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Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Ipomopsis polyantha (Pagosa skyrocket), Penstemon debilis (Parachute beardtongue), and Phacelia submutica (DeBeque phacelia); Proposed Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R6–ES–2011–0040; MO 92210–0–0009]

RIN 1018–AX75

Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Ipomopsis polyantha (Pagosa skyrocket), Penstemon debilis (Parachute beardtongue), and Phacelia submutica (DeBeque phacelia)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose to designate critical habitat for *Ipomopsis polyantha* (Pagosa skyrocket), *Penstemon debilis* (Parachute beardtongue), and *Phacelia submutica* (DeBeque phacelia) under the Endangered Species Act of 1973, as amended (Act). Approximately 9,894 acres (4,004 hectares) are being proposed for designation as critical habitat for *I. polyantha.* Approximately 19,155 acres (7,752 hectares) are being proposed for designation as critical habitat for *P. debilis.* Approximately 24,987 acres (10,112 hectares) are being proposed for designation as critical habitat for *P. submutica.* In total, approximately 54,036 acres (21,868 hectares) are being proposed for designation as critical habitat for the three species. The proposed critical habitat is located in Archuleta, Garfield, and Mesa Counties, Colorado.

DATES: We will accept comments received or postmarked on or before September 26, 2011. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by September 12, 2011.

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

(1) *Electronically:* Go to the Federal eRulemaking Portal: *http://www.regulations.gov.* In the Enter Keyword or ID box, enter Docket No. FWS–R6–ES–2011–0040, which is the docket number for this rulemaking. Then, in the Search panel at the top of the screen, under the Document Type heading, check the box next to Proposed Rules to locate this document. You may submit a comment by clicking on ''Submit a Comment.''

(2) *By hard copy:* Submit by U.S. mail or hand-delivery to: Public Comments Processing, *Attn:* FWS–R6–ES–2011–0040; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042–PDM; Arlington, VA 22203.

We will not accept e-mail or faxed comments. We will post all comments on *http://www.regulations.gov.* This generally means that we will post any personal information you provide us (see the Public Comments section below for more information).

FOR FURTHER INFORMATION CONTACT: Allan Pfister, Western Colorado Supervisor, U.S. Fish and Wildlife Service, Western Colorado Ecological Services Office, 764 Horizon Drive, Suite B, Grand Junction, CO 81506–3946; telephone 970–243–2778; facsimile 970–245–6933. If you use a telecommunications device for the deaf (TDD), call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Public Comments

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

(1) The reasons why we should or should not designate habitat as ''critical habitat'' under section 4 of the Act (16 U.S.C. 1531 *et seq.*) including whether there are threats to the species from human activity, the degree of which can be expected to increase due to the designation, and whether that increase in threat outweighs the benefit of designation such that the designations of critical habitat may not be prudent;

(2) Specific information on:

(a) The amount and distribution of *Ipomopsis polyantha, Penstemon debilis,* and *Phacelia submutica* habitat;

(b) What areas, that are occupied and that contain features essential to the conservation of these species, should be included in the designation and why;

(c) Special management considerations or protection that may be needed in critical habitat areas we are proposing, including managing for the potential effects of climate change;

(d) What areas not occupied at the time of listing are essential for the conservation of the species and why; and

(e) Means to quantify the amount of natural and human-caused disturbance these species prefer or can tolerate.

(3) Land use designations and current or planned activities in the subject areas and their possible impacts on proposed critical habitat.

(4) Information on the projected and reasonably likely impacts of climate change on *Ipomopsis polyantha, Penstemon debilis,* and *Phacelia submutica* and proposed critical habitat.

(5) Any probable economic, national security, or other relevant impacts of designating any area that may be included in the final designation; in particular, any impacts on small entities or families, and the benefits of including or excluding areas that exhibit these impacts.

(6) Whether any specific areas we are proposing for critical habitat designation should be considered for exclusion under section 4(b)(2) of the Act, especially the Mount Callahan and Mount Callahan Saddle Natural Areas for *Penstemon debilis,* and whether the benefits of potentially excluding any specific area outweigh the benefits of including that area under section 4(b)(2) of the Act.

(7) Whether we could improve or modify our approach to designating critical habitat in any way to provide for greater public participation and understanding, or to better accommodate public concerns and comments.

You may submit your comments and materials concerning this proposed rule by one of the methods listed in the **ADDRESSES** section. We will not accept comments sent by e-mail or fax or to an address not listed in the **ADDRESSES** section. We will post your entire comment—including your personal identifying information—on *http://www.regulations.gov.* You may request at the top of your document that we withhold personal information such as your street address, phone number, or e-mail address from public review; however, we cannot guarantee that we will be able to do so.

Comments and materials we receive, as well as supporting documentation we used in preparing this proposed rule, will be available for public inspection on *http://www.regulations.gov,* or by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Western Colorado Ecological Services Office (see **FOR FURTHER INFORMATION CONTACT**).

Background

It is our intent to discuss only those topics directly relevant to the designation of critical habitat in this proposed rule. For more information on *Ipomopsis polyantha, Penstemon debilis,* and *Phacelia submutica,* refer to the proposed rule published in the **Federal Register** on June 23, 2010 (75

FR 35721) or the final listing rule that is published in the Rules and Regulations section of today's **Federal Register**. See also the discussion of habitat in the ''*Physical and Biological Features''* section below. Please note that we have used scientific names for rare species, because oftentimes these names are better known than the common names; and, we have used common names for species that are better known and where the common name may be easier for the reader to understand. In this rule we used scientific names for rare species, because where a common name is less standardized, the scientific name avoids confusion.

*Ipomopsis polyanth*a is a biennial (living only 2 years) or short-lived perennial (living for more than 2 years) herb in the Polemoniaceae (phlox) family that has white flowers flecked with purple dots; it flowers only once before dying. *Penstemon debilis* is a long-lived perennial herb in the Plantaginaceae (plantain) family that grows along the ground and has purple flowers. *Phacelia submutica* is a very small annual (living only one season) herb in the Hydrophyllaceae (waterleaf) family with small white flowers that are hidden within the leaves of the plant.

Geographic Range, Habitat, and Threats

Ipomopsis polyantha is known from only two populations in Archuleta County, Colorado. A minimum convex polygon (enclosing all the points to create a convex polygon with no concave areas) around both populations encloses an area of 13,825 acres (ac) (5,595 hectares (ha)) and measures 13 miles (mi) (21 kilometers km)) in length and 3 mi (5 km) in width. The total footprint of area actually occupied by plants is 388.4 ac (157.1 ha), of which 86.4 percent is on private lands, 9.1 percent is on highway right-of-ways (ROWs), 1.9 percent is on lands managed by the Town of Pagosa Springs, and 2.5 percent is on lands managed by the Bureau of Land Management (BLM) (Service 2011a, p. 2). Between the actual occupied areas there are interspaces of unoccupied habitat, so the acreage occupied by the species including these interspaces is larger than the acres listed above. We roughly estimate there are roughly 340,000 *I. polyantha* individuals (Service 2011b, p. 1). The plant is specific to Mancos shale soils at elevations of 6,725 to 7,776 feet (ft) (2,050 to 2,370 meters (m)) () (Service 2011c, p. 1). Plants are found in sparsely vegetated areas along the margins of *Pinus ponderosa* (Ponderosa pine) forests and extending into the adjacent grassland or shrublands. The species' highly restricted soil requirements and geographic range make it particularly susceptible to extinction at any time due to commercial, municipal, and residential development; associated road and utility improvements and maintenance; heavy livestock use; inadequacy of existing regulatory mechanisms; fragmented habitat; and prolonged drought. Eighty-six percent of the species' occupied habitat is on private land with no limits on development.

Penstemon debilis is known from only six populations on the Roan Plateau escarpment in Garfield County, Colorado. A minimum convex polygon around all six populations encloses an area of 7,161 ac (2,898 ha) and measures 18 mi (29 km) in length and 1 mi (2 km) in width. The total footprint of area actually occupied by the plants is 91.8 ac (37.2 ha), of which 66.6 percent is on private lands, and 33.3 percent is on lands managed by the BLM (Service 2011a, p. 3). Between the actual occupied areas there are interspaces of unoccupied habitat, so the acreage occupied by the species including these interspaces is quite a bit larger than the acres listed above. We roughly estimate there are 4,100 *P. debilis* individuals (Service 2011b, p. 2). The plant is specific to oil shale cliffs of the Parachute Creek Member and the Lower Part of the Green River Formation at elevations of 5,600 to 9,229 ft (1,707 to 2,813 m) (Service 2011c, p. 2; Tweto 1979). Plants are found on unstable shale soils with little other vegetation. The other vegetation comprises primarily other plant species endemic (known only) to the oil shale. Extremely low numbers and a highly restricted geographic range make the species particularly susceptible to becoming endangered in the forseeable future. Threats to the species and its habitat include energy development, road maintenance, inadequacy of existing regulatory mechanisms, and stochastic events.

Phacelia submutica is known from 9 populations (and 22 occurrences) centered on the town of DeBeque in Mesa and Garfield Counties, Colorado. A minimum convex polygon around all nine populations encloses an area of 82,231 ac (34,896 ha) and measures 19 mi (30 km) in length and 11 mi (17 km) in width. The total footprint of area actually occupied by the plants is 625.9 ac (253.3 ha), of which 80.9 percent is on lands managed by the BLM, 11.9 percent is on private lands, 6.4 percent is on lands managed by the U.S. Forest Service (USFS), and 0.7 percent is on lands managed by the Colorado Division of Wildlife (CDOW) (Service 2011a, pp. 6–7). Between the actual occupied areas there are interspaces of unoccupied habitat, so the acreage occupied by the species including these interspaces is quite a bit larger than the acres listed above. We estimate there may be as many as 68,000 *P. submutica* individuals in years when climatic conditions are favorable (Service 2011b, p. 4). The plant is known only from clay soils on the Atwell and Shire members of the Wasatch Formation at elevations of 5,080 to 7,100 ft (1,548 to 2,157 m) (Service 2011c, p. 3). The plants are found on clay barrens with little other vegetation. Surrounding these barren areas is a landscape of *Juniperus* spp. (juniper), *Artemisi*a spp. (sagebrush), *Atriple*x spp. (saltbush), and nonnative invasive *Bromus tectorum* (cheatgrass). The current range of *P. submutica* is subject to human-caused modifications from natural gas exploration and production with associated expansion of pipelines, roads, and utilities; development within the Westwide Energy Corridor; increased access to the habitat by off-highway vehicles (OHVs); soil and seed disturbance by livestock and other disturbances; and the inadequacy of existing regulatory mechanisms.

Previous Federal Actions

A complete description of previous Federal actions for *Ipomopsis polyantha, Penstemon debilis,* and Phacelia submutica is included in the final listing rule published concurrently with this proposal to designate critical habitat. On June 23, 2010, we proposed to list *I. polyantha* as an endangered species and we proposed to list *P. debilis and P. submutica* as threatened species under the Act (75 FR 35721).

Critical Habitat

Background

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

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

(a) Essential to the conservation of the species and

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

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

Conservation, as defined under section 3 of the Act, means to use and the use of all methods and procedures that are necessary to bring an endangered or threatened species to the point at which the measures provided pursuant to the Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Critical habitat receives protection under section 7 of the Act through the requirement that Federal agencies insure, in consultation with the Service, that any action they authorize, fund, or carry out is not likely to result in the destruction or adverse modification of critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Such designation does not allow the government or public to access private lands. Such designation does not require implementation of restoration, recovery, or enhancement measures by non-Federal landowners. Where a landowner seeks or requests Federal agency funding or authorization for an action that may affect a listed species or critical habitat, the consultation requirements of section 7(a)(2) would apply, but even in the event of a destruction or adverse modification finding, the obligation of the Federal action agency and the landowner is not to restore or recover the species, but to implement reasonable and prudent alternatives to avoid destruction or adverse modification of critical habitat.

For inclusion in a critical habitat designation, the habitat within the geographical area occupied by the species at the time it was listed must contain physical and biological features which are essential to the conservation of the species and which may require special management considerations or protection. Critical habitat designations identify, to the extent known using the best scientific and commercial data available, those physical and biological features that are essential to the conservation of the species (such as space, food, cover, and protected habitat), focusing on the principal biological or physical constituent elements (primary constituent elements) within an area that are essential to the conservation of the species (such as roost sites, nesting grounds, seasonal wetlands, water quality, tide, soil type). Primary constituent elements are the elements of physical and biological features that, when laid out in the appropriate quantity and spatial arrangement to provide for a species' life-history processes, are essential to the conservation of the species.

Under the Act, we can designate critical habitat in areas outside the geographical area occupied by the species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. We designate critical habitat in areas outside the geographical area occupied by a species only when a designation limited to its current range would be inadequate to ensure the conservation of the species. When the best available scientific data do not demonstrate that the conservation needs of the species require such additional areas, we will not designate critical habitat in areas outside the geographical area occupied by the species. An area currently occupied by the species but that was not occupied at the time of listing may, however, be essential to the conservation of the species and may be included in the critical habitat designation.

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

When we are determining which areas should be designated as critical habitat, our primary source of information is generally the information developed during the listing process for the species. Additional information sources may include the recovery plan for the species, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, biological evaluations or National Environmental Policy Act documents, or other unpublished materials and expert opinion or personal knowledge. In this case, we do not yet have recovery plans for these species.

Habitat is dynamic, and species may move from one area to another over time. Climate change will be a particular challenge for biodiversity because the interaction of additional stressors associated with climate change and current stressors may push species beyond their ability to survive (Lovejoy 2005, pp. 325–326). The synergistic implications of climate change and habitat fragmentation are the most threatening facet of climate change for biodiversity (Hannah *et al.* 2005, p. 4). The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organization and the United Nations Environment Program in response to growing concerns about climate change and, in particular, the effects of global warming. The IPCC has concluded that the warming of the climate system is unequivocal, as evidenced from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level (IPCC 2007, pp. 6, 30; Karl *et al.* 2009, p. 17). Changes in the global climate system during the 21st century are likely to be larger than those observed during the 20th century (IPCC 2007, p. 19). Several scenarios are virtually certain or very likely to occur in the 21st century including: (1) Over most land, there will be warmer and fewer cold days and nights, and warmer and more frequent hot days and nights; (2) areas affected by drought will increase; and (3) the frequency of warm spells and heat waves over most land areas will likely increase (IPCC 2007, pp. 13, 53).

The IPCC predicts that the resiliency of many ecosystems is likely to be exceeded this century by an unprecedented combination of climate change, associated disturbances (*e.g.,* flooding, drought, wildfire, and insects), and other global drivers (IPCC 2007, pp. 31–33). With medium confidence, IPCC predicts that approximately 20 to 30 percent of plant and animal species assessed by the IPCC so far are likely to be at an increased risk of extinction if increases in global average temperature exceed 3 to 5 °Fahrenheit (F) (1.5 to 2.5 °Celsius (C)) (IPCC 2007, p. 48). Plant species with restricted ranges that also are climatically limited may experience population declines as a result of climate change (Schwartz and Brigham 2003, p. 11).

Regional projections indicate the Southwest, including western Colorado,

may experience the greatest temperature increase of any area in the lower 48 States (IPCC 2007, p. 30). Drought probability is predicted to increase in the Southwest (Karl *et al.* 2009, pp. 129–134), with summers warming more than winters, and annual temperature increasing approximately 4 °F (2.2 °C) by 2050 (Ray *et al.* 2008, p. 29). Additionally, the number of days over 90 °F (32 °C) could double by the end of the century (Karl *et al.* 2009, p. 34). Projections also show declines in snowpack across the West with the most dramatic declines at lower elevations (below 8,200 ft (2,500 m)) (Ray *et al.* 2008, p. 29). A 10 to 30 percent decrease in precipitation in mid-latitude western North America is projected by the year 2050, based on an ensemble of 12 climate models (Milly *et al.* 2005, p. 1). Overall, future projections for the Southwest include increased temperatures; more intense and longer-lasting heat waves; and increased probability of drought exacerbated by higher temperatures, heavier downpours, increased flooding, and increased erosion (Karl *et al.* 2009, pp. 129–134).

To obtain climate projections specific to the range of the three plant species of interest, we used a statistically downscaled model from the National Center for Atmospheric Research (NCAR) for a region covering western Colorado. The resulting projections indicate that temperature could increase an average of 4.5 °F (2.5 °C) by 2050 with the following seasonal increases: Summer (July to September) + 5.0 °F (2.8 °C); fall (October to December) + 4.0 °F (2.2 °C); winter (January to March) + 4.1 °F (2.3 °C); and spring (April to June) + 4.5 °F (2.5 °C) (University Corporation of Atmospheric Research (UCAR) 2009, pp. 1–14). In western Colorado, multi-model averages show a shift toward increased winter precipitation and decreased spring and summer precipitation by the end of the century (Ray *et al.* 2008, p. 34; Karl *et al.* 2009, p. 30). Similarly, the NCAR results show the highest probability of a 7.5 percent increase in average winter precipitation; an 11.4 percent decrease in average spring precipitation; a 2.1 percent decrease in average summer precipitation; and a 1.3 percent increase in average fall precipitation with an overall very slight decrease in 2050 (UCAR 2009, pp. 1–14).

Over the past 30 years, annual average temperature in west-central Colorado has increased by 0.9 °C (1.6 °F) and in the greater Pagosa Springs area temperature has increased 1.1 °C (1.9 °F) (Ray *et al.* 2008, p. 10). In Colorado, high variability in annual precipitation (because of the extreme changes in elevation) precludes detection of long-term trends at the local levels (Ray *et al.* 2008, p. 5). Only general assumptions and predictions can be made from these data. To examine local climate trends, we gathered temperature and precipitation data from the last 100 years at five weather stations (High Plains Regional Climate Center 2011, pp. 1–34; Service 2011d, pp. 1–72) in the vicinity of the three plant species (table 1). These data appear to be consistent with local trends in temperature discussed in the models above. Change in temperature averaged across the weather stations is approximately 1.68 °F (0.93 °C); change in temperature per century averaged across the weather stations is approximately 2.06 °F (1.14 °C). As noted previously, precipitation is variable across these weather stations and trend cannot be reasonably determined.

TABLE 1—CLIMATE TRENDS AT SELECT WEATHER STATIONS

[1890s–2010].

	Altenbern	Collbran	Parachute (Grand Valley)	Palisade	Pagosa springs
Species in Vicinity	Penstemon debilis; Phacelia submutica	Phacelia submutica	Penstemon debilis; Phacelia submutica	Penstemon debilis; Phacelia submutica	Ipomopsis polyantha
TEMPERATURE (°F)					
Data Period(s)[1]	1958–2010	1900–1966; 1970–1976; 1978–1999	1904–1914; 1965–1981	1911–2010	1906–1917; 1928–1932; 1934–1998
Change in Average Annual Temperature (°F)	+1.79	+1.45	+.76	+2.9	+1.48
Approximate Change in Temperature per Century (°F)	+3.37	+1.46	+.97	+2.9	+1.59
PRECIPITATION (inches)					
Data Period(s)[1]	1947–2010	1893–1966; 1970–1976; 1978–1999	1904–1914; 1965–1981	1911–1919; 1922–2010	1906–1917; 1928–1932; 1934–1998
Change in Average Annual Precipitation (inches)	+1.76	+1.49	−4.06	+1.77	−2.59
Approximate Change in Precipitation per Century (inches)	+2.84	+1.41	−5.2	+1.77	−2.79

[1] As indicated by time periods, data gaps exist for some weather stations.
[2] Data for some years is partial (less than 12 months of data); *e.g.,* data collection may have begun in September, or weather station was non-functioning for a period of time.

Recent analyses of long-term data sets show accelerating rates of climate change over the past 2 or 3 decades, indicating that the extension of plant and animal species' geographic range boundaries towards the poles or to higher elevations by progressive establishment of new local occurrences will become increasingly apparent in the short term (Hughes 2000, p. 60). Climate change may exacerbate the frequency and intensity of droughts in this area and result in reduced species' viability as the dry years become more common. Under drought conditions, plants generally are less vigorous and less successful in reproduction and may require several years to recover following drought (Weltzin *et al.* 2003, p. 946). With small populations and their inherent risk of genetic

complications, lowered reproduction could result in reduced population viability (Newman and Pilson 1997, pp. 354–362).

Climate modeling at this time has not been refined to a level that we can predict the amount of temperature and precipitation change locally within the limited range of *Ipomopsis polyantha, Penstemon debilis,* or *Phacelia submutica.* Therefore, we generally address what could happen based on current climate predictions for the region.

The limited geographic range of the Mancos shale substrate that underlies the entire *Ipomopsis poly*antha habitat likely limits the ability of the species to adapt by shifting its range in response to climatic conditions. *I. polyantha* is sensitive to the timing and amount of moisture due to its biennial life history. Thus, if climate change results in local drying, the species could experience a reduction in its reproductive output. In the ''*Physical and Biological Features''* section below, we have conservatively adjusted to known elevations occupied by the species upward and downward 328 ft (100 m) in an attempt to account for climate change.

