author: The primary author of this
document is Mary Jennings of the
Wyoming Field Office (see ADDRESSES
section).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

Accordingly, it is hereby proposed to
amend part 17, subchapter B of chapter
I, title 50 of the Code of Federal
Regulations, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17
continues to read as follows:
625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.12(h) by adding the
following, in alphabetical order under
“FLOWERING PLANTS,” to the List of
Endangered and Threatened Plants to
read as follows:

§ 17.12 Endangered and threatened plants.

(h) * * *

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Jamie Rappaport Clark,
Director, Fish and Wildlife Service.

[FR Doc. 00–26544 Filed 10–17–00; 8:45 am]

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