It is unknown how *Penstemon debilis* responds to drought; however, for most plant species that grow in arid regions, plant numbers decrease during drought years, but recover in subsequent seasons that are less dry (Lauenroth *et al.* 1987, pp. 117–124; McDowell *et al.* 2008, pp. 719–739). Drought years could result in a loss of plants. The limited geographic range of the oil shale substrate that makes up the entire *P. debilis* habitat could limit the ability of the species to adapt to changes in climatic conditions by progressive establishment of new populations. In the ''*Physical and Biological Features''* section below, we have conservatively adjusted to known elevations occupied by the species upward and downward 328 ft (100 m) in an attempt to account for climate change.

Climate change is likely to affect *Phacelia submutica* because seed germination, seed dormancy, and persistence of the seed bank are all directly dependent on precipitation and temperature patterns (Levine *et al.* 2008, p. 805). Future changes in the timing of the first major spring rains each year, and temperatures associated with these rains, may more strongly affect germination and persistence of ephemeral annual plants than changes in season-long rainfall (barring severe droughts) (Levine *et al.* 2008, p. 805). Increasing environmental variance might decrease extinction risk for rare desert ephemeral plants, because these plants typically rely on extremely good years to restock the persistent seed bank while extremely bad years have little impact (Meyer *et al.* 2006, p. 901). A persistent seed bank enables the species to survive drought. However, extremely long droughts resulting from climate change, with no good years for replenishing the seed bank, would likely cause *P. submutica* to become endangered.

Because the soil can remain bare of *Phacelia submutica* plants for several years, it is difficult to identify and protect the seemingly unoccupied habitat that occurs in small, isolated patches that are easily destroyed by small-scale disturbances, and can be overlooked during habitat assessments. The longer the species remains dormant, the less likely it is that we will know if an area is occupied, reducing our ability to avoid impacts to the species and protect it from becoming endangered. While current climate change predictions are not reliable enough at the local level for us to draw conclusions about its effects on *P. submutica,* it is likely that there will be drying trends in the future and the seeds will remain dormant for long periods. This would make it increasingly difficult to detect occupied habitat and avoid destruction of habitat. In the ''*Physical and Biological Features''* section below, we have conservatively adjusted to known elevations occupied by the species upward and downward 328 ft (100 m) in an attempt to account for climate change.

We recognize that critical habitat designated at a particular point in time may not include all of the habitat areas that we may later determine are necessary for the recovery of the species. For these reasons, a critical habitat designation does not signal that habitat outside the designated area is unimportant or may not be required for recovery of these three species. Areas that are important to the conservation of the species, both inside and outside the critical habitat designation, will continue to be subject to: (1) Conservation actions implemented under section 7(a)(1) of the Act, (2) regulatory protections afforded by the requirement in section 7(a)(2) of the Act for Federal agencies to insure their actions are not likely to jeopardize the continued existence of any endangered or threatened species, and (3) the penalties and enforcement provisions of section 11 of the Act if the prohibitions of section 9 of the Act have been violated. Federally funded or permitted projects affecting listed species outside their designated critical habitat areas may still result in jeopardy findings in some cases. These protections and conservation tools will continue to contribute to recovery of this species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans (HCPs), or other species conservation planning efforts if new information available at the time of these planning efforts calls for a different outcome.

Physical and Biological Features

In accordance with section 3(5)(A)(i) and 4(b)(1)(A) of the Act and regulations at 50 CFR 424.12, in determining which areas within the geographical area occupied at the time of listing to designate as critical habitat, we consider the physical and biological features essential to the conservation of the species and which may require special management considerations or protection. These include, but are not limited to:

(1) Space for individual and population growth and for normal behavior;

(2) Food, water, air, light, minerals, or other nutritional or physiological requirements;

(3) Cover or shelter;

(4) Sites for breeding, reproduction, or rearing (or development) of offspring; and

(5) Habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distributions of a species.

We derive the specific physical and biological features required for *Ipomopsis polyantha, Penstemon debilis,* and *Phacelia submutica* from studies of these species' habitat, ecology, and life history as described below. Additional information on these species' habitats, ecology, and life histories can be found in the final listing rule published in today's **Federal Register**.

Ipomopsis polyantha

We have determined that *Ipomopsis polyantha* requires the following physical and biological features:

Space for Individual and Population Growth

Plant Community and Competitive Ability—*Ipomopsis polyantha* is found on barren shales, or in the open montane grassland (primarily *Festuca arizonica* (Arizona fescue)) understory at the edges of open *Pinus ponderosa* (Ponderosa pine), *Pinus ponderosa* and *Juniperus scopulorum* (Rocky Mountain juniper), or *J. osteosperma* (Utah

juniper) and *Quercus gambellii* (oak) plant communities (Anderson 2004, p. 20). Within these plant communities, the plant is found in open or more sparsely vegetated areas where plant cover is less than 5 or 10 percent, although these interspaces can be small within the greater plant community (less than 100 ft^2 (10 m^2)). Because the plant is found in these open areas it is thought to be a poor competitor. Dense stands of nonnative invasive grasses such as *Bromus inermis* (smooth brome) appear to almost totally exclude the species (Anderson 2004, p. 36).

Complexity in *I. polyantha* plant communities is important because pollinator diversity at *I. polyantha* sites is higher at more vegetatively diverse sites (Collins 1995, p. 107). The importance of pollinators for *I. polyantha* is further discussed under ''Reproduction'' below. Therefore, based on the information above, we identify sparsely vegetated, barren shales, Ponderosa pine margins, Ponderosa pine and juniper, or juniper and oak plant communities to be a physical or biological feature for this plant. Given that much of the area where *I. polyantha* currently exists has already been altered to some degree, these plant communities may be historical. For example, the adjacent forest that would have naturally occurred in *I. polyantha* habitat may have been thinned or removed. In another example, forage species may have been planted in habitat that was once more suitable for *I. polyantha.*

Elevation—Known populations of *Ipomopsis polyantha* are found from 6,750 to 7,775 ft (2,050 to 2,370 m) (Service 2011c, p. 1). Because plants have not been identified outside of this elevation band and because growing conditions frequently change across elevation gradients, we have identified elevations from 6,400 to 8,100 ft (1,950 to 2,475 m) to be a physical or biological feature for this plant. We have extended the elevation range 328 ft (100 m) upward and downward in an attempt to provide areas where the plant could migrate, given shifting climates (Callaghan *et al.* 2004, pp. 418–435; Crimmins *et al.* 2011, pp. 324–327). We consider this 328 ft (100 m) to be a conservative allowance since studies elsewhere on climate change elevational shifts have found more dramatic changes even in the last century: 95 ft (29 m) upward per decade (Lenoir *et al.* 2008, pp. 1768–1770), or an average of 279 ft (85 m) downward since the 1930s (Crimmins *et al.* 2011, pp. 324–327). We do not have information specific to *I. polyantha* elevational shifts. The above studies were done in different areas, western Europe and California, and looking at different species. Mancos shale habitats extend into these higher and lower elevations.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Soils—*Ipomopsis polyantha* is found on Mancos shale soils from the Upper Cretaceous period. These shales comprise a heavy gray clay loam alluvium (loose, unconsolidated) derived from shale, sandstone, clay, and residuum that is unconsolidated, weathered mineral material that has accumulated as consolidated rock and disintegrated in place (Collins 1995, pp. 2–4). These shale soils do not retain soil moisture and are difficult for plant survival. *I. polyantha* seeds grow best when germinated in these Mancos shale soils (Collins 1995, p. 87). We assume the soils where *I. polyantha* are found are among the harshest local sites for plant growth because of the lack of vegetation at occupied sites, and because the soils are heavy, droughty, and deficient in nutrients. Species that occupy such sites have been called ''stress-tolerators'' (Grime 1977, p. 1196). Because *I. polyantha* plants are found only on Mancos shale soils, and because greenhouse trials have found that seedlings grow best in Mancos shale soils, we have identified these Mancos shale soils as a physical or biological feature for this plant.

Climate—Average annual rainfall in Pagosa Springs is 20 inches (in.) (51 centimeters (cm)) (Anderson 2004, p. 21). Winters are cold with snow cover commonly present throughout the winter months. Winter snow is important for preventing severe frost damage to some plants during the winter months (Bannister *et al.* 2005, pp. 250–251) and may be important for *Ipomopsis polyantha.* Freezing temperatures can occur into June and even July, indicating that *I. polyantha* can tolerate frost because it grows and blooms during this time (Anderson 2004, p. 21). May and June, when *I. polyantha* blooms, are on average the driest months of the year (Anderson 2004, p. 21; Service 2011d, p. 52). Because *I. polyantha* has evolved in these climatic conditions, we have roughly identified suitable precipitation; cold, dry springs; and winter snow as physical or biological features for this plant. These climatic conditions are influenced, in part, by elevation.

Cover or Shelter

While *Ipomopsis polyantha* seeds and seedlings certainly require ''safe sites'' for their germination and establishment, these microclimates are too small to be considered or managed here as a physical or biological feature for this plant. Safe sites are those where the appropriate conditions for seedling germination and growth exist. We believe these features are encompassed in the ''Plant Community and Competitive Ability'' and ''Soils'' sections discussed above.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

Reproduction—*Ipomopsis polyantha* sets far less fruit when self-pollinated (2 to 9 percent fruit set [self-pollinated] versus 47 percent fruit set in the presence of pollinator[s]) (Collins 1995, p. 36). Also, male and female reproductive parts are separated both spatially and temporally (Collins 1995, pp. 34–35). Therefore, we conclude that pollinators are necessary for the long-term successful reproduction and conservation of the plant. Over 30 different insects have been collected visiting *I. polyantha* flowers (Collins 1995, pp. 47–74). The primary pollinators are all bee species; these include the nonnative honeybee (*Apis mellifera*) and native bees that nest in the ground or twigs including species of *Augochlorella* (a type of Halictid or sweat bee), *Anthophora* (digger bees), *Bombus* (bumblebee), *Dialictus* (another type of Halictid or sweat bee), *Megachile* (leafcutter bees), and *Lasioglossum* (another type of Halictid or sweat bee) (Collins 1995, p. 71). Most of these pollinators are solitary and do not live communally, with the exception of the honeybee. Pollinator diversity was higher at *I. polyantha* sites with more complex plant communities (Collins 1995, p. 107). Because the evidence presented above demonstrates that pollinators are necessary for pollination of *I. polyantha,* we have identified pollinators and their associated habitats as an essential biological feature for this plant.

Habitats Protected From Disturbance or Representative of the Historical, Geographical, and Ecological Distributions of the Species

Disturbance Regime—The native habitat of *Ipomopsis polyantha* has been extensively modified (Anderson 2004, p. 28). The species is considered a ruderal species, which means it is one of the first plant species to colonize disturbed lands. Seeds are not thought to disperse far. Plants are able to colonize nearby disturbed areas quickly. The species is found in light to moderately disturbed areas, such as rills (small, narrow, shallow incisions in

topsoil layers caused by erosion by overland flow or surface runoffs), areas that are only occasionally disturbed, or areas with previous disturbances that have been colonized and not subsequently disturbed (*i.e.,* previously cleared areas that have had some time to recover) (Anderson 2004, p. 23; 75 FR 35724–35726). Some of these disturbances are now maintained or created by human activities (such as light grazing or the recolonization of Mancos shale substrate roads that are no longer used) that mimic the constant erosion that occurs on the highly erosive Mancos shale soils and seem to maintain *I. polyantha* at a site. *I. polyantha* sites with constant or repetitive disturbance, especially sites with constant heavy grazing or repeated mowing, have been lost (Mayo 2008, pp. 1–2). Fire also may have played a role in maintaining open habitats and disturbances for *I. polyantha* in the past (Anderson 2004, p. 22), as it historically did in all Ponderosa pine forests across the West (USFS 2000, p. 97).

Interestingly, *Ipomopsis polyantha* individuals at newly disturbed sites were slightly more likely to self-pollinate than were plants in later successional areas (Collins 1995, p. 99), demonstrating that disturbance is important enough to *I. polyantha* that it may influence reproductive success (self-pollinated individuals are less reproductively successful) and possibly genetic diversity (self-pollination leads to lowered genetic diversity). Managing for an appropriate disturbance type and/or level can be difficult since we lack research to better quantify these measures. In this document we use qualitative terms, but specifically solicit further input on methods or mechanisms that can better quantify or describe these measures. Because *I. polyantha* is found only within areas with light to moderate or discontinuous disturbances, we have identified the disturbance regime to be a physical or biological feature for this plant.

Penstemon debilis

We have determined that *Penstemon debilis* requires the following physical and biological features:

Space for Individual and Population Growth

Plant Community and Competitive Ability—*Penstemon debilis* is found on steep, constantly shifting shale cliffs with little vegetation. The decline or loss of several populations has been attributed to encroaching vegetation; therefore, it is assumed that *P. debilis* is a poor competitor (McMullen 1998, p. 72). The areas where *P. debilis* are found are characterized as ''Rocky Mountain cliff and canyon'' (Southwest Regional Gap Analysis Project 2004). The plant community where *P. debilis* is found is unique, because instead of being dominated by one or two common species as most plant communities are, it has a high diversity of uncommon species that also are oil shale endemics (McMullen 1998, p. 5). These uncommon species include *Mentzelia rhizomata* (Roan Cliffs blazingstar), *Thalictrum heliophilum* (sun-loving meadowrue), *Astragalus lutosus* (dragon milkvetch), and the somewhat more common *Lesquerella parviflora* (Piceance bladderpod), *Penstemon osterhoutii* (Osterhout's beardtongue), and *Festuca dasyclada* (Utah or oil shale fescue) (McMullen 1998, p. 5). More common species include *Holodiscus discolor* (oceanspray), *Penstemon caespitosus* (Mat penstemon), *Cercocarpus montanus* (Mountain mahogany), and *Chrysothamnus viscidiflorus* (Yellow rabbitbrush) (O'Kane & Anderson 1987, p. 415; McMullen 1998, p. 5). We consider sparse vegetation (with less than 10 percent plant cover), assembled of other oil shale specific plants and not dominated by any one species, to be a physical or biological feature for this plant.

Elevation—Known populations of *Penstemon debilis* are found from 5,600 to 9,250 ft (1,700 to 2,820 m) in elevation (Service 2011c, p. 3). Because plants have not been identified outside of this elevation band and because growing conditions frequently change across elevation gradients, we have identified elevations from 5,250 to 9,600 ft (1,600 to 2,920 m) to be a physical or biological feature for this plant. We have extended the elevation range 328 ft (100 m) upward and downward in an attempt to provide areas where the plant could migrate, given shifting climates (Callaghan *et al.* 2004, pp. 418–435; Crimmins *et al.* 2011, pp. 324–327). We consider this 328 ft (100 m) to be a conservative allowance since studies on climate change elevational shifts have found more dramatic changes even in the last century: 95 ft (29 m) upward per decade (Lenoir *et al.* 2008, pp. 1768–1770), or an average of 279 ft (85 m) downward since the 1930s (Crimmins *et al.* 2011, pp. 324–327). We do not have information specific to P. debilis elevational shifts. The above studies were done in different areas, western Europe and California, and looking at different species. Oil shale habitats extend into these higher and lower elevations.

Slope—*Penstemon debilis* is generally found only on steep slopes (mean of 37 percent slope) and between cliff bands where the oil shale is constantly shifting and moving downhill (Service 2011c, p. 2). The plant also can be found on relatively flat sites, although nearby habitats are often steep. In general, the plant is found on steep, constantly eroding slopes; therefore, we identify moderate to steep slopes, generally over 15 percent slope, to be a physical or biological feature for this plant.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Soils—*Penstemon debilis* is known only from oil shale cliffs on the Roan Plateau escarpment and was previously described as occurring only on the Parachute Creek Member of the Green River Formation (McMullen 1998, p. 57). Our mapping exercises have found that the plant also is found on the Lower Part of the Green River Formation (Tweto 1979, pp. 1, 4). Populations are generally located either directly above or below the geologic feature known as the Mahogany Ledge (McMullen 1998, p. 63). All occupied sites are similar in soil morphology (form and structure) and are characterized by a surface layer of small to moderate shale channers (small flagstones) that shift continually due to the steep slopes (McMullen 1998, p. 64). Below the channers is a weakly developed calcareous, sandy to loamy layer with 40 to 90 percent coarse material.

Toxic elements in the soil such as arsenic and selenium accumulate in the tissues of *P. debilis* (McMullen 1998, p. 65) and may allow *P. debilis* to grow in areas that are more toxic to other species thereby reducing plant competition. Toxic elements in the soil vary between populations. In a greenhouse setting, *P. debilis* plants were grown easily in potting soil. Soil may not directly influence *P. debilis*' distribution, but may instead have an indirect effect on the plant's distribution by limiting the establishment of other vegetation (McMullen 1998, p. 67). Soil morphology, rather than soil chemistry, appears to better explain the plant's distribution (McMullen 1998, p. 74). Because the plant is only found on the Parachute Creek Member and Lower Part of the Green River Formation and because of the consistent soil morphology between sites, we are identifying these geologic formations as a physical or biological feature for the plant. We also looked at soil type as discussed below in ''*Criteria Used to Identify Critical Habitat''* but do not include it here as a physical or biological feature because it is a

component of the soil characteristics already described.

Climate—The average annual precipitation in the area where Penstemon debilis is found ranges from 12 to 18 in. (30 to 46 cm) (McMullen 1998, p. 63). Winters are cold (averaging roughly 30 °F (−1 °C) with snow staying on the ground in flatter areas, and summers are warmer (averaging roughly 65 °F (18 °C). Because P. debilis has evolved under these climatic conditions, we have identified suitable precipitation and suitable temperatures as physical or biological features for this plant. These climatic conditions are likely influenced, in part, by elevation.

Cover or Shelter

While Penstemon debilis seed and seedlings certainly require ''safe sites'' for their germination and establishment, these microclimates are too small to be considered or managed here as a physical or biological feature for this plant. We believe these features are encompassed in the ''plant community and competitive ability'' and ''soils'' sections discussed above.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

Reproduction—Penstemon debilis requires insect pollinators for reproduction and is twice as reproductively successful if pollen comes from another plant (McMullen 1998, pp. 25, 43). Over 40 species of pollinators have been collected from P. debilis; the primary pollinators include four *Osmia* (mason bee) species, *Atoposmia elongata* (a close relative of Osmia), several *Bombus* (bumblebee) species, and a native wasp *Pseudomasaris vespoides.* All of these pollinators are ground or twig nesting. None of these pollinators are rare, nor are they specialists on P. debilis, although some of these pollinators, such as Osmia, are specialists within the genus *Penstemon* (McMullen 1998, p. 11). The number and type of pollinators differ between P. debilis sites (McMullen 1998, p. 27). Fruit set is not limited by inadequate numbers of pollinators (McMullen 1998, p. 27). Because the evidence presented above demonstrates that pollinators are necessary for pollination of P. debilis, we have identified pollinators and their associated habitats as a physical or biological feature for this plant.

Habitats Protected From Disturbance or Representative of the Historical, Geographical, and Ecological Distributions of the Species

Disturbance Regime—Penstemon debilis is found on steep oil shale slopes that are constantly shifting. The plant has underground stems (rhizomes) that are an adaptation to this constant shifting (McMullen 1998, p. 58). As the shale shifts downward, the underground stems and clusters of leaves emerge downhill. A single plant may actually appear as many different plants that are connected by these underground stems (McMullen 1998, p. 58). In sites where the soils have stabilized and vegetation has encroached, P. debilis has been extirpated (lost) (McMullen 1998, p. 72). Managing for an appropriate disturbance type and/or level can be difficult since we lack research to better quantify these measures. In this document we use qualitative terms, but specifically solicit further input on methods or mechanisms that can better quantify or describe these measures. For these reasons, we consider these unstable and slow to moderate levels of constantly shifting shale slopes to be a physical or biological feature for the species.

Phacelia submutica

We have determined that *Phacelia submutica* requires the following physical and biological features:

Space for Individual and Population Growth

Plant Community and Competitive Ability—Predominant vegetation classifications within the occupied range of *Phacelia submutica* include clay badlands, mixed salt desert scrub, and *Artemisia tridentata* (big sagebrush) shrubland, within the greater *Pinus edulis* (pinyon)–*Juniperus* spp. (juniper) woodlands type (O'Kane 1987, pp. 14–15; Ladyman 2003, pp. 14–16). Within these vegetated areas, *P. submutica* is found on sparsely vegetated barren areas with total plant cover generally less than 10 percent (Burt and Spackman 1995, p. 20). On these barren areas, *P. submutica* can be found alone or in association with other species. Associated plant species at sites occupied by *P. submutica* include: the nonnative *Bromus tectorum* (cheatgrass) and native species *Grindelia fastigiata* (pointed gumweed), *Eriogonum gordonii* (Gordon's buckwheat), *Monolepis nuttalliana* (Nuttall's povertyweed), and *Oenothera caespitosa* (tufted evening primrose) (Burt and Spackman 1995, p. 20; Ladyman 2003, pp. 15–16). Many of these associated species also are annuals (growing for only 1 year). Because of the harshness and sometimes the steepness of occupied sites, these areas are maintained in an early successional state (Ladyman, 2003, p. 18). Therefore, the species found in these habitats are regarded as pioneers that are continually colonizing these bare areas and then dying (O'Kane 1987, p. 15). Pioneer species are often assumed to be poor competitors (Grime 1977, p. 1169). For the reasons discussed above, we identify barren clay badlands with less than 20 percent cover of other plant species to be a physical or biological feature for this plant. We have adjusted the relative plant cover upwards to capture the potential plant cover in moist years when other species may be somewhat more abundant.

Elevation—Known populations of *Phacelia submutica* occur within a narrow range of elevations from about 5,000 to 7,150 ft (1,500 to 2,175 m) (Service 2011c, p. 3). Elevation is a key factor in determining the temperature and moisture microclimate of this species. Because plants have not been identified outside of this elevation band and because growing conditions frequently change across elevation gradients, we have identified elevations from 4,600 to 7,450 ft (1,400 to 2,275 m) to be a physical or biological feature for this plant. We have extended the elevation range 328 ft (100 m) upward and downward in an attempt to provide areas where the plant could migrate, given shifting climates (Callaghan *et al.* 2004, pp. 418–435; Crimmins *et al.* 2011, pp. 324–327). We consider this 100 meters to be a conservative allowance since studies on climate change elevational shifts have found more dramatic changes even in the last century: 95 ft (29 m) upward per decade (Lenoir *et al.* 2008, pp. 1768–1770), or an average of 279 ft (85 m) downward since the 1930s (Crimmins *et al.* 2011, pp. 324–327). We do not have information specific to *P. submutica* elevational shifts. The above studies were done in different areas, western Europe and California, and looking at different species. Suitable habitats extend into these higher and lower elevations.

Topography (surface shape)—*Phacelia submutica* is found on slopes ranging from almost flat to 42 degrees, with the average around 14 degrees (Service 2011c, p. 3). Plants are generally found on moderately steep slopes, benches, and ridge tops adjacent to valley floors (Ladyman 2003, p. 15). The relative position of *P. submutica* is consistent from site to site; therefore, we recognize appropriate topography (suitable slopes, benches and ridge tops, or moderately steep slopes adjacent to valley floors) as a physical or biological feature for the plant.

Food, Water, Air, Light, Minerals, or Other Nutritional or Physiological Requirements

Soils—*Phacelia submutica* grows only on barren clay soils derived from the Atwell Gulch and Shire members of the Eocene and Paleocene Wasatch geological formation (Donnell 1969, pp. M13–M14; O'Kane 1987, p. 10). The Atwell Gulch member is found below the bluish gray Molina member, and the Shire member is found above the Molina member (Decker *et al.* 2005, p. 3). The plant is found in unique, very small areas (from 10 to 1,000 ft^2 (1 to 100 m^2)) on colorful exposures of chocolate to purplish brown, dark charcoal gray, and tan clay soils (Burt and Spackman 1995, pp. 15, 20; Ladyman 2003, p. 15; Grauch 2011, pers. comm.). We do not fully understand why *P. submutica* is limited to the small areas where it is found, but the plant usually grows on the one unique small spot of shrink-swell clay that shows a slightly different texture and color than the similar surrounding soils (Burt and Spackman 1995, p. 15). Ongoing species-specific soil analyses have found that the alkaline soils (with specific pH ranging from 7 to 8.9) where *P. submutica* are found have higher clay content than nearby unoccupied soils, although there is some overlap (Grauch 2011, pers. comm.). The shrink-swell action of these clay soils and the cracks that are formed upon drying appear essential to maintenance of the species' seed bank since the cracks capture the seeds and maintain the seed bank on site (O'Kane 1988, p. 462; Ladyman 2003, pp 16–17). Based on the information above, we consider the small soil inclusions where *P. submutica* is found that are characterized by shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation to represent a physical or biological feature for *P. submutica.*

Climate—*Phacelia submutica* abundance varies considerably from year to year. In 1 year almost no plants may emerge at a site, and in another year at the same site, hundreds or even thousands of individuals may grow (Burt and Spackman 1995, p. 24). We do not understand what environmental factors (temperature, rainfall, or snowfall) affect these dramatic changes in abundance from 1 year to the next, but it is assumed they are climatic in nature (Burt and Spackman 1885, p. 24). Wetter years seem to produce more individuals (O'Kane 1987, p. 16). However, without the right combination of precipitation and temperature within a short window of time in the spring, the species may produce very few seedlings or mature plants, sometimes for several consecutive years. We believe it is necessary to conserve habitat across the entire range of the species to account for the variation in local weather events, to allow for plants to grow at some sites and not others on an annual basis. Because climatic factors dramatically influence the number of *P. submutica* individuals that are produced in a given year, we identify climate as a physical or biological feature for the plant; however, we recognize that we are unable to identify exactly what these climatic factors encompass except that the amount of moisture and its timing is critical. Climatic data from four weather stations (Table 1) indicate that average annual precipitation is between 10 to 16 in. (25 and 41 cm), with less precipitation generally falling in June (as well as December–February) than other months, and with cold winters (sometimes with snow cover) and warmer summers.

Cover or Shelter

While *Phacelia submutica* seed and seedlings certainly require ''safe sites'' for their germination and establishment, these microclimates are too small to be considered or managed here as a physical or biological feature for this plant. We believe these features are encompassed in the ''plant community and competitive ability'' and ''soils'' sections discussed above.

Sites for Breeding, Reproduction, or Rearing (or Development) of Offspring

Reproduction and Seed Banks—We do not yet understand the pollination and seed dispersal mechanisms of *Phacelia submutica.* Pollinators have not been observed visiting the flowers of *P. submutica.* Currently it is believed that pollinators may not be required for reproduction because of the minute flower size, a lack of obvious pollinators, and because the reproductive parts are hidden within the petals. We also do not understand how seeds are dispersed. Seed banks are established where seeds fall into the cracks of shrink-swell clay (O'Kane 1988, p. 462). We recognize that habitat conducive for successful reproduction is a physical or biological feature for *P. submutica* but do not understand more specifically what features are important for this reproduction. In addition, seed banks are especially important for annual species that may not emerge when climatic conditions are unfavorable (Levine *et al.* 2008, pp. 795–806; Meyer *et al.* 2005, pp. 15–16, 21). For this reason, we identify boom years at regular intervals such that the seed bank is maintained as a physical or biological feature for *P. submutica.* We lack further information on how long-lived seeds are in the seed bank and at what intervals the seed bank needs to be replenished to provide specifics but are hopeful that ongoing research will assist in answering some of these questions.

Habitats Protected From Disturbance or Representative of the Historical, Geographical, and Ecological Distributions of the Species

Disturbance Regime—The steeper clay barrens where *Phacelia submutica* is sometimes found experience some erosion, and the shrinking and swelling of clay soils creates a continuous disturbance (Ladyman 2003, p. 16). *Phacelia submutica* has adapted to these light to moderate disturbances, although occasionally plants are pushed out of the shrinking or swelling soils and die (O'Kane 1987, p. 20). Clay soils are relatively stable when dry but are extremely vulnerable to disturbances when wet (Rengasmy *et al.* 1984, p. 63). *P. submutica* has evolved with some light natural disturbances, mostly in the form of erosion and shrink-swell process. Heavy disturbances, and even light disturbances when soils are wet, could impact the species and its seed bank. These disturbances can include OHV use, livestock and wild ungulate grazing, and activities associated with oil and gas development. Managing for an appropriate disturbance type and/or level can be difficult since we lack research to better quantify these measures. In this document we use qualitative terms, but specifically solicit further input on methods or mechanisms that can better quantify or describe these measures. For the reasons discussed above, we identify an environment free from moderate to heavy disturbances when soils are dry and free from all disturbances when soils are wet to be a physical or biological feature for *P. submutica.*

Primary Constituent Elements for Ipomopsis polyantha, Penstemon debilis, and Phacelia submutica

Under the Act and its implementing regulations, we are required to identify the physical and biological features essential to the conservation of *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica* in geographic areas occupied at the time of listing, focusing on the features' primary constituent elements. We consider primary constituent elements to be the elements of physical and biological features that provide for a species' life-

history processes and are essential to the conservation of the species.

Ipomopsis polyantha

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes, we determine that the primary constituent elements specific to *Ipomopsis polyantha* are:

(i) *Mancos shale soils.*

(ii) *Elevation and climate.* Elevations from 6,400 to 8,100 ft (1,950 to 2,475m) and current climatic conditions similar to those that historically occurred around Pagosa Springs, Colorado. Climatic conditions include suitable precipitation; cold, dry springs; and winter snow.

(iii) Plant Community.

a. Suitable native plant communities (as described in b. below) with small (less than 100 ft^2 (10 m^2) or larger (several hectares or acres) barren areas with less than 20 percent plant cover in the actual barren areas.

b. Appropriate native plant communities, although these communities may not be like they were historically because they have already been altered. Therefore, the species can be found in areas where only the potential for the appropriate native plant community exists. For example, Ponderosa pine forests may have been cut or areas that had native vegetation may have been scraped. Native habitats and plants are desirable; however, because of the state of the habitat, altered habitats including some nonnative invasive species should not be discounted. These plant communities include:

i. Barren shales,

ii. Open montane grassland (primarily Arizona fescue) understory at the edges of open Ponderosa pine, or

iii. Clearings within the ponderosa pine and Rocky Mountain juniper and Utah juniper and oak communities.

(iv) *Habitat for pollinators.* Please see ''Special Management Considerations'' for further discussions of habitat fragmentation and pollinator habitats and foraging ranges.

a. Pollinator ground and twig nesting areas. Habitats suitable for a wide array of pollinators and their life history and nesting requirements. A mosaic of native plant communities generally would provide for this diversity.

b. Connectivity between areas allowing pollinators to move from one site to the next within each population.

c. Availability of other floral resources; this would include other flowering plant species that provide nectar and pollen for pollinators. Grass species do not provide resources for pollinators.

d. To conserve and accommodate these pollinator requirements, we have identified a 3,280-ft (1,000-m) area beyond occupied habitat to conserve the pollinators essential for reproduction.

(v) *Appropriate disturbance regime.* Please see ''*Physical and Biological Features*'' above for a further discussion of the qualitative terms discussed below.

a. Appropriate disturbance levels—Light to moderate, or intermittent or discontinuous.

b. Naturally maintained disturbances through soil erosion or human maintained disturbances that can include light grazing, occasional ground clearing, and other disturbances that are not severe or continual.

With this proposed designation of critical habitat, we intend to identify the physical and biological features essential to the conservation of the species through the identification of the primary constituent elements sufficient to support the life-history processes of the species. Two units proposed to be designated as critical habitat are currently occupied by *Ipomopsis polyantha* and contain the primary constituent elements to support the life-history needs of the species.

Because two populations do not offer adequate redundancy for the survival and recovery of *Ipomopsis polyantha,* we have determined that unoccupied areas are essential for the conservation of the species. Two additional units proposed to be designated as critical habitat are currently unoccupied by *I. polyantha.* We consider these units essential for the conservation of the species, as discussed below under ''Special Management Considerations.'' In addition, we believe the unoccupied units contain the primary constituent elements in the appropriate quantity and spatial arrangement sufficient to support the life-history needs of the species.

Penstemon debilis

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes, we determine that the primary constituent elements specific to Penstemon debilis are:

(i) *Suitable Soils and Geology.*

a. Parachute Member and the Lower part of the Green River Formation, although soils outside these formations would be suitable for pollinators (see *High levels of natural disturbanc*e below).

b. Appropriate soil morphology characterized by a surface layer of small to moderate shale channers (small flagstones) that shift continually due to the steep slopes and below a weakly developed calcareous, sandy to loamy layer with 40 to 90 percent coarse material.

(ii) *Elevation and climate.* Elevations from 5,250 to 9,600 ft (1,600 to 2,920 m). Climatic conditions similar to those of the Mahogany Bench, including suitable precipitation and temperatures.

(iii) *Plant Community.*

a. Barren areas with less than 10 percent plant cover.

b. Presence of other oil shale endemics, including *Mentzelia rhizomata, Thalictrum heliophilum, Astragalus lutosus, Lesquerella parviflora, Penstemon osterhoutii,* and *Festuca dasyclada.*

(iv) *Habitat for pollinators.* Please see ''Special Management Considerations'' for further discussions of habitat fragmentation and pollinator habitats and foraging ranges.

a. Pollinator ground and twig nesting habitats. Habitats suitable for a wide array of pollinators and their life history and nesting requirements. A mosaic of native plant communities generally would provide for this diversity (see *Plant Community* above). These habitats can include areas outside of the soils identified in *Suitable Soils and Geology.*

b. Connectivity between areas allowing pollinators to move from one population to the next within units.

c. Availability of other floral resources. This would include other flowering plant species that provide nectar and pollen for pollinators. Grass species do not provide resources for pollinators.

d. To conserve and accommodate these pollinator requirements, we have identified a 3,280-ft (1,000-m) area beyond occupied habitat to conserve the pollinators essential for reproduction.

(v) *High levels of natural disturbance.* Please see ''*Physical and Biological Features*'' above for a further discussion of the qualitative terms discussed below.

a. Very little or no soil formation.

b. Slow to moderate, but constant, downward motion of the oil shale that maintains the habitat in an early successional state.

With this proposed designation of critical habitat, we intend to identify the physical and biological features essential to the conservation of the species through the identification of the primary constituent elements sufficient to support the life-history processes of the species. Two units proposed to be designated as critical habitat are

currently occupied by Penstemon debilis and contain the primary constituent elements to support the life-history needs of the species. Two additional units proposed to be designated as critical habitat are currently unoccupied by P. debilis. Currently occupied areas do not adequately provide for the conservation of the species, because of a lack of redundancy. We consider these units essential for the conservation of the species, as discussed below under ''Special Management Considerations.'' In addition, we believe the unoccupied units contain the primary constituent elements to support the life-history needs of the species.

Phacelia submutica

Based on our current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes, we determine that the primary constituent elements specific to *Phacelia submutica* are:

(i) *Suitable Soils and Geology.*

a. Atwell Gulch and Shire members of the Wasatch formation.

b. Within these larger formations, small areas (from 10 to 1,000 ft^2 (1 to 100 m^2)) on colorful exposures of chocolate to purplish brown, light to dark charcoal gray, and tan clay soils are especially important. These small areas are slightly different in texture and color than the similar surrounding soils. Occupied sites are characterized by alkaline (pH range from 7 to 8.9) soils with higher clay content than similar nearby unoccupied soils.

c. Clay soils that shrink and swell dramatically upon drying and wetting and are likely important in the maintenance of the seed bank.

(ii) *Topography.* Moderately steep slopes, benches, and ridge tops adjacent to valley floors. Occupied slopes range from 2 to 42 degrees with an average of 14 degrees.

(iii) *Elevation and climate.*

a. Elevations from 4,600 to 7,450 ft (1,400 to 2,275 m).

b. Climatic conditions similar to those around DeBeque, Colorado, including suitable precipitation and temperatures. Annual fluctuations in moisture (and probably temperature) greatly influences the number of *Phacelia submutica* individuals that grow in a given year and are thus able to set seed and replenish the seed bank.

(iv) *Plant Community.*

a. Small (from 10 to 1,000 ft^2 (1 to 100 m^2)) barren areas with less than 20 percent plant cover in the actual barren areas.

b. Presence of appropriate associated species that can include (but are not limited to) the natives *Grindelia fastigiata, Eriogonum gordonii, Monolepis nuttalliana, and Oenothera caespitosa.* If sites become dominated by *Bromus tectorum* or other invasive nonnative species, they should not be discounted because *Phacelia subm*utica may still be found there.

c. Appropriate plant communities within the greater pinyon–juniper woodlands that include:

(i) Clay badlands within the mixed salt desert scrub, or

(ii) Clay badlands within big sagebrush shrublands.

(v) *Maintenance of the Seed Bank and Appropriate Disturbance Levels.* Please see ''Physical and Biological Features'' above for a further discussion of the qualitative terms discussed below.

a. Within suitable soil and geologies (see *Suitable Soils and Geology* above), undisturbed areas where seed banks are left undamaged.

b. Areas with light disturbance when dry and no disturbance when wet. Clay soils are relatively stable when dry but are extremely vulnerable to disturbances when wet.

Phacelia submutica has evolved with some light natural disturbances, including erosional and shrink-swell processes. However, human disturbances that are either heavy or light when soils are wet could impact the species and its seed bank. Because we do not understand how the seed bank may respond to disturbances, more heavily disturbed areas should be evaluated, over the course of several years, for the species' presence.

With this proposed designation of critical habitat, we intend to identify the physical and biological features essential to the conservation of the species through the identification of the primary constituent elements sufficient to support the life-history processes of the species. All units and subunits proposed to be designated as critical habitat are currently occupied by *Phacelia submutica* and contain the primary constituent elements sufficient to support the life-history needs of the species.

Special Management Considerations or Protection

When designating critical habitat, we assess whether the physical and biological features within the geographical area occupied by the species at the time of listing contain features which are essential to the conservation of the species and which may require special management considerations or protection. All areas proposed for designation as critical habitat will require some level of management to address the current and future threats to the physical and biological features essential to the conservation of the three plants. In all units, special management will be required to ensure that the habitat is able to provide for the growth and reproduction of the species.

A detailed discussion of threats to *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica* and their habitat can be found in the final listing rule elsewhere in today's **Federal Register**. The primary threats impacting the physical and biological features essential to the conservation of *I. polyantha, P. debilis*, and *P. submutica* that may require special management considerations or protection within the proposed critical habitat include, but are not limited to, the following:

Ipomopsis polyantha

The features essential to the conservation of this species (plant community and competitive ability, elevation, soils, climate, reproduction, and disturbance regime) may require special management considerations or protection to reduce threats. *Ipomopsis polyantha's* highly restricted soil requirements and geographic range make it particularly susceptible to extinction at any time from commercial, municipal, and residential development; associated road and utility improvements and maintenance; heavy livestock use; inadequacy of existing regulatory mechanisms; fragmented habitat; and prolonged drought. Over 86 percent of the species' occupied habitat is on private land with no limits on development (75 FR 35740; June 23, 2010).

Special management considerations or protections are required within critical habitat areas to address these threats. Management activities that could ameliorate these threats include (but are not limited to): Introducing new *Ipomopsis polyantha* populations; establishing permanent conservation easements or land acquisition to protect the species on private lands; developing zoning regulations that could serve to protect the species; establishing conservation agreements on private and Federal lands to identify and reduce threats to the species and its features; eliminating the use of smooth brome and other competitive species in areas occupied by the species; promoting/encouraging habitat restoration; developing other regulatory mechanisms to further protect the species; placing roads and utility lines away from the species; minimizing

heavy use of habitat by livestock; and minimizing habitat fragmentation.

These management activities would protect the primary constituent elements for the species by preventing the loss of habitat and individuals, maintaining or restoring plant communities and natural levels of competition, protecting the plant's reproduction by protecting its pollinators, and managing for appropriate levels of disturbance.

Penstemon debilis

The features essential to the conservation of this species (plant community and competitive ability, elevation, slope, soils, climate, reproduction, and disturbance regime) may require special management considerations or protection to reduce threats. Extremely low numbers and a highly restricted geographic range make Penstemon debilis particularly susceptible to becoming endangered in the foreseeable future. Threats to the species and its habitat include energy development, road maintenance, and inadequacy of existing regulatory mechanisms (75 FR 35740; June 23, 2010).

Special management considerations or protections are required within critical habitat areas to address these threats. Management activities that could ameliorate these threats include (but are not limited to): the introduction of new Penstemon debilis populations; the establishment of permanent conservation easements or land acquisition to protect the species on private lands; regulations and/or agreements that balance conservation with energy development in areas that would affect the species and its pollinators; the designation of protected areas with specific provisions and protections for the plant; the elimination or avoidance of activities that alter the morphology and status of the shale slopes; and avoidance of placing roads in habitats that would affect the plant or its pollinators.

These management activities would protect the primary constituent elements for the species by preventing the loss of habitat and individuals, maintaining or restoring plant communities and natural levels of competition, protecting the plant's reproduction by protecting its pollinators, and managing for appropriate levels and types of disturbance.

Phacelia submutica

The features essential to the conservation of this species (plant community and competitive ability, elevation, topography, soils, climate, reproduction and seed bank, and disturbance regime) may require special management considerations or protection to reduce threats. The current range of *Phacelia submutica* is subject to human-caused modifications from natural gas exploration and production with associated expansion of pipelines, roads, and utilities; development within the Westwide Energy Corridor; increased access to the habitat by OHVs; soil and seed disturbance by livestock and other human-caused disturbances; nonnative invasive species including *Bromus tectorum and Halogeton glomeratus* (halogeton); and inadequate regulations (75 FR 35741; June 23, 2010).

Special management considerations or protections are required within critical habitat areas to address these threats. Management activities that could ameliorate these threats include (but are not limited to): Development of regulations and/or agreements to balance conservation with energy development and minimize its effects in areas where the species resides; minimization of OHV use; placement of roads and utility lines away from the species and its habitat; minimization of livestock use or other human-caused disturbances that disturb the soil or seeds; and the minimization of habitat fragmentation.

These management activities would protect the primary constituent elements for the species by preventing the loss of habitat and individuals, protecting the plant's habitat and soils, and managing for appropriate levels of disturbance.

Criteria Used To Identify Critical Habitat

As required by section 4(b)(1)(A) of the Act, we use the best scientific and commercial data available to designate critical habitat. We review all available information pertaining to the habitat requirements of the species.

When determining proposed critical habitat boundaries, we made every effort to avoid including developed areas such as lands covered by buildings, pavement, and other structures because such lands lack physical and biological features essential for the conservation of Penstemon debilis and *Phacelia submutica.* The scale of the maps we prepared under the parameters for publication within the Code of Federal Regulations may not reflect the exclusion of such developed lands. In the case of *Ipomopsis polyantha,* because the plant is often found growing on partially developed sites, around buildings, or immediately adjacent to roads, we did not attempt to exclude buildings, pavement, and other structures. For all three species, any developed lands left inside critical habitat boundaries shown on the maps of this proposed rule are not proposed for designation as critical habitat as per regulation. Therefore, if the critical habitat is finalized as proposed, a Federal action involving these lands would not trigger section 7 consultations with respect to critical habitat and the requirement of no adverse modification unless the specific action would affect the physical and biological features essential to the conservation of the species within adjacent critical habitat.

All units are proposed for designation based on sufficient elements of physical and biological features being present to support *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica* life-history processes. Some units contain all of the identified elements of physical and biological features and supported multiple life-history processes. Unoccupied units contain only the elements of the physical and biological features necessary to support the species' particular use of that habitat but not the multiple life-history processes since they are unoccupied.

Small populations and plant species with limited distributions, like those of *Ipomopsis polyantha* and Penstemon debilis, are vulnerable to relatively minor environmental disturbances (Given 1994, pp. 66–67; Frankham 2005, pp. 135–136), and are subject to the loss of genetic diversity from genetic drift, the random loss of genes, and inbreeding (Ellstrand and Elam 1993, pp. 217–237; Leimu *et al.* 2006, pp. 942–952). Plant populations with lowered genetic diversity are more prone to local extinction (Barrett and Kohn 1991, pp. 4, 28). Smaller plant populations generally have lower genetic diversity, and lower genetic diversity may in turn lead to even smaller populations by decreasing the species' ability to adapt, thereby increasing the probability of population extinction (Newman and Pilson 1997, p. 360; Palstra and Ruzzante 2008, pp. 3428–3447). Because of the dangers associated with small populations or limited distributions, the recovery of many rare plant species includes the creation of new sites or reintroductions to ameliorate these effects.

Genetic analysis of *Ipomopsis polyantha* has not been conducted; therefore, we do not understand the genetic diversity of this species. Given the species' limited extent and presence

in only two populations, we expect the species may be suffering from low genetic diversity or could in the future.

Genetic research on Penstemon debilis has found that there is more genetic diversity in larger populations than smaller populations, that the northeastern populations are more closely related to one another than to the southwestern populations, that inbreeding is common within each population, and that genetic diversity for the species is low when compared with other species of plants with similar life history traits (Wolfe 2010, p. 1). Small population sizes with few individuals are a problem for this species, as supported by this research.

When designating critical habitat for a species, we attempt to consider the species' survival and recoverability, as outlined in the destruction or adverse modification standard. Realizing that the current occupied habitat is not enough for the survival and recovery of *Ipomopsis polyantha* and Penstemon debilis, we worked with species' experts to identify unoccupied habitat essential for the conservation of these two species. The justification for why unoccupied habitat is essential to the conservation of these species and methodology used to identify the best unoccupied areas for consideration for inclusion is described under ''*Criteria Used to Identify Critical Habitat*'' section below.

Habitat fragmentation can have negative effects on biological populations, especially rare plants, and affect survival and recovery (Aguilar *et al.* 2008, pp. 5177–5188). Fragments are often not of sufficient size to support the natural diversity prevalent in an area and thus exhibit a decline in biodiversity (Noss and Cooperrider 1994, pp. 50–54). Habitat fragments are often functionally smaller than they appear because edge effects (such as increased nonnative invasive species or wind speeds) impact the available habitat within the fragment (Lienert and Fischer 2003, p. 597). Habitat fragmentation has been shown to disrupt plant-pollinator interactions and predator-prey interactions (Steffan-Dewenter and Tscharntke 1999, pp. 432–440), alter seed germination percentages (Menges 1991, pp. 158–164), and result in low fruit set (Cunningham 2000, pp. 1149–1152). Extensive habitat fragmentation can result in dramatic fluxes in available solar radiation, water, and nutrients (Saunders *et al.* 1991, pp. 18–32).

Shaffer and Stein (2000) identify a methodology for conserving imperiled species known as the three Rs: Representation, resiliency, and redundancy. Representation, or preserving some of everything, means conserving not just a species but its associated plant communities, pollinators, and pollinator habitats. Resiliency and redundancy ensure there is enough of a species so it can survive into the future. Resiliency means ensuring that the habitat is adequate for a species and its representative components. Redundancy ensures an adequate number of sites and individuals. This methodology has been widely accepted as a reasonable conservation methodology (Tear *et al.* 2005, p. 841).

We have addressed representation through our primary constituent elements for each species (as discussed above) and by providing habitat for pollinators of *Ipomopsis polyantha* and Penstemon debilis (as discussed further under ''*Ipomopsis polyantha*'' below). For *Phacelia submutica,* we believe that the occupied habitat provides for both resiliency and redundancy and that with conservation of these areas, the species should be conserved and sustained into the future. For *I. polyantha,* there are only two known populations, both with few or no protections in place (low resiliency). For adequate resiliency, we believe it is necessary for the survival and recovery of *I. polyantha* that additional populations with further protections be established. Therefore, we have identified two unoccupied areas as proposed critical habitat units (CHUs) for *I. polyantha.* For P. debilis, there are only approximately 4,000 known individuals (low redundancy) and all within two concentrated areas (low resiliency). For adequate redundancy and resiliency, we believe it is necessary for survival and recovery that additional populations of P. debilis be established. Therefore, we have identified two unoccupied areas as proposed CHUs for P. debilis.

Ipomopsis polyantha

In accordance with the Act and its implementing regulation at 50 CFR 424.12(e), we consider whether designating additional areas—outside those currently occupied as well as those occupied at the time of listing—are necessary to ensure the conservation of the species. For *Ipomopsis polyantha,* we are proposing to designate critical habitat in areas within the geographical area occupied by the species at the time of listing in 2011. We also are proposing to designate specific areas outside the geographical area occupied by the species at the time of listing, because such areas are essential for the conservation of the species.

Occupied critical habitat was identified by delineating all known sites within a population (Colorado Natural Heritage Program (CNHP) 2010b, p. 1), placing a minimum convex polygon around the perimeter of all sites, and then adding an additional 3,280-ft (1,000-m) area for pollinator habitat. The distance that pollinators can travel is significant to plants including *Ipomopsis polyantha* because pollen transfer and seed dispersal are the only mechanisms for genetic exchange. Both pollen and seed dispersal can vary widely by plant species (Ellstrand 2003, p. 1164). In general, pollinators will focus on small areas where floral resources are abundant; however, occasional longer distance pollination will occur, albeit infrequently. No research has been conducted on flight distances of *I. polyantha's* pollinators. Therefore, we rely on general pollinator travel distances described in the literature.

Typically, pollinators fly distances that are in relation to their body sizes, with smaller pollinators flying shorter distances than larger pollinators (Greenleaf *et al.* 2007, pp. 589–596). If a pollinator can fly long distances, pollen transfer is also possible across these distances. The largest pollinators of *Ipomopsis polyantha* are bumblebee species (*Bombus* spp.). In one study, the buff-tailed bumblebee (*Bombus terrestris*) flew a maximum distance of 2,037 ft (621 m) (Osborne *et al.* 1999, pp. 524–526). The bumblebee-pollinated plant species, *Scabiosa columbaria* (dove pincushions), experienced decreased pollen flow at a patch isolation distance of 82 ft (25 m), and little to no pollen transfer when patches were isolated by 656 ft (200 m) (Velterop 2000, p. 65).

In contrast, another study found that displaced buff-tailed bumblebee individuals were able to return to their nests from distances over 5.6 mi (9 km) (Goulson and Stout 2001, p. 108). Another study found that buff-tailed bumblebee workers (resource collectors) were recaptured while foraging on super-abundant resources at distances of 1.1 mi (1.75 km) from the nest (Walther-Hellwig and Frankl 2000, p. 303). These studies suggest variability in the distances over which pollen transfer may occur and over which bumblebee species can travel. *Ipomopsis polyantha* sites within populations can be separated by more than 3,280 ft (1000 m) making conservation of these large pollinators especially important for genetic exchange between sites. In the interest of protecting *Ipomopsis polyantha's* pollinators, we have identified a 3,280-ft (1,000-m) wide

pollinator area. This area has the added benefit of providing more habitat for *I. polyantha* to potentially expand into, in the future.

A recovery plan has not yet been written for *Ipomopsis polyantha.* However, as described above, with only two known populations of *I. polyantha,* both of which are located largely on private lands with few protections, we expect that future recovery efforts will include efforts to improve resiliency by increasing the number of populations; therefore, we also are proposing to designate unoccupied habitat. We determined that not all potential habitat (Mancos shale soil layer near the town of Pagosa Springs) for *I. polyantha* was essential to the conservation of the species, and in keeping with section 3(5)(C) of the Act, which states that critical habitat may not include the entire geographical area which can be occupied by the species, we carefully refined the area proposed for designation.

To assist us in determining which specific areas may be essential to the conservation of the species and considered for inclusion in this proposal, we not only evaluated the biological contribution of an area, but also evaluated the conservation potential of the area through the overlay of a designation of critical habitat. While we recognize that there is an education value to designating an area as critical habitat, the more prevailing benefit is consultation under section 7 of the Act on activities that may affect critical habitat on Federal lands or where a Federal action may exist. Thus, in evaluating the potential conservation value of an unoccupied area for inclusion in critical habitat, we first focused on lands that are biologically important to the species and then considered which of those lands were under Federal ownership or likely to have a Federal action occur on them. If the inclusion of areas that met those criteria were not sufficient to conserve the species, we then evaluated other specific areas on private lands that were not likely to have a Federal action on them. Unoccupied critical habitat was identified by overlaying the Mancos shale soil layer around Pagosa Springs with Federal ownership (Service 2011e, p. 1). As little overlap occurred where Mancos shale soils and Federal lands intersected with habitat supporting the appropriate plant communities for future *I. polyantha* introductions, habitat is somewhat limited in suitable areas. Upon discussions with local species and area experts as well as land managers, we identified two areas on USFS lands as potential recovery or introduction areas for *I. polyantha.* These two areas include the O'Neal Hill Special Botanical Area and Eight Mile Mesa, both managed by USFS. These areas contain the primary constituent elements sufficient to support the life-history needs of the species, including Mancos shale soils and appropriate plant communities, and when added to the proposed occupied areas would provide sufficient resiliency, redundancy, and representation for the conservation of the species.

We delineated the critical habitat unit (CHU) boundaries for *Ipomopsis polyantha* using the following steps:

(1) In determining what areas were occupied by *Ipomopsis polyantha*, we used data collected by the CNHP (O'Kane 1985, maps; Lyon 2002, p. 3; Lyon and Mayo 2005, pp. 2–7; CNHP 2008; 2010a, pp. 1–8), BLM (Brinton 2010, pers. comm.), USFS (Brinton 2010, pers. comm.), the Service (Mayo 2005, pp. 1–35; Glenne and Mayo 2009, spatial data; Langton and Mayo 2010, spatial data), research efforts (Collins 1995, maps), and consulting firms (JGB Consulting 2005, pp. 2–7) to map specific locations of *I. polyantha.* These data were input into ArcMap 9.3.1. Based on criteria developed by the CNHP, sites were classified into discrete populations if they were within 2 mi (3 km) of each other and were not separated by unsuitable habitat (CNHP 2010b, p. 1).

(2) For currently occupied CHUs, we delineated proposed critical habitat areas by creating minimum convex polygons around each population and adding a 3,280-ft- (1,000-m)-wide area for pollinator habitat as previously described.

(3) For currently unoccupied CHUs, we identified two areas where the Mancos shale (Tweto 1979, spatial data) was intersected with Federal ownership (COMaP version 8—Theobald *et al.* 2010, spatial data). COMaP version 8 is the most updated geospatial data layer available for land ownership in Colorado. We delineated these areas by following the Federal land management boundary, and identifying suitable habitats based on species and area experts' input and aerial imagery. Our reasoning for identifying unoccupied units is further described above.

We are proposing for designation of critical habitat lands that we have determined are occupied at the time of listing and contain sufficient elements of physical and biological features to support life-history processes essential for the conservation of the species, as well as lands outside of the geographical area occupied at the time of listing that we have determined are essential for the conservation of *Ipomopsis polyantha.*

Penstemon debilis

In accordance with the Act and its implementing regulation at 50 CFR 424.12(e), we consider whether designating additional areas—outside those currently occupied as well as those occupied at the time of listing—are necessary to ensure the conservation of the species. We are proposing to designate critical habitat in areas within the geographical area occupied by the species at the time of listing in 2011. We also are proposing to designate specific areas outside the geographical area occupied by the species at the time of listing, because such areas are essential for the conservation of the species.

Occupied critical habitat was identified by delineating all known sites within a population (CNHP 2010b, p. 6), placing a minimum convex polygon around the perimeter of all these sites, and then adding a 3,280-ft (1,000-m) area for pollinator habitat as previously described. Like *Ipomopsis polyantha,* Penstemon debilis' largest pollinators are the bumblebee species (*Bombus* sp.) (discussed above under *I. polyantha*).

A recovery plan has not yet been written for Penstemon debilis. With only 4,100 known individuals of P. debilis concentrated in two areas, we conclude that future recovery efforts will necessitate actions to improve redundancy by increasing the number of individuals and sites. Therefore, we also are proposing to designate unoccupied habitat as critical habitat. Unoccupied critical habitat was delineated by identifying potential habitat on large contiguous areas of Federal ownership (see Number 3 below) (Service 2011e, p. 2). Occupied areas were expanded into adjacent areas containing this same potential habitat, as delineated and described below. This roughly doubled the size of these occupied units, providing more potential habitat for future recovery and introduction efforts. We determined that not all potential habitat (as defined below) for P. debilis was essential to the conservation of the species, and in keeping with section 3(5)(C) of the Act, which states that critical habitat may not include the entire geographical area which can be occupied by the species, we carefully refined the area proposed for designation.

To assist us in determining which specific areas may be essential to the conservation of the species and considered for inclusion in this proposal, we not only evaluated the biological contribution of an area, but also evaluated the conservation

potential of the area through the overlay of a designation of critical habitat. While we recognize that there is an education value to designating an area as critical habitat, the more prevailing benefit is consultation under section 7 of the Act on activities that may affect critical habitat on Federal lands or where a Federal action may exist. Thus, in evaluating the potential conservation value of an unoccupied area for inclusion in critical habitat, we first focused on lands that are biologically important to the species and then considered which of those lands were under Federal ownership or likely to have a Federal action occur on them. If the inclusion of areas that met those criteria were not sufficient to conserve the species, we then evaluated other specific areas on private lands that were not likely to have a Federal action on them. Upon discussions with local species and area experts, as well as land managers, we identified two areas on BLM lands as potential recovery or introduction areas for *P. debilis.* These two areas include Brush Mountain and Cow Ridge, both managed by BLM. These areas contain the primary constituent elements sufficient to support the life-history needs of the species, including oil shale soils and appropriate plant communities.

We delineated the CHU boundaries for *Penstemon debilis* using the following steps:

(1) In determining what areas were occupied by *Penstemon debilis*, we used data collected by the CNHP (O'Kane and Anderson 1986, p. 1; Spackman *et al.* 1996, p. 7; CNHP 2010a, spatial data), the BLM (Scheck and Kohls 1997, p. 3; DeYoung *et al.* 2010, p. 1; DeYoung 2011, pers. comm.), CNAP (CNAP 2006, maps, pp. 4–7), the Service (Ewing 2009, spatial data and map), and a consulting firm (Graham 2009, spatial data) to map populations using ArcMap 9.3.1. These locations were classified into discrete element occurrences (populations) by CNHP (2010b, p. 6).

(2) We delineated preliminary units by creating minimum convex polygons around each population and adding a 3,280-ft- (1,000-m)-wide area for pollinator habitat as described above.

(3) We then identified potential habitat (Service 2011e, p. 2) in ArcMap 9.3.1 by intersecting the following criteria: The Parachute Creek Member and the Lower part of the Green River Formation geological formations (Tweto 1979), with elevations between 6,561 to 9,350 ft (2,000 and 2,850 m), with suitable soil types that included five soil series (Irigul-Starman channery loams, Happle-Rock outcrop association, Rock outcrop-Torriorthents complec,Torriorthents-Camborthids-Rock outcrop complex, and Tosca channery loam) which represented 89 percent of all known *Penstemon debilis* sites (Service 2011c, p. 2; NRCS 2010, spatial data), and with the ''Rocky Mountain cliff and canyon'' landcover classification SW ReGAP 2004, spatial data). We chose the ''Rocky Mountain cliff and canyon'' landcover classification because 75 percent of all the known *P. debilis* locations fall within this mapping unit (and all sites outside are either on artificially created habitats or are directly below this classification where both oil shale substrate and *P. debilis* seed dispersal down drainage constantly occurs. We did not include the lower elevations currently occupied by *Penstemon debilis* in our minimum convex polygon edges that we used for delineating pollinator habitat (step 2) or in our potential habitat analysis (step 3), because there are few plants in these more ephemeral wash-out habitat types and because these unusual habitat types do not seem to represent the species' typical habitat requirements. However, it should be noted that these unusual sites are still included within the boundaries of Unit 3 (as delineated by step 2).

(4) From this potential habitat analysis (as delineated in step 3), we took the two continuous bands of potential habitat that include the areas where *Penstemon debilis* is currently found and added them to our existing polygons, including pollinator habitat (as delineated in step 2). We did this by again creating a minimum convex polygon. This condensed all known populations into two currently occupied CHUs (Units 3 and 4).

(5) For currently unoccupied CHUs, we identified two areas where our potential habitat was intersected with Federal ownership (COMaP version 8—Theobald *et al.* 2010, spatial data). COMaP version 8 is the most updated geospatial data layer available for land ownership in Colorado. The boundaries are clipped to our potential habitat layer and the Federal ownership layer. Our reasoning for identifying unoccupied units is further described above.

We are proposing for designation of critical habitat lands that we have determined are occupied at the time of listing and contain sufficient elements of physical and biological features to support life-history processes essential for the conservation of the species, and lands outside of the geographical area occupied at the time of listing that we have determined are essential for the conservation of *Penstemon debilis*.

Phacelia submutica

In accordance with the Act and its implementing regulation at 50 CFR 424.12(e), we consider whether designating additional areas—outside those currently occupied as well as those occupied at the time of listing—are necessary to ensure the conservation of the species. We are not currently proposing to designate any areas outside the geographical area occupied by the species because occupied areas are sufficient for the conservation of the species if the threats are addressed with appropriate management.

Occupied critical habitat was identified by delineating all known sites within a population (CNHP 2010b, p. 11), and placing a minimum convex polygon around the perimeter of all these sites. We then added a 328-ft-(100-m)-wide area to account for indirect effects from factors such as edge effects from roads, nonnative species, dust impacts, and others (as discussed above).

*Phacelia sub*mutica has a large enough range (sufficient representation and resiliency), enough populations (sufficient redundancy), and enough individuals (sufficient redundancy) that we felt that the occupied habitat alone, if protected from threats, would be adequate for the future survival and recovery of the species. Therefore, no unoccupied habitat was included in this critical habitat designation.

We delineated the CHU boundaries for *Phacelia submutica* using the following steps:

(1) In determining what areas were occupied by *Phacelia submutica,* we used data collected by CNHP (CNHP 1982, pp. 1–17; Burt and Spackman 1995, pp. 10–14; Burt and Carston 1995, p. 3; Spackman and Fayette 1996, p. 5; Lyon 2008, spatial data; 2009, spatial data; Lyon and Huggins 2009a, p. 3; Lyon and Huggins 2009b, p. 3; Lyon 2010, pers. comm.; CNHP 2010a, spatial data), the Colorado Native Plant Society (Colorado Native Plant Society [CNPS] 1982, pp. 1–9), the BLM (BLM pers. comm. 2010, spatial data; DeYoung 2009, pers. comm.), USFS (Johnston 2010, pers. comm.; Kirkpatrick 2011, pers. comm.; Potter 2010, spatial data; Proctor 2010, pers. comm.), CNAP (Wenger 2008; 2009; 2010, spatial data), the Service (Ewing and Glenne 2009, spatial data; Langton 2010, spatial data), and consulting firms (Ellis and Hackney 1982, pp. 7–8; WestWater Engineering [WWE] 2007a, spatial data; 2007b, spatial data; 2010, pp. 17–19, maps and spatial data) to map specific locations of *P. submutica* using ArcMap 9.3.1. These locations were classified into discrete

element occurrences or populations if they were within 1.2 mi (2 km) and were not separated by unsuitable habitat, based on criteria developed by CNHP (CNHP 2010b, p. 11). Then, we used 2009 aerial imagery (NAIP 2009, spatial data) to look at all sites that were considered historically occupied because they had not been revisited in the last 20 years. Based on our analysis, we determined all historically occupied sites were suitable habitat and considered these sites still in existence and occupied at the time of listing.

(2) We delineated proposed critical habitat areas by creating minimum convex polygons around each population and buffering the polygons by 328 ft (100 m) to account for indirect effects as described immediately above.

(3) We then modified these proposed critical habitat polygon boundaries to exclude unsuitable habitat as defined by a potential habitat model (Decker *et al.* 2005, p. 9). From this modeling exercise, we chose the more restrictive of the two habitat models (the envelope model) to further refine our critical habitat polygons. This model was developed by comparing occupied areas with environmental variables, such as elevation, slope, precipitation, temperature, geology, soil type, and vegetation type. The environmental variables with the highest predictive abilities influence the potential habitat the model then identifies.

We are proposing for designation of critical habitat lands that we have determined are occupied at the time of listing and contain sufficient elements of physical and biological features to support life-history processes essential for the conservation of *Phacelia submutica.*

Proposed Critical Habitat Designation

Ipomopsis polyantha

We are proposing four units as critical habitat for *Ipomopsis polyantha.* The CHUs we describe below meet the definition of critical habitat for *I. polyantha.* The four units we propose as critical habitat are: (1) Dyke, (2) O'Neal Hill Special Botanical Area, (3) Pagosa Springs, and (4) Eight Mile Mesa. Table 2 shows the proposed units.

TABLE 2—OCCUPANCY OF *Ipomopsis polyantha* BY PROPOSED CRITICAL HABITAT UNITS

Unit	Currently occupied?
1. Dyke	Yes.
2. O'Neal Hill Special Botanical Area.	No.
3. Pagosa Springs	Yes.
4. Eight Mile Mesa	No.

The approximate area of each proposed CHU is shown in table 3.

TABLE 3—PROPOSED CRITICAL HABITAT UNITS (CHUS) FOR *Ipomopsis polyantha*

[Area estimates reflect all land within CHU boundaries]

Critical habitat unit	Land ownership	Size of unit
1. Dyke	BLM	42 ac (17 ha).
	Private	1,415 ac (573 ha).
	Archuleta County (County Road ROWs)	5 ac (2 ha).
	Colorado Department of Transportation (CDOT)	13 ac (5 ha).
	Total for Dyke Unit	1,475 ac (597 ha).
2. O'Neal Hill Special Botanical Area	USFS–San Juan National Forest	784 ac (317 ha).
3. Pagosa Springs	Town of Pagosa Springs	599 ac (242 ha).
	CDOW	28 ac (11 ha).
	Private	5,652 ac (2,288 ha).
	State Land Board	110 ac (44 ha).
	Archuleta County (County Road ROWs)	18 ac (7 ha).
	CDOT (Highway ROWs)	50 ac (20 ha).
	Total for Pagosa Spring Unit	6,456 ac (2,613 ha).
4. Eight Mile Mesa	USFS–San Juan National Forest	1,180 ac (478 ha).
Total		9,894 ac (4,004 ha).

Note: Area sizes may not sum due to rounding.

We present brief descriptions of all units included in this proposed critical habitat designation and reasons why they meet the definition of critical habitat for *Ipomopsis polyantha.* The units are listed in order geographically west to east.

Unit 1. Dyke

Unit 1, the Dyke Unit, consists of 1,475 ac (597 ha) of Federal and private lands. The Unit is located at the junction of U.S. Hwy 160 and Cat Creek Road (County Road 700) near the historic town of Dyke in Archuleta County, Colorado. Ninety-seven percent of this Unit is on private lands; of these private lands, 1 percent is within highway ROWs. Three percent is on Federal land managed by the BLM, through the Pagosa Springs Field Office of the San Juan Public Lands Center. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species including a collection of all three communities (barren shales, open montane grassland (primarily Arizona fescue) understory at the edges of open Ponderosa pine, or clearings within the ponderosa pine and Rocky Mountain juniper and Utah juniper and oak communities), pockets of shale with little to no competition from other species, suitable elevational ranges from 6,720 to 7,285 ft (2,048 to 2,220 m), Mancos shale soils, suitable climate, pollinators and habitat for these pollinators, and areas where the correct disturbance regime is present. Lands within this Unit are largely agricultural although some housing is present within the Unit. A large hunting ranch also falls within this Unit. While these lands currently have the physical and biological features essential to the conservation of *Ipomopsis polyantha,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Threats to *Ipomopsis polyantha* in this Unit include highway maintenance and disturbance (several hundred plants

have been documented along Highway 160 (CNHP 2010a, p. 5)), grazing, agricultural use, *Bromus inermis* encroachment, potential development, and a new road that was constructed through the *I. polyantha* population. These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 2. O'Neal Hill Special Botanical Area

Unit 2, the O'Neal Hill Botanical Area consists of 784 ac (317 ha) of USFS land that is managed by the San Juan Public Lands Center. The Unit is north of Pagosa Springs, roughly 13 mi (21 km) north along Piedra Road. Roughly half the acreage of this Unit (308 ac (125 ha)) falls within the O'Neal Hill Special Botanical Area that was designated to protect another Mancos shale endemic, *Lesquerella pruinosa* (Pagosa bladderpod). Because *L. pruinosa* is sometimes found growing with *I. polyantha,* we believe the site has high potential for introduction of *I. polyantha.* This Unit is not currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species including a collection of all three plant communities, pockets of shale with little to no competition from other species, suitable elevational ranges from 7,640 to 8,360 ft (2,330 to 2,550 m), Mancos shale soils, suitable climate, habitat for pollinators (although we do not know if *Ipomopsis polyantha* pollinators are found here), and areas where the correct disturbance regime is present. Because of the presence of these features, we believe this may make a good introduction area for *Ipomopsis polyantha* in the future and is needed to ensure conservation of the species.

Threats to *Ipomopsis polyantha* in this Unit include road maintenance and disturbance, low levels of recreation, some hunting, deer and elk use, and a utility corridor and related maintenance (Brinton 2011, pers. comm). The threats should be addressed as detailed above in the ''*Special Management Considerations or Protection'' section.*

Ipomopsis polyantha is known from only two populations, both with few or no protections (little resilience). For adequate resiliency and protection we believe it is necessary for survival and recovery that additional populations with further protections be established. Because this area receives low levels of use and because it is already partially protected through the special botanical area, the area would make an ideal site for future introductions of *I. polyantha.* Therefore, we have identified this Unit as a proposed CHU for *I. polyantha.*

Unit 3. Pagosa Springs

Unit 3, the Pagosa Springs Unit, is the largest of the four *Ipomopsis polyantha* CHUs and consists of 6,456 ac (2,613 ha) of municipal, State, and private lands. The Unit is located at the junction of Highways 160 and 84, south along Highway 84, west along County Road 19, and east along Mill Creek Road. Ownership of the land in Unit 3 is divided as follows: 87.7 percent is under private ownership, 9.2 percent is owned by the Town of Pagosa Springs, 1.7 percent is owned and operated by the Colorado State Land Board, 0.8 percent falls within the Colorado Department of Transportation (CDOT) ROWs, 0.4 percent is found on CDOW lands, and 0.3 percent is located on Archuleta County ROWs. This Unit is currently occupied and contains the majority of *I. polyantha* individuals.

This Unit currently has all the physical and biological features essential to the conservation of the species, including a collection of all three plant communities, pockets of shale with little to no competition from other species, suitable elevational ranges from 6,960 to 7,724 ft (2,120 to 2,350 m), Mancos shale soils, suitable climate, pollinators and habitat for these pollinators, and areas where the correct disturbance regime is present. Lands within this Unit fall into a wide array of land management scenarios, including agricultural use, junkyards, urban areas, small residential lots, and large 30- to 40-ac (12- to 16-ha) residential parcels. While these lands currently have the physical and biological features essential to the conservation of *Ipomopsis polyantha,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Since almost 88 percent of this Unit is under private ownership, the primary threat to the species in this Unit is agricultural or urban development. Other threats include highway ROW disturbances, *Bromus inermis* and other nonnative invasive species, excessive livestock grazing, and mowing. These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 4: Eight Mile Mesa

Unit 4, Eight Mile Mesa, consists of 1,180 ac (478 ha) of USFS lands that are managed by the Pagosa Springs Field Office of the San Juan Public Lands Center. This Unit is located roughly 6.5 mi (10.5 km) south of the intersections of Highways 160 and 84 in Pagosa Springs, Colorado, and on the western side of Highway 84. This Unit is not currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species including a collection of all three plant communities, pockets of shale with little to no competition from other species, suitable elevational ranges from 7,320 to 7,858 ft (2,230 to 2,395 m), Mancos shale soils, suitable climate, habitat for pollinators, and areas where the correct disturbance regime is present. Because there are so few Mancos shale sites on Federal lands, and because this site has an array of habitat types, it provides the best potential area for introduction of *I. polyantha* in the future.

Threats to *Ipomopsis polyantha* in this Unit include a road running through the site, recreational use, horseback riding, dispersed camping and hunting, and firewood gathering. The Unit has some dense Ponderosa pine stands, and several small wildfires, that are actively suppressed, occur every year. There is a vacant grazing allotment at this Unit, and noxious weeds are being actively controlled (Brinton 2011, pers. comm.). These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Ipomopsis polyantha is known from only two populations, both with few or no protections (little resilience). For adequate resiliency and protection we believe it is necessary for survival and recovery that additional populations with further protections be established. Therefore, we have identified this Unit and one other unoccupied area as proposed CHUs for *I. polyantha.*

Penstemon debilis

We are proposing four units as critical habitat for Penstemon debilis. The CHUs we describe below constitute our current best assessment of locations that meet the definition of critical habitat for P. debilis. The four units we propose as critical habitat are: (1) Brush Mountain, (2) Cow Ridge, (3) Mount Callahan, and (4) Anvil Points. Table 4 shows the occupancy of the units.

TABLE 4—OCCUPANCY OF *Penstemon debilis* BY PROPOSED CRITICAL HABITAT UNIT

Unit	Currently occupied?
1. Brush Mountain	No.
2. Cow Ridge	No.
3. Mount Callahan	Yes.

TABLE 4—OCCUPANCY OF *Penstemon debilis* BY PROPOSED CRITICAL HABITAT UNIT—Continued

Unit	Currently occupied?
4. Anvil Points	Yes.

The approximate area of each proposed CHU is shown in table 5.

TABLE 5—PROPOSED CRITICAL HABITAT UNITS (CHUS) FOR *Penstemon debilis*

[Area estimates reflect all land within CHU boundaries.]

Critical habitat unit	Land ownership by type		Size of unit
	Federal	Private	
1. Brush Mountain	1,437 ac (582 ha)		1,437 ac (582 ha).
2. Cow Ridge	4,819 ac (1,950 ha)		4,819 ac (1,950 ha).
3. Mount Callahan	4,338 ac (1,756 ha)	3,675 ac (1,487 ha)	8,013 ac (3,243 ha).
4. Anvil Points	3,424 ac (1,386 ha)	1,461 ac (591 ha)	4,885 ac (1,977 ha).
Total	13,888 ac (5,621 ha)	4,824 ac (1,952 ha)	19,155 ac (7,752 ha).

Note: Area sizes may not sum due to rounding.

We present brief descriptions of all units included in the proposed critical habitat designation and reasons why they meet the definition of critical habitat for Penstemon debilis. The units are listed in order geographically west to east, and north to south.

Unit 1. Brush Mountain

Unit 1, the Brush Mountain Unit, consists of 1,437 ac (582 ha) of federally owned lands, managed by BLM through the Grand Junction Field Office. It is located approximately 16 mi (26 km) northwest of the town of DeBeque in Garfield County, Colorado. It is northwest of the intersection of Roan Creek Road (County Road 204) and Brush Creek Road (County Road 209). This Unit is not currently occupied.

This Unit has all the physical and biological features essential to the conservation of the species, including the Rocky Mountain Cliff and Canyon plant community (SW ReGAP 2004, spatial data) with less than 10 percent plant cover, suitable elevational ranges of 6,234 to 8,222 ft (1,900 to 2,506 m), outcrops of the Parachute Creek Member of the Green River Formation, steep slopes of these soil outcrops that lend to the appropriate disturbance levels, pollinator habitat, and a climate with between 12 to 18 in. (30 and 46 cm) in annual rainfall and winter snow. Because of the presence of these features, we believe this may make a good introduction area for Penstemon debilis in the future and is needed to ensure conservation of the species.

The primary threat to Penstemon debilis in this Unit is energy development. This threat should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section. P. debilis consists of only 4,100 known individuals (little redundancy), and all occur within two concentrated areas (little resilience). For adequate redundancy and resiliency, we believe it is necessary for survival and recovery that additional populations be established. Therefore, we have identified this Unit as a proposed CHU for P. debilis.

Unit 2. Cow Ridge

Unit 2, the Cow Ridge Unit, is 4,819 ac (1,950 ha) of federally owned lands managed by BLM through the Grand Junction Field Office. It is located approximately 8 mi (13 km) northwest of the town of DeBeque in Garfield County, Colorado, and north of Dry Fork Road. This Unit is not currently occupied.

This Unit has all the physical and biological features essential to the conservation of the species, including the Rocky Mountain Cliff and Canyon plant community (SW ReGAP 2004, spatial data) with less than 10 percent cover, suitable elevational ranges of 6,273 to 8,284 ft (1,912 to 2,525 m), outcrops of the Parachute Creek Member of the Green River Formation, steep slopes of these soil outcrops that lend to the appropriate disturbance levels, habitat for pollinators, and a climate with between 12 to 18 in. (30 and 46 cm) in annual rainfall and winter snow. Because of the presence of these features, we believe this may make a good introduction area for Penstemon debilis in the future and is needed to ensure conservation of the species.

The primary threat to Penstemon debilis in this Unit is energy development. This threat should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section. P. debilis consists of only 4,100 known individuals (little redundancy) and all within 2 concentrated areas (low resilience). For adequate redundancy and resiliency, we believe it is necessary for survival and recovery that additional populations be established. Therefore, we have identified this Unit as a proposed CHU for P. debilis.

Unit 3. Mount Callahan

Unit 3, the Mount Callahan Unit, consists of 8,013 ac (3,243 ha) of Federal and private land. It is located approximately 2 mi (3 km) west of the town of Parachute on the south-facing slopes of Mount Callahan and westward along the cliffs of the Roan Plateau. Fifty-four percent of Unit 3 is managed by the BLM under the management of two field offices: 80 percent of these Federal lands are managed by the Colorado River Valley Field Office and 20 percent are managed by the Grand Junction Field Office. Eight percent of this Unit (674 ac (273 ha)) has been designated as two Colorado Natural Areas (Mount Callahan and Mount

Callahan Saddle). These privately owned lands are currently protected from energy development, but are in close proximity to oil wells and associated infrastructure. We are considering these two Natural Areas for exclusion from this CHU. These exclusions are discussed in further detail below under ''Exclusions—*Application of Section 4(b)(2) of the Act.''* Thirty-five percent of this Unit falls on private lands with no protections. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of Penstemon debilis, including the Rocky Mountain Cliff and Canyon plant community (SW ReGAP 2004, spatial data) with less than 10 percent cover, suitable elevational ranges of 5,413 to 8,809 ft (1,650 to 2,685 m), outcrops of the Parachute Creek Member of the Green River Formation, suitable pollinators and habitat for these pollinators, steep slopes of these soil outcrops that lend to the appropriate disturbance levels, and a climate with between 12 to 18 in. (30 and 46 cm) in annual rainfall and winter snow.

The primary threat to Penstemon debilis and its habitat in this Unit is energy development. This threat should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 4. Anvil Points

Unit 4, the Anvil Points Unit, consists of 4,885 ac (1,977 ha) of Federal and private land. It is located approximately 1 mi (2 km) north of the town of Rulison in Garfield County, Colorado. Seventy percent of this Unit is managed by the BLM, Colorado River Valley Field Office. Twenty-three percent of the Unit (1,102 ac (446 ha)) is within several potential BLM Areas of Critical Environmental Concern (ACECs). If these become ACECs, they would have several stipulations to protect Penstemon debilis, particularly from oil and gas development. These areas are discussed further in the proposed (75 FR 35732; June 23, 2010) and final listing rules (in today's Rules and Regulations section of the **Federal Register**). Thirty percent of this Unit is on private lands. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of Penstemon debilis, including the Rocky Mountain Cliff and Canyon plant community (SW ReGAP 2004, spatial data) with less than 10 percent plant cover, suitable elevational ranges of 6,318 to 9,288 ft (1,926 to 2,831 m), outcrops of the Parachute Creek Member of the Green River Formation, suitable pollinators and habitat for these pollinators, steep slopes of these soil outcrops that lend to the appropriate disturbance levels, and a climate with between 12 to 18 in. (30 and 46 cm) in annual rainfall and winter snow.

Threats to Penstemon debilis and its habitat in this Unit is primarily energy development. This threat should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Phacelia submutica

We are proposing nine units as critical habitat for *Phacelia submutica.* The critical habitat areas we describe below constitute our current best assessment of areas that meet the definition of critical habitat for *P. submutica.* The nine units we propose as critical habitat are: (1) Sulphur Gulch, (2) Pyramid Rock, (3) Roan Creek, (4) DeBeque, (5) Mount Logan, (6) Ashmead Draw, (7) Baugh Reservoir, (8) Horsethief Mountain, and (9) Anderson Gulch. Table 6 shows the proposed critical habitat units.

TABLE 6—PROPOSED CRITICAL HABITAT UNITS (CHUS) FOR *Phacelia submutica*

[Area estimates reflect all land within CHU boundaries.]

Unit #/Unit name	Land ownership by type			Size of unit
	Federal	State	Private	
1. Sulphur Gulch	1,046 ac (423 ha)			1,046 ac (423 ha).
2. Pyramid Rock	15,429 ac (6,244 ha)		1,892 ac (766 ha)	17,321 ac (7,010 ha).
3. Roan Creek	2 ac (1 ha)		52 ac (21 ha)	54 ac (22 ha).
4. DeBeque	401 ac (162 ha)		129 ac (52 ha)	530 ac (215 ha).
5. Mount Logan	242 ac (98 ha)		35 ac (14 ha)	277 ac (112 ha).
6. Ashmead Draw	1,046 ac (423 ha)		174 ac (71 ha)	1,220 ac (494 ha).
7. Baugh Reservoir	19 ac (8 ha)		10 ac (4 ha)	28 ac (12 ha).
8. Horsethief Mountain	3,614 ac (1,463 ha)		594 ac (240 ha)	4,209 ac (1,703 ha).
9. Anderson Gulch		173 ac (70 ha)	128 ac (52 ha)	301 ac (122 ha).
Total	21,800 ac (8,822 ha)	173 ac (70 ha)	3,014 ac (1,220 ha)	24,987 ac (10,112 ha).

Note: Area sizes may not sum due to rounding.

We present brief descriptions of all units included in the proposed critical habitat designation and reasons why they meet the definition of critical habitat for *Phacelia submutica.* The units are listed in order geographically west to east.

Unit 1. Sulphur Gulch

Unit 1, the Sulphur Gulch Unit, consists of 1,046 ac (423 ha) of federally owned land. The Unit is located approximately 7.7 mi (12.5 km) southwest of the town of DeBeque in Mesa County, Colorado. This Unit is managed by BLM, through the Grand Junction Field Office. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species including barren clay badlands with less than 20 percent plant/vegetation cover, suitable elevational ranges of 5,480 to 6,320 ft (1,670 to 1,926 m), appropriate topography, and shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation. All lands within this Unit are leased as grazing allotments, and less than 1 percent is managed as an active pipeline ROW by the BLM. While these lands currently have the physical and biological features essential to the conservation of *Phacelia submutica,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Threats to *Phacelia submutica* and its habitat in this Unit include energy development, recreation (especially OHVs), domestic and wild ungulate grazing and use, and nonnative invasive species, such as *Bromus tectorum.* These threats should be addressed as

detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 2. Pyramid Rock

Unit 2, the Pyramid Rock Unit, is the largest Unit we are proposing and consists of 17,321 ac (7,010 ha) of federally and privately owned lands in Mesa and Garfield Counties, Colorado. This Unit is approximately 1.6 mi (2.6 km) west of the town of DeBeque. The eastern boundary borders Roan Creek, and Dry Fork Creek runs through the northern quarter of the Unit. Eighty-nine percent is managed by BLM through the Grand Junction Field Office, and 11 percent is under private ownership. Three percent of this Unit is within the Pyramid Rock Natural Area and Pyramid Rock ACEC that was designated, in part, to protect the species as discussed in the proposed (75 FR 35739; June 23, 2010) and final listing rules (in the Rules and Regulations section of today's **Federal Register**). This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species including barren clay badlands with less than 20 percent plant/vegetation cover, suitable elevational ranges of 4,960 to 6,840 ft (1,512 to 2,085 m), the appropriate topography, and shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation. Ninety-four percent of this Unit is managed as a grazing allotment by the BLM. Additionally, 11 percent of this Unit is managed as an active pipeline ROW. While these lands currently have the physical and biological features essential to the conservation of *Phacelia submutica,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Threats to *Phacelia submutica* and its habitat in this Unit include energy development, recreation (especially OHV use), livestock and wild ungulate grazing and use, and nonnative invasive species including *Bromus tectorum* and *Halogeton glomeratus.* The Westwide Energy corridor runs through this Unit. The corridor covers almost 10 percent of this Unit (Service 2011a, p. 9). These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 3. Roan Creek

Unit 3, the Roan Creek Unit, consists of 54 ac (22 ha) of Federal and privately owned lands in Garfield County, Colorado. The Unit is located 3.3 mi (5.4 km) north of the town of DeBeque and for 1.7 mi (2.7 km) along both sides of County Road 299. Ninety-seven percent of this Unit is privately owned. Three percent of this Unit is managed by BLM through the Grand Junction Field Office. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species including barren clay badlands with less than 20 percent cover, suitable elevational ranges of 5,320 to 5,420 ft (1,622 to 1,652 m), the appropriate topography, and shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation. The entire Unit is within a grazing allotment. While these lands currently have the physical and biological features essential to the conservation of *Phacelia submutica,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Threats to *Phacelia submutica* and its habitat in this Unit include recreation (especially OHV use), livestock and wild ungulate grazing and use, invasion by nonnative invasive species including *Bromus tectorum* and *Halogeton glomeratus,* and a lack of protections on private lands. These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 4. DeBeque

Unit 4, the DeBeque Unit, consists of 530 ac (215 ha) of Federal and private lands in Mesa County, Colorado. This Unit is located 0.25 mile north of DeBeque between Roan Creek Road and Cemetery Road. Seventy-six percent of this Unit is managed by BLM through the Grand Junction Field Office. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species including barren clay badlands with less than 20 percent plant/vegetation cover, suitable elevational ranges of 5,180 to 5,400 ft (1,579 to 1,646 m), the appropriate topography, and shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation. While these lands currently have the physical and biological features essential to the conservation of *Phacelia submutica,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Threats to *Phacelia submutica* and its habitat in this Unit include energy development, residential development, recreation (especially OHV use), livestock and wild ungulate grazing and use, and nonnative invasive species including *Bromus tectorum* and *Halogeton glomeratus.* Since 24 percent of the Unit is privately owned and borders the north of the town of DeBeque, this Unit is threatened by potential urban or agricultural development. The Westwide Energy corridor runs through this Unit. The corridor covers almost 66 percent of this Unit (Service 2011a, p. 9). These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 5. Mount Logan

Unit 5, the Mount Logan Unit, consists of 277 ac (112 ha) of Federal and private lands in Garfield County, Colorado. The Unit is located 2.7 mi (4.4 km) north, northeast of the town of DeBeque, Colorado, and 0.5 mi (0.8 km) west of Interstate 70. Eighty-eight percent of this Unit is managed by BLM through the Grand Junction Field Office. The remainder of this Unit is privately owned. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species including barren clay badlands with less than 20 percent plant/vegetation cover, suitable elevational ranges of 4,960 to 5,575 ft (1,512 to 1,699 m), the appropriate topography, and shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation. Eighty-eight percent of this Unit is managed as a grazing allotment by BLM, and 53 percent is managed as an active pipeline ROW. An access road runs through the Unit connecting several oil wells and associated infrastructure. While these lands currently have the physical and biological features essential to the conservation of *Phacelia submutica,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Threats to *Phacelia submutica* and its habitat in this Unit include energy development, recreation (especially OHV use), livestock and wild ungulate grazing and use, and nonnative invasive species, including *Bromus tectorum* and *Halogeton glomeratus.* These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 6. Ashmead Draw

Unit 6, the Ashmead Draw Unit, consists of 1,220 ac (494 ha) of both Federal and private lands in Mesa County, Colorado. The Unit is located

1.5 mi (2.5 km) southeast of the town of DeBeque, Colorado, and east of 45.5 Road (DeBeque Cut-off Road). Eighty-six percent of this Unit is managed by BLM through the Grand Junction Field Office. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species including barren clay badlands with less than 20 percent plant/vegetation cover, suitable elevational ranges of 4,940 to 5,808 ft (1,506 to 1,770 m), the appropriate topography, and shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation. A network of access roads runs through the Unit. Eighty eight percent of this Unit is within a BLM grazing allotment, and 84 percent is within the Grand Junction Field Office's designated energy corridor. Thirty percent of the Unit is managed as an active pipeline ROW. While these lands currently have the physical and biological features essential to the conservation of *Phacelia submutica,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Threats to *Phacelia submutica* and its habitat in this Unit include energy development, recreation (especially OHV use), livestock and wild ungulate grazing and use, and nonnative invasive species, including *Bromus tectorum* and *Halogeton glomeratus.* The Westwide Energy corridor runs through this Unit. The corridor covers almost 84 percent of this Unit (Service 2011a, p. 9). These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 7. Baugh Reservoir

Unit 7, the Baugh Reservoir Unit, consists of 29 ac (12 ha) of Federal and private lands in Mesa County, Colorado. The Unit is located 6 mi (10 km) south of DeBeque, Colorado, near Kimball Mesa and Horse Canyon Road. Sixty-six percent is managed by BLM through the Grand Junction Field Office, and the remaining 34 percent is on private lands. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species, including barren clay badlands with less than 20 percent plant/vegetation cover, a suitable elevational range of 5,400 to 5,700 ft (1,646 to 1,737 m), the appropriate topography, and shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation. An access road runs through the Unit, close to the occurrence of *Phacelia submutica.* While these lands currently have the physical and biological features essential to the conservation of *P. submutica,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Threats to *Phacelia submutica* and its habitat in this Unit include energy development, recreation, livestock and wild ungulate grazing and use, and nonnative invasive species including *Bromus tectorum* and *Halogeton glomeratus.* The Westwide Energy corridor runs through this Unit. The corridor covers almost 66 percent of this Unit (Service 2011a, p. 9). These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 8. Horsethief Mountain

Unit 8, the Horsethief Mountain Unit, consists of 4,209 ac (1,703 ha) of Federal and private lands in Mesa County, Colorado. It is located approximately 3.5 mi (5.6 km) southeast of DeBeque, Colorado, and along the eastern side of Sunnyside Road (V Road). Thirty-four percent is managed by BLM through the Grand Junction Field Office, 29 percent by the White River National Forest, 23 percent by the Grand Mesa Uncompahgre National Forest, and 14 percent is on private lands. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species, including barren clay badlands with less than 20 percent plant/vegetation cover, a suitable elevational range of 5,320 to 6,720 ft (1,622 to 2,048 m), the appropriate topography, and shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation. While these lands currently have the physical and biological features essential to the conservation of *Phacelia submutica,* because of a lack of cohesive management and protections, special management will be required to maintain these features in this Unit.

Threats to *Phacelia submutica* and its habitat in this Unit include energy development, recreation (especially OHV use), livestock and wild ungulate grazing and use, and nonnative invasive species, including *Bromus tectorum* and *Halogeton glomeratus.* These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Unit 9. Anderson Gulch

Unit 9, the Anderson Gulch Unit, consists of 301 ac (122 ha) of State and private lands in Mesa County, Colorado. It is located 11 mi (17 km) southeast of DeBeque, Colorado, and 3.5 mi (5.5 km) north of the town of Molina, Colorado. Within the Unit, 57 percent of the lands are managed by CDOW, within the Plateau Creek State Wildlife Area, and 43 percent is private. This Unit is currently occupied.

This Unit currently has all the physical and biological features essential to the conservation of the species, including barren clay badlands with less than 20 percent plant/vegetation cover, a suitable elevational range of 5,860 to 6,040 ft (1,786 to 1,841 m), the appropriate topography, and shrink-swell alkaline clay soils within the Atwell Gulch and Shire members of the Wasatch Formation. Forty-two percent of the Unit is a pending pipeline ROW. While these lands currently have the physical and biological features essential to the conservation of *Phacelia submutica,* because of a lack of cohesive management and protections on State and private land, special management may be required to maintain these features in this Unit.

Threats to *Phacelia submutica* and its habitat in this Unit include energy development, recreation (especially from OHVs), livestock and wild ungulate grazing and use, and nonnative invasive species, including *Bromus tectorum* and *Halogeton glomeratus.* These threats should be addressed as detailed above in the ''*Special Management Considerations or Protection''* section.

Effects of Critical Habitat Designation

Section 7 Consultation

Section 7(a)(2) of the Act requires Federal agencies, including the Service, to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat of such species. In addition, section 7(a)(4) of the Act requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of any species proposed to be listed under the Act or result in the destruction or adverse modification of proposed critical habitat.

Decisions by the 5th and 9th Circuit Courts of Appeals have invalidated our regulatory definition of ''destruction or adverse modification'' (50 CFR 402.02) (see *Gifford Pinchot Task Force* v. *U.S. Fish and Wildlife Service,* 378 F. 3d 1059 (9th Cir. 2004) and *Sierra Club* v. *U.S. Fish and Wildlife Service et al.,* 245 F. 3d 434, 442 (5th Cir. 2001)), and we

do not rely on this regulatory definition when analyzing whether an action is likely to destroy or adversely modify critical habitat. Under the statutory provisions of the Act, we determine destruction or adverse modification on the basis of whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species.

If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Examples of actions that are subject to the section 7 consultation process are actions on State, tribal, local, or private lands that require a Federal permit (such as a permit from the U.S. Army Corps of Engineers under section 404 of the Clean Water Act (33 U.S.C. 1251 *et seq.*) or a permit from the Service under section 10 of the Act) or that involve some other Federal action (such as funding from the Federal Highway Administration, Federal Aviation Administration, or the Federal Emergency Management Agency). Federal actions not affecting listed species or critical habitat, and actions on State, tribal, local, or private lands that are not federally funded or authorized, do not require section 7 consultation.

As a result of section 7 consultation, we document compliance with the requirements of section 7(a)(2) through our issuance of:

(1) A concurrence letter for Federal actions that may affect, but are not likely to adversely affect, listed species or critical habitat; or

(2) A biological opinion for Federal actions that may affect, and are likely to adversely affect, listed species or critical habitat.

When we issue a biological opinion concluding that a project is likely to jeopardize the continued existence of a listed species and/or destroy or adversely modify critical habitat, we provide reasonable and prudent alternatives to the project, if any are identifiable, that would avoid the likelihood of jeopardy and/or destruction or adverse modification of critical habitat. We define ''reasonable and prudent alternatives'' (at 50 CFR 402.02) as alternative actions identified during consultation that:

(1) Can be implemented in a manner consistent with the intended purpose of the action,

(2) Can be implemented consistent with the scope of the Federal agency's legal authority and jurisdiction,

(3) Are economically and technologically feasible, and

(4) Would, in the Director's opinion, avoid the likelihood of jeopardizing the continued existence of the listed species and/or avoid the likelihood of destroying or adversely modifying critical habitat.

Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where we have listed a new species or subsequently designated critical habitat that may be affected and the Federal agency has retained discretionary involvement or control over the action (or the agency's discretionary involvement or control is authorized by law). Consequently, Federal agencies sometimes may need to request reinitiation of consultation with us on actions for which formal consultation has been completed, if those actions with discretionary involvement or control may affect subsequently listed species or designated critical habitat.

Application of the ''Adverse Modification'' Standard

As we described above, we do not currently have a valid regulation that defines adverse modification. The key factor related to the adverse modification determination is whether, with implementation of the proposed Federal action, the affected critical habitat would continue to serve its intended conservation role for the species. Activities that may destroy or adversely modify critical habitat are those that alter the physical and biological features essential to the conservation of these species to an extent that appreciably reduces the conservation value of critical habitat for *Ipomopsis polyantha, Penstemon debilis,* and *Phacelia submutica.* As discussed above, the role of critical habitat is to support life-history needs of the species and provide for the conservation of the species.

Section 4(b)(8) of the Act requires us to briefly evaluate and describe, in any proposed or final regulation that designates critical habitat, activities involving a Federal action that may destroy or adversely modify such habitat, or that may be affected by such designation.

Activities that may affect critical habitat, when carried out, funded, or authorized by a Federal agency, should result in consultation for *Ipomopsis polyantha, Penstemon debilis,* and *Phacelia submutica.*

For *Ipomopsis polyantha* these activities include, but are not limited to:

(1) Actions that would lead to the destruction or alteration of the plants or their habitat; or actions that would result in continual or excessive disturbance or prohibit overland soil erosion on Mancos shale soils. Such activities could include, but are not limited to, removing soils to a depth that the seed bank has been removed, repeatedly scraping areas, repeated mowing, excessive grazing, continually driving vehicles across areas, permanent developments, the construction or maintenance of utility or road corridors, and ditching. These activities could remove the seed bank, reduce plant numbers by prohibiting reproduction, impede or accelerate beyond historical levels the natural or artificial erosion processes on which the plant relies (as described above in ''*Physical and Biological Features*''), or lead to the total loss of a site.

(2) Actions that would result in the loss of pollinators or their habitat, such that reproduction could be diminished. Such activities could include, but are not limited to, destroying ground or twig nesting habitat, habitat fragmentation that prohibits pollinator movements from one area to the next, spraying pesticides that will kill pollinators, and eliminating other plant species on which pollinators are reliant for floral resources (this could include replacing native species that provide floral resources with grasses, which do not provide floral resources for pollinators). These activities could result in reduced fruit production for *Ipomopsis polyantha,* or increase the incidence of self-pollination, thereby reducing genetic diversity and seed production.

(3) Actions that would result in excessive plant competition at *Ipomopsis polyantha* sites. Such activities could include, but are not limited to, revegetation efforts that include competitive nonnative invasive species such as *Bromus inermis, Medicago* sativa (alfalfa), Meliotus spp. (sweetclover); planting native species, such as *Pinus ponderosa,* into open areas where the plant is found; and creating disturbances that allow nonnative invasive species to invade. These activities could cause *I. polyantha* to be outcompeted and subsequently either lost at sites, or reduced in numbers of individuals.

For *Penstemon debilis* these activities include, but are not limited to:

(1) Actions that would lead to the destruction or alteration of the plants or

their habitat. Such activities could include, but are not limited to, activities associated with oil shale mining, including the mines themselves, pipelines, roads, and associated infrastructure; activities associated with oil and gas development, including pipelines, roads, well pads, and associated infrastructure; activities associated with reclamation activities, utility corridors, or infrastructure; and road construction and maintenance. These activities could lead to the loss of individuals, fragment the habitat, impact pollinators, cause increased dust deposition, introduce nonnative invasive species, and alter the habitat such that important downhill movement or the shale erosion no longer occurs.

(2) Actions that would alter the highly mobile nature of the sites. Such activities could include, but are not limited to, activities associated with oil shale mining, including pipelines, roads, and associated infrastructure; activities associated with oil and gas development, including pipelines, roads, well pads, and associated infrastructure; activities associated with reclamation activities, utility corridors, or infrastructure; and road construction and maintenance. These activities could lead to increased soil formation and a subsequent increase in vegetation, alterations to the soil morphology, the loss of *Penstemon debilis* plants and habitat.

(3) Actions that would result in the loss of pollinators or their habitat, such that reproduction could be diminished. Such activities could include, but are not limited to, destroying ground or twig nesting habitat; habitat fragmentation that prohibits pollinator movements from one area to the next; spraying pesticides that will kill pollinators; and eliminating other plant species on which pollinators are reliant for floral resources. These activities could result in reduced fruit production for *Penstemon debilis,* or increase the incidence of self-pollination, thereby further reducing genetic diversity and reproductive potential.

For *Phacelia submutica* these activities include, but are not limited to:

(1) Actions that would lead to the destruction or alteration of the plants, their seed bank, or their habitat, or actions that would destroy the fragile clay soils where *Phacelia submutica* is found. Such activities could include, but are not limited to, activities associated with oil and gas development, including pipelines, roads, well pads, and associated infrastructure; utility corridors or infrastructure; road construction and maintenance; excessive OHV use; and excessive livestock grazing. Clay soils are most fragile when wet, so activities that occur when soils are wet are especially harmful. These activities could lead to the loss of individuals, fragment the habitat, impact pollinators, cause increased dust deposition, and alter the habitat such that important erosional processes no longer occur.

(2) Actions that would result in excessive plant competition at *Phacelia submutica* sites. Such activities could include, but are not limited to, using highly competitive species in restoration efforts, or creating disturbances that allow nonnative invasive species, such as *Bromus tectorum* and *Halogeton glomeratus,* to invade. These activities could cause *P. submutica* to be outcompeted and subsequently either lost or reduced in numbers of individuals.

Exemptions

Application of Section 4(a)(3) of the Act

The Sikes Act Improvement Act of 1997 (Sikes Act) (16 U.S.C. 670a) required each military installation that includes land and water suitable for the conservation and management of natural resources to complete an integrated natural resources management plan (INRMP) by November 17, 2001. An INRMP integrates implementation of the military mission of the installation with stewardship of the natural resources found on the base. Each INRMP includes:

(1) An assessment of the ecological needs on the installation, including the need to provide for the conservation of listed species;

(2) A statement of goals and priorities;

(3) A detailed description of management actions to be implemented to provide for these ecological needs; and

(4) A monitoring and adaptive management plan.

Among other things, each INRMP must, to the extent appropriate and applicable, provide for fish and wildlife management; fish and wildlife habitat enhancement or modification; wetland protection, enhancement, and restoration where necessary to support fish and wildlife; and enforcement of applicable natural resource laws.

The National Defense Authorization Act for Fiscal Year 2004 (Pub. L. 108–136) amended the Act to limit areas eligible for designation as critical habitat. Specifically, section 4(a)(3)(B)(i) of the Act (16 U.S.C. 1533(a)(3)(B)(i)) now provides: ''The Secretary shall not designate as critical habitat any lands or other geographical areas owned or controlled by the Department of Defense, or designated for its use, that are subject to an integrated natural resources management plan prepared under section 101 of the Sikes Act (16 U.S.C. 670a), if the Secretary determines in writing that such plan provides a benefit to the species for which critical habitat is proposed for designation.''

No Department of Defense lands occur within any of the proposed critical habitat designations.

Exclusions

Application of Section 4(b)(2) of the Act

Section 4(b)(2) of the Act states that the Secretary must designate and revise critical habitat on the basis of the best available scientific data after taking into consideration the economic impact, national security impact, and any other relevant impact of specifying any particular area as critical habitat. The Secretary may exclude an area from critical habitat if he/she determines that the benefits of such exclusion outweigh the benefits of specifying such area as part of the critical habitat, unless he/she determines, based on the best scientific data available, that the failure to designate such area as critical habitat will result in the extinction of the species. In making that determination, the statute on its face, as well as the legislative history are clear that the Secretary has broad discretion regarding which factor(s) to use and how much weight to give to any factor.

Under section 4(b)(2) of the Act, we may exclude an area from designated critical habitat based on economic impacts, impacts on national security, or any other relevant impacts. In considering whether to exclude a particular area from the designation, we must identify the benefits of including the area in the designation, identify the benefits of excluding the area from the designation, and determine whether the benefits of exclusion outweigh the benefits of inclusion. If, based on this analysis, we make this determination, then we can exclude the area only if such exclusion would not result in the extinction of the species.

When identifying the benefits of inclusion for an area, we consider the additional regulatory benefits that area would receive from the protection from adverse modification or destruction as a result of actions with a Federal action; the educational benefits of mapping essential habitat for recovery of the listed species; and any benefits that may result from a designation due to State or Federal laws that may apply to critical habitat.

When identifying the benefits of exclusion, we consider, among other things, whether exclusion of a specific area is likely to result in conservation; the continuation, strengthening, or encouragement of partnerships; or implementation of a management plan that provides equal to or more conservation than a critical habitat designation would provide.

In the case of *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica,* the benefits of critical habitat include public awareness of their presence and the importance of habitat protection, and in cases where a Federal nexus exists, increased habitat protection for *I. polyantha,* P. debilis, and *P. submutica* due to the protection from adverse modification or destruction of critical habitat. We are not currently proposing or considering any exclusions from critical habitat for *I. polyantha* or *P. submutica,* but we are considering two exclusions on private lands for P. debilis and are requesting public input on whether these areas should be excluded. For these three species, all of which are plants that do not receive protection from take under the Act, the primary impact and benefit of designating critical habitat will be on Federal lands or in instances where there is a Federal nexus for projects on private lands.

When we evaluate the existence of a conservation plan when considering the benefits of exclusion, we consider a variety of factors, including but not limited to, whether the plan is finalized; how it provides for the conservation of the essential physical and biological features; whether there is a reasonable expectation that the conservation management strategies and actions contained in a management plan will be implemented into the future; whether the conservation strategies in the plan are likely to be effective; and whether the plan contains a monitoring program or adaptive management to ensure that the conservation measures are effective and can be adapted in the future in response to new information.

After identifying the benefits of inclusion and the benefits of exclusion, we carefully weigh the two sides to determine whether the benefits of exclusion outweigh those of inclusion. If we determine that they do, we then determine whether exclusion would result in extinction. If exclusion of an area from critical habitat will result in extinction, we will not exclude it from the designation.

Based on the information provided by entities seeking exclusion, as well as any additional public comments received, we will evaluate whether certain lands in the proposed Penstemon debilis CHU 3 (Mount Callahan) are appropriate for exclusion from the final designation pursuant to section 4(b)(2) of the Act. If our analysis results in a determination that the benefits of excluding lands from the final designation outweigh the benefits of designating those lands as critical habitat, then we will exclude the lands from the final designation, provided we find that the failure to designate such areas as critical habitat will not result in the extinction of the species.

The only exclusions we are considering are for the two Natural Areas that fall within Penstemon debilis Unit 3, Mount Callahan (see Map 7). These two areas are designated as the Mount Callahan Natural Area and the Mount Callahan Saddle Natural Area (CNAP 2010a, pp. 1–11). These two State Natural Areas were designated specifically to allow the CNAP to assist the landowner in protecting P. debilis. The Natural Areas have a long list of activities that can and cannot take place and best management practices also have been developed for these areas (see ''*Mount Callahan Natural Area and Mount Callahan Saddle Natural Area Articles of Designation and accompanying Best Management Practices''* below) designed to conserve the species and protect the essential physical and biological features (CNAP 2010a, pp. 4–6 and Exhibit B; CNAP 2010b, pp. 1–4). Although these agreements can be terminated at any time, we do not believe they will be, since the Mount Callahan Natural Area has been in existence since 1987, and was recently expanded to include the Mount Callahan Saddle Natural Area. Extensive time and care has been taken to protect P. debilis in these areas. Providing incentives to private landowners for voluntary conservation actions is one of the factors we are considering for these exclusions. This issue is discussed in further detail under ''Exclusions Based on Other Relevant Impacts'' below. We are seeking public input on the inclusion or exclusion of these Natural Areas in our critical habitat designation.

After considering the following areas under section 4(b)(2) of the Act, we are considering excluding them from the critical habitat designation for Penstemon debilis:

The Mount Callahan Natural Area

The Mount Callahan Saddle Natural Area

We are considering excluding the areas described above because we believe that:

(1) Their value for conservation will be preserved for the foreseeable future by existing protective actions, and

(2) They are appropriate for exclusion under the ''other relevant factor'' provisions of section 4(b)(2) of the Act.

However, we specifically solicit comments on the inclusion or exclusion of such areas. In the paragraphs below, we provide a detailed analysis of our exclusion of these lands under section 4(b)(2) of the Act.

Exclusions Based on Economic Impacts

Under section 4(b)(2) of the Act, we consider the economic impacts of specifying any particular area as critical habitat. In order to consider economic impacts, we are preparing an analysis of the economic impacts of the proposed critical habitat designation and related factors. Many of the CHUs, as proposed, include private lands. Federal lands with oil and gas leases, grazing permits, and recreational uses also are included. Several State parcels are included where hunting or recreational activities occur.

We will announce the availability of the draft economic analysis as soon as it is completed, at which time we will seek public review and comment. At that time, copies of the draft economic analysis will be available for downloading from the Internet at *http://www.regulations.gov,* or by contacting the Western Colorado Ecological Services Office directly (see **FOR FURTHER INFORMATION CONTACT** section). During the development of a final designation, we will consider economic impacts, public comments, and other new information, and areas may be excluded from the final critical habitat designation under section 4(b)(2) of the Act and our implementing regulations at 50 CFR 424.19.

Exclusions Based on National Security Impacts

Under section 4(b)(2) of the Act, we consider whether there are lands owned or managed by the Department of Defense (DOD) where a national security impact might exist. In preparing this proposal, we have determined that the lands within the designation of critical habitat for *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica* are not owned or managed by the Department of Defense, and, therefore, we anticipate no impact on national security. Consequently, the Secretary does not propose to exert his discretion to exclude any areas from the proposed designation based on impacts on national security.

Exclusions Based on Other Relevant Impacts

Under section 4(b)(2) of the Act, we consider any other relevant impacts, in addition to economic impacts and impacts on national security. We consider a number of factors including whether the landowners have developed any HCPs or other management plans for the area, or whether there are conservation partnerships that would be encouraged by designation of, or exclusion from, critical habitat. In addition, we look at any tribal issues, and consider the government-to-government relationship of the United States with tribal entities (none of the proposed critical habitat units contain any tribal lands). We also consider any social impacts that might occur because of the designation.

Land and Resource Management Plans, Conservation Plans, or Agreements Based on Conservation Partnerships

We consider a current land management or conservation plan (HCPs as well as other types) to provide adequate management or protection if it meets the following criteria:

(1) The plan is complete and provides the same or better level of protection from adverse modification or destruction than that provided through a consultation under section 7 of the Act;

(2) There is a reasonable expectation that the conservation management strategies and actions will be implemented for the foreseeable future, based on past practices, written guidance, or regulations; and

(3) The plan provides conservation strategies and measures consistent with currently accepted principles of conservation biology.

We believe that the Mount Callahan Natural Area and the Mount Callahan Saddle Natural Area fulfill the above criteria, and we are considering the exclusion of the non-Federal lands covered by this plan that provide for the conservation of Penstemon debilis. We are requesting comments on the benefits to P. debilis from the Mount Callahan Natural Area and the Mount Callahan Saddle Natural Area and their potential exclusion from critical habitat.

Mount Callahan Natural Area and Mount Callahan Saddle Natural Area Articles of Designation and Accompanying Best Management Practices

The Mount Callahan Natural Area was designated in 1987, shortly after the discovery of Penstemon debilis (CNAP 1987, pp. 1–7). The Mount Callahan Saddle Natural Area was designated in 2008 (CNAP 2008, pp. 1–11). Both Natural Areas were designated primarily to protect P. debilis. The agreement (both areas are in the same agreement) is between the CNAP and OXY USA. The articles of designation (for both areas) identify the following conservation measures: Camping is prohibited, noxious weed management is conducted to minimize damage to P. debilis, grazing is limited to preserve natural qualities, and motorized vehicle use is prohibited. The best management practices that apply within 328 ft (100 m) of occupied habitat provide guidelines for surveys, limit surface disturbance, address the protection of pollinators, limit projects that will affect storm water flows, limit undercutting, provide fencing stipulations for disturbances within 328 ft (100 m), address dust abatement activities, and address monitoring (CNAP 2008a, pp. 8–11). Ongoing management of the Mount Callahan Natural Area since 1987, consistent with the conservation measures and best management practices, demonstrates a long-term commitment by both parties. Furthermore, the Mount Callahan Saddle Natural Area was added in 2008, demonstrating an expansion of and commitment to conservation efforts.

Table 7 provides approximate areas of lands that meet the definition of critical habitat or are under our consideration for possible exclusion under section 4(b)(2) of the Act from the final critical habitat rule. Table 7 also provides our reasons for proposed exclusions.

TABLE 7—EXEMPTIONS AND AREAS CONSIDERED FOR EXCLUSION BY CRITICAL HABITAT UNIT FOR *Penstemon debilis*

Unit	Specific area	Basis for exclusion/exemption	Areas meeting definition of critical habitat	Areas considered for possible exclusion
3	Mount Callahan Natural Area	4(b)(2)—Natural Area Designation	7,571 ac (3,064 ha)	357 ac (144 ha).
	Mount Callahan Saddle Natural Area.	4(b)(2)—Natural Area Designation	.....	317 ac (128 ha).

Peer Review

In accordance with our joint policy on peer review published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of peer review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We have invited these peer reviewers to comment during this public comment period on our specific assumptions and conclusions in this proposed designation of critical habitat.

We will consider all comments and information we receive during this comment period on this proposed rule during our preparation of a final determination. Accordingly, the final decision may differ from this proposal.

Public Hearings

Section 4(b)(5) of the Act provides for one or more public hearings on this proposal, if requested. Requests must be received within 45 days after the date of publication of this proposed rule in the **Federal Register**. Such requests must be sent to the address shown in the **ADDRESSES** section. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings, as well as how to obtain reasonable accommodations, in the **Federal Register** and local newspapers at least 15 days before the hearing.

Required Determinations

Our draft economic analysis will be completed after this proposed rule is published. Therefore, we will defer our Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), Energy Supply, Distribution, or Use—Executive Order 13211, Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), and Small Business Regulatory Enforcement Fairness Act (SBREFA), findings until after this analysis is done.

Regulatory Planning and Review—Executive Order 12866

The Office of Management and Budget (OMB) has determined that this rule is not significant and has not reviewed this proposed rule under Executive Order 12866 (Regulatory Planning and Review). The OMB bases its

determination upon the following four criteria:

(1) Whether the rule will have an annual effect of $100 million or more on the economy or adversely affect an economic sector, productivity, jobs, the environment, or other units of the government.

(2) Whether the rule will create inconsistencies with other Federal agencies' actions.

(3) Whether the rule will materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients.

(4) Whether the rule raises novel legal or policy issues.

Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*)

Under the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*) as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 (5 U.S.C 801 *et seq.*), whenever an agency publishes a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. The SBREFA amended the RFA to require Federal agencies to provide a certification statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities.

At this time, we lack the available economic information necessary to provide an adequate factual basis for the required RFA finding. Therefore, we defer the RFA finding until completion of the draft economic analysis prepared under section 4(b)(2) of the Act and Executive Order 12866. This draft economic analysis will provide the required factual basis for the RFA finding. Upon completion of the draft economic analysis, we will announce its availability in the **Federal Register** and reopen the public comment period for the proposed designation. We will include with this announcement, as appropriate, an initial regulatory flexibility analysis or a certification that the rule will not have a significant economic impact on a substantial number of small entities accompanied by the factual basis for that determination.

Land use sectors that could be affected by this proposed rule include: Federal land managers, private landowners with lands that have a Federal nexus within proposed CHUs, commercial or residential developers with lands or activities that have a Federal nexus within proposed CHUs, oil and gas or oil shale companies with Federal leases that fall within proposed CHUs, livestock owners with permits that fall within proposed CHUs, and OHV users that may or are utilizing proposed CHUs.

We have concluded that deferring the RFA finding until completion of the draft economic analysis is necessary to meet the purposes and requirements of the RFA. Deferring the RFA finding in this manner will ensure that we make a sufficiently informed determination based on adequate economic information and provide the necessary opportunity for public comment.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects when undertaking certain actions. *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica* all occur in areas where utility corridors are or may affect populations. In addition, both P. debilis and *P. submutica* are in areas with extensive oil and gas activity. Well pads and their existing infrastructure are within proposed CHUs. On Federal lands, entities conducting oil and gas related activities as well as power companies will need to consult within areas designated as critical habitat. Although we do not believe these impacts will rise to the level of significant, we are deferring our finding until the draft economic analysis has been completed. We will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment as warranted.

Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*)

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following findings:

(1) This rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or tribal governments, or the private sector, and includes both ''Federal intergovernmental mandates'' and ''Federal private sector mandates.'' These terms are defined in 2 U.S.C. 658(5)–(7). ''Federal intergovernmental mandate'' includes a regulation that ''would impose an enforceable duty upon State, local, or tribal governments'' with two exceptions. It excludes ''a condition of Federal assistance.'' It also excludes ''a duty arising from participation in a voluntary Federal program,'' unless the regulation ''relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and tribal governments under entitlement authority,'' if the provision would ''increase the stringency of conditions of assistance'' or ''place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding,'' and the State, local, or tribal governments ''lack authority'' to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; Aid to Families with Dependent Children work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. ''Federal private sector mandate'' includes a regulation that ''would impose an enforceable duty upon the private sector, except (i) A condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program.''

The designation of critical habitat does not impose a legally binding duty on non-Federal Government entities or private parties. Under the Act, the only regulatory effect is that Federal agencies must ensure that their actions do not destroy or adversely modify critical habitat under section 7. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency. Furthermore, to the extent that non-Federal entities are indirectly impacted because they receive Federal assistance or participate in a voluntary Federal aid program, the Unfunded Mandates Reform Act would not apply, nor would critical habitat shift the costs of the large entitlement programs listed above onto State governments.

(2) We do not believe that this rule will significantly or uniquely affect small governments because only a small percentage of the total land ownership fall on small government lands such as the Town of Pagosa Springs, Archuleta

County, and lands owned and operated by the State of Colorado. Therefore, a Small Government Agency Plan is not required. We do not believe that this rule would significantly or uniquely affect small governments because it will not produce a Federal mandate of $100 million or greater in any year, that is, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act. However, we will further evaluate this issue as we conduct our economic analysis, and review and revise this assessment if appropriate.

Takings—Executive Order 12630

In accordance with Executive Order 12630 (Government Actions and Interference with Constitutionally Protected Private Property Rights), we have analyzed the potential takings implications of designating critical habitat for *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica* in a takings implications assessment. Critical habitat designation does not affect landowner actions that do not require Federal funding or permits, nor does it preclude development of habitat conservation programs or issuance of incidental take permits to permit actions that do require Federal funding or permits to go forward. The takings implications assessment concludes that this designation of critical habitat for *I. polyantha,* P. debilis, and *P. submutica* does not pose significant takings implications for lands within or affected by the designation.

Federalism—Executive Order 13132

In accordance with Executive Order 13132 (Federalism), this proposed rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, we requested information from, and coordinated development of, this proposed critical habitat designation with appropriate State resource agencies in Colorado. The designation of critical habitat in areas currently occupied by the *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica* may impose nominal additional regulatory restrictions to those currently in place and, therefore, has little incremental impact on State and local governments and their activities. The designation may have some benefit to these governments because the areas that contain the physical and biological features essential to the conservation of the species are more clearly defined, and the elements of the features of the habitat necessary to the conservation of the species are specifically identified. This information does not alter where and what federally sponsored activities may occur. However, it may assist local governments in long-range planning (rather than having them wait for case-by-case section 7 consultations to occur).

Where State and local governments require approval or authorization from a Federal agency for actions that may affect critical habitat, consultation under section 7(a)(2) would be required. While non-Federal entities that receive Federal funding, assistance, or permits, or that otherwise require approval or authorization from a Federal agency for an action, may be indirectly impacted by the designation of critical habitat, the legally binding duty to avoid destruction or adverse modification of critical habitat rests squarely on the Federal agency.

Civil Justice Reform—Executive Order 12988

In accordance with Executive Order 12988 (Civil Justice Reform), the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and that it meets the requirements of sections 3(a) and 3(b)(2) of the Order. We have proposed designating critical habitat in accordance with the provisions of the Act. This proposed rule uses standard property descriptions and identifies the elements of physical and biological features essential to the conservation of the *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica* within the designated areas to assist the public in understanding the habitat needs of the species.

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

This rule does not contain any new collections of information that require approval by OMB under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

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

It is our position that, outside the jurisdiction of the U.S. Court of Appeals for the Tenth Circuit, we do not need to prepare environmental analyses pursuant to the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 *et seq.*) in connection with designating critical habitat under the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244). This position was upheld by the U.S. Court of Appeals for the Ninth Circuit (*Douglas County* v. *Babbitt,* 48 F.3d 1495 (9th Cir. 1995), cert. denied 516 U.S. 1042 (1996)). However, when the range of the species includes States within the Tenth Circuit, such as that of *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica,* under the Tenth Circuit ruling in *Catron County Board of Commissioners* v. *U.S. Fish and Wildlife Service,* 75 F.3d 1429 (10th Cir. 1996), we will undertake NEPA analysis for critical habitat designation and notify the public of the availability of the draft environmental assessment for this proposal when it is finished.

Clarity of the Rule

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

(1) Be logically organized;

(2) Use the active voice to address readers directly;

(3) Use clear language rather than jargon;

(4) Be divided into short sections and sentences; and

(5) Use lists and tables wherever possible.

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

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal

Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with Tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to Tribes.

We determined that there are no tribal lands that were occupied by *Ipomopsis polyantha,* Penstemon debilis, and *Phacelia submutica* at the time of listing that contain the features essential for conservation of the species, and no tribal lands unoccupied by the *I. polyantha,* P. debilis, and *P. submutica* that are essential for the conservation of the species. Therefore, we are not proposing to designate critical habitat for *I. polyantha,* P. debilis, and *P. submutica* on tribal lands.

References Cited

A complete list of references cited is available on the Internet at *http://www.regulations.gov* and upon request from the Western Colorado Ecological Services Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this package are the staff members of the Western Colorado Ecological Services Office.

List of Subjects in 50 CFR Part 17

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

Proposed Regulation Promulgation

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

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

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

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

2. In § 17.12(h), revise the entry for ''*Ipomopsis polyantha,*'' ''Penstemon debilis,'' and ''*Phacelia submutica*'' under ''*Flowering Plants*'' in the List of Endangered and Threatened Plants to read as follows:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Family	Status	When listed	Critical habitat	Special rules
Scientific name	Common name						
Flowering Plants:							
*	*	*	*	*	*		*
Ipomopsis polyantha	Pagosa skyrocket	U.S.A. (CO)	Polemoniaceae	E	792	17.96(a)	NA
*	*	*	*	*	*		*
Penstemon debilis	Parachute beardtongue	U.S.A. (CO)	Plantaginaceae	T	792	17.96(a)	NA
*	*	*	*	*	*		*
Phacelia submutica	DeBeque phacelia	U.S.A. (CO)	Hydrophyllaceae	T	792	17.96(a)	NA
*	*	*	*	*	*		*

3. In § 17.96, amend paragraph (a) by adding entries for ''*Phacelia submutica* (DeBeque phacelia)'' in alphabetical order under Family Hydrophyllaceae, ''Penstemon debilis (Parachute penstemon)'' in alphabetical order under Family Plantaginaceae, and ''*Ipomopsis polyantha* (Pagosa skyrocket)'' in alphabetical order under Family Polemoniaceae to read as follows:

§ 17.96 Critical habitat—plants.

(a) *Flowering plants.*

* * * * *

Family Hydrophyllaceae: *Phacelia submutica* (DeBeque phacelia)

(1) Critical habitat units are designated for Garfield and Mesa Counties, Colorado.

(2) Within these areas, the primary constituent elements (PCEs) of the physical and biological features essential to the conservation of *Phacelia submutica* consist of five components:

(i) *Suitable soils and geology.*

(A) Atwell Gulch and Shire members of the Wasatch formation.

(B) Within these larger formations, small areas (from 10 to 1,000 ft^2 (1 to 100 m^2)) on colorful exposures of chocolate to purplish brown, light to dark charcoal gray, and tan clay soils. These small areas are slightly different in texture and color than the similar surrounding soils. Occupied sites are characterized by alkaline (pH range from 7 to 8.9) soils with higher clay content than similar nearby unoccupied soils.

(C) Clay soils that shrink and swell dramatically upon drying and wetting and are likely important in the maintenance of the seed bank.

(ii) *Topography.* Moderately steep slopes, benches, and ridge tops adjacent to valley floors. Occupied slopes range from 2 to 42 degrees with an average of 14 degrees.

(iii) *Elevation and climate.*

(A) Elevations from 4,600 ft (1,400 m) to 7,450 ft (2,275 m).

(B) Climatic conditions similar to those around DeBeque, Colorado, including suitable precipitation and temperatures. Annual fluctuations in moisture (and probably temperature) greatly influences the number of *Phacelia submutica* individuals that grow in a given year and are thus able to set seed and replenish the seed bank.

(iv) *Plant community.*

(A) Small (from 10 to 1,000 ft^2 (1 to 100 m^2)) barren areas with less than 20 percent plant cover in the actual barren areas.

(B) Presence of appropriate associated species that can include (but are not limited to) the natives *Grindelia fastigiata, Eriogonum gordonii, Monolepis nuttalliana,* and *Oenothera caespitosa.* If sites become dominated by *Bromus tectorum* or other invasive nonnative species, they should not be discounted because *Phacelia submutica* may still be found there.

(C) Appropriate plant communities within the greater pinyon-juniper woodlands that include:

(*1*) Clay badlands within the mixed salt desert scrub; or

(*2*) Clay badlands within big sagebrush shrublands.

(v) *Maintenance of the seed bank and appropriate disturbance levels.*

(A) Within suitable soil and geologies (see paragraph (2)(i) of this entry), undisturbed areas where seed banks are left undamaged.

(B) Areas with light disturbance when dry and no disturbance when wet. Clay soils are relatively stable when dry but are extremely vulnerable to disturbances when wet. While *Phacelia submutica* has evolved with some light natural disturbances including erosional and shrink-swell processes, human disturbances that are either heavy or light when soils are wet could impact the species and its seed bank. More heavily disturbed areas should be evaluated over the course of several years for the species' presence.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units.* Data layers defining map units were created on a base of both satellite imagery (NAIP 2009) as well as USGS geospatial quadrangle maps and were mapped using NAD 83 Universal Transverse Mercator (UTM), zone 13N coordinates. Location information came from a wide array of sources. A habitat model prepared by the Colorado Natural Heritage Program also was utilized.

(5) **Note:** Index map of critical habitat for *Phacelia submutica* follows:

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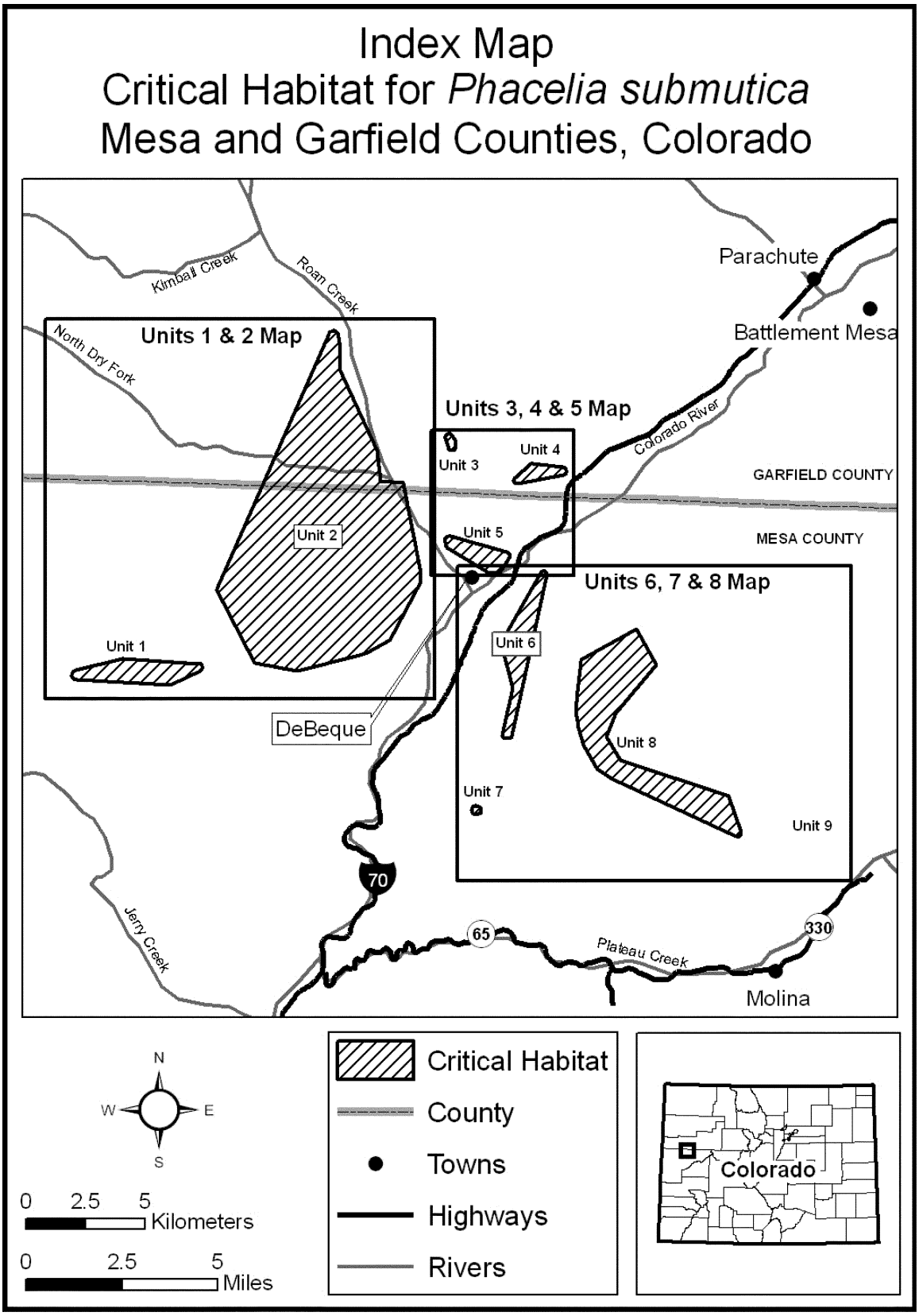


(6) Unit 1: Mesa County, Colorado.

BILLING CODE 4310–55–C

(i) Land bounded by the following UTM NAD83, zone 13 N coordinates (E,N): 206056.41, 4354673.68; 206059.46, 4354708.47; 206068.50, 4354742.21; 206083.26, 4354773.87; 206103.29, 4354802.48; 206127.99, 4354827.18; 206156.61, 4354847.21; 206188.26, 4354861.97; 206214.13, 4354868.90; 208172.81, 4355368.77; 208189.62, 4355371.81; 208221.50,

4355372.48; 211387.70, 4355153.18; 211410.39, 4355151.28; 211445.58, 4355146.74; 211486.68, 4355135.00; 211547.06, 4355091.87; 211556.23, 4355027.68; 211558.18, 4354988.68; 211544.57, 4354945.59; 211505.83, 4354878.16; 211464.05, 4354854.86; 210208.15, 4354271.78; 210182.91, 4354265.02; 210158.47, 4354262.88; 206249.74, 4354473.91; 206222.00, 4354476.34; 206188.26, 4354485.38; 206156.60, 4354500.14; 206127.99, 4354520.17; 206103.29, 4354544.87; 206083.26, 4354573.48; 206068.50, 4354605.14; 206059.46, 4354638.88; and returning to 206056.41, 4354673.68.

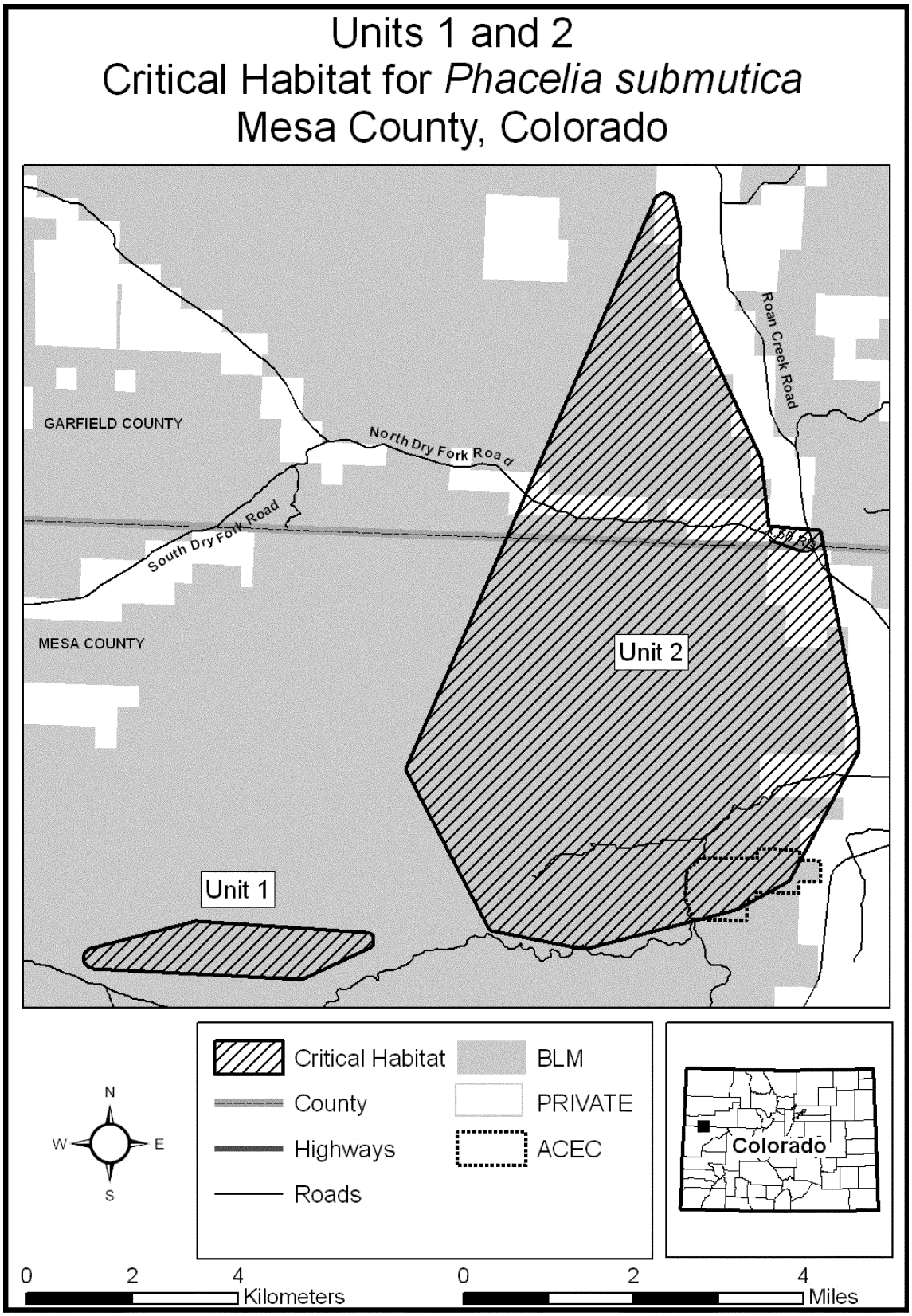
(ii) **Note:** Map of Unit 1 of critical habitat for *Phacelia submutica* is provided at paragraph (7)(ii) of this entry.

(7) Unit 2: Garfield and Mesa Counties, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 212167.61, 4358240.79; 212181.41, 4358305.17; 216874.61, 4369051.20; 216886.19, 4369076.04; 216906.22, 4369104.65; 216930.92, 4369129.35; 216959.53, 4369149.38; 216988.08, 4369162.70; 217007.08, 4369169.20; 217052.79, 4369178.50; 217098.42, 4369178.50; 217147.50, 4369168.62; 217185.45, 4369148.30; 217228.09, 4369111.07; 217246.04, 4369073.00; 217374.92, 4368485.88; 217316.01, 4367553.09; 218906.65, 4364145.98; 219044.12, 4362859.72; 220022.38, 4362778.06; 220029.81, 4362750.34; 220754.51, 4358989.62; 220756.77, 4358963.78; 220763.05, 4358652.76; 220758.37, 4358594.29; 219463.44, 4356169.16; 219454.46, 4356156.34; 219441.47, 4356143.35; 219429.06, 4356134.66; 218497.76, 4355625.60; 218409.92, 4355581.68; 218172.63, 4355513.88; 215567.84, 4354836.96; 215521.83, 4354844.15; 213794.77, 4355190.30; 213727.43, 4355250.15; and returning to 212167.61, 4358240.79.

(ii) **Note:** Map of Units 1 and 2 of critical habitat for *Phacelia submutica* follows:

BILLING CODE 4310–55–P



(8) Unit 3: Garfield County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 221791.53, 4364704.92; 221793.82, 4364731.04; 221800.60, 4364756.36; 221811.68, 4364780.12; 221826.71, 4364801.59; 221845.25, 4364820.12; 221866.72, 4364835.16; 221890.48, 4364846.24; 221915.80, 4364853.02; 221941.92, 4364855.31; 221968.03, 4364853.02; 221993.35, 4364846.24; 222017.11, 4364835.16;

222038.58, 4364820.12; 222057.11, 4364801.59; 222070.52, 4364782.44; 222216.47, 4364510.68; 222225.04, 4364492.29; 222231.83, 4364466.97; 222234.11, 4364440.85; 222232.54, 4364422.94; 222216.07, 4364254.88; 222209.42, 4364230.07; 222198.34, 4364206.31; 222183.30, 4364184.84; 222164.77, 4364166.30; 222143.30, 4364151.27; 222119.54, 4364140.19; 222094.22, 4364133.40; 222068.10, 4364131.12; 222041.99, 4364133.40; 222016.67, 4364140.19; 221992.91, 4364151.27; 221971.44, 4364166.30; 221952.90, 4364184.84; 221937.87, 4364206.31; 221927.38, 4364228.80; 221798.70, 4364660.60; 221793.82, 4364678.81; and returning to 221791.53, 4364704.92.

(ii) **Note:** Map of Unit 3 of critical habitat for *Phacelia submutic*a is provided at paragraph (10)(ii) of this entry.

(9) Unit 4: Mesa County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 221750.44, 4360417.57; 221910.53, 4360544.11; 222011.30, 4360532.40; 224377.86, 4359858.22; 224479.87, 4359777.31; 224505.92, 4359669.86; 224162.67, 4359105.67; 224121.94, 4359039.96; 224061.14, 4358997.20; 223982.52, 4358972.67; 223916.23, 4358974.09; 223647.66, 4358996.02; 221914.01, 4359996.02; 221888.97, 4360013.55; 221864.27, 4360038.25; 221844.24, 4360066.86; 221829.48, 4360098.52; 221822.43, 4360124.80; and returning to 221750.44, 4360417.57.

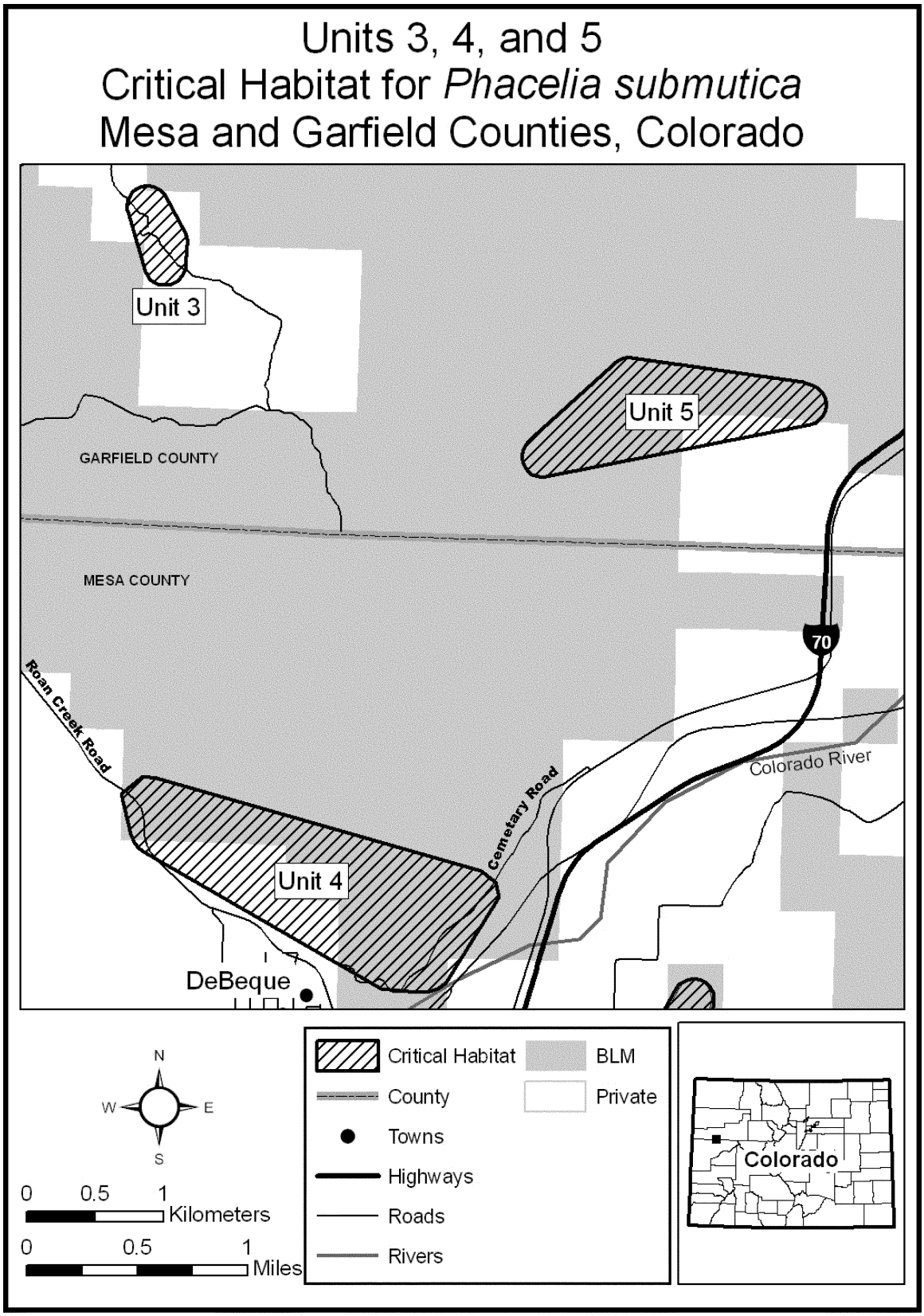
(ii) **Note:** Map of Unit 4 of critical habitat for *Phacelia submutica* is provided at paragraph (10)(ii) of this entry.

(10) Unit 5: Garfield County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 224674.62, 4362880.00; 224676.90, 4362906.11; 224683.69, 4362931.43; 224694.77, 4362955.19; 224709.80, 4362976.66; 224723.94, 4362990.81; 225361.43, 4363566.66; 225380.81, 4363580.23; 225404.57, 4363591.31; 225429.89, 4363598.10; 225456.00, 4363600.38; 225476.05, 4363598.63; 226724.37, 4363422.10; 226741.36, 4363417.55; 226799.80, 4363398.33; 226821.01, 4363388.44; 226842.49, 4363373.40; 226861.02, 4363354.87; 226876.06, 4363333.40; 226887.14, 4363309.64; 226893.92, 4363284.32; 226896.21, 4363258.20; 226893.92, 4363232.09; 226887.14, 4363206.77; 226876.06, 4363183.01; 226861.02, 4363161.54; 226842.49, 4363143.01; 226821.01, 4363127.97; 226797.26, 4363116.89; 226777.13, 4363111.50; 224847.74, 4362731.61; 224825.00, 4362729.62; 224798.89, 4362731.90; 224773.57, 4362738.69; 224749.81, 4362749.77; 224728.34, 4362764.80; 224709.80, 4362783.34; 224694.77, 4362804.81; 224683.69, 4362828.57; 224676.90, 4362853.89; and returning to 224674.62, 4362880.00.

(ii) **Note:** Map of Units 3, 4, and 5 of critical habitat for *Phacelia submutica* follows:

BILLING CODE 4310–55–P



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(11) Unit 6: Mesa County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 224130.10, 4355992.22; 224137.33, 4356027.59; 224164.10, 4356079.43; 225800.48, 4358995.39; 225813.35, 4359013.77; 225831.89, 4359032.31; 225853.36, 4359047.34; 225877.12, 4359058.42; 225902.44, 4359065.20; 225928.55, 4359067.49; 225954.67, 4359065.20; 225979.99, 4359058.42; 226003.74, 4359047.34;

226025.22, 4359032.31; 226043.75, 4359013.77; 226058.79, 4358992.30; 226069.86, 4358968.54; 226076.65, 4358943.22; 226078.93, 4358917.11; 226076.86, 4358893.40; 224608.12, 4352128.37; 224602.98, 4352109.18; 224591.90, 4352085.43; 224576.87, 4352063.95; 224558.33, 4352045.42; 224536.86, 4352030.38; 224513.10, 4352019.30; 224487.78, 4352012.52; 224467.81, 4352010.77; 224347.33, 4352006.47; 224323.80, 4352008.53; 224298.48, 4352015.31; 224274.72, 4352026.39; 224253.25, 4352041.43; 224234.71, 4352059.96; 224219.68, 4352081.44; 224208.60, 4352105.19; 224201.81, 4352130.52; 224199.99, 4352151.35; 224629.91, 4354119.91; and returning to 224130.10, 4355992.22.

(ii) **Note:** Map of Unit 6 of critical habitat for *Phacelia submutica* is provided at paragraph (14)(ii) of this entry.

(12) Unit 7: Mesa County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 222895.27, 4348972.58; 222897.80, 4349033.20; 222915.05, 4349089.21; 222986.91, 4349165.50; 223071.80, 4349165.50; 223127.84, 4349151.49; 223191.28, 4349133.16; 223258.08, 4349099.76; 223289.13, 4349042.83; 223296.46, 4348986.16; 223281.88, 4348879.74; 223202.51, 4348825.62; 223135.45, 4348812.21; 223082.26, 4348808.17; 223046.13, 4348816.20; 222983.74, 4348834.55; 222946.47, 4348871.83; 222913.76, 4348920.89; and returning to 222895.27, 4348972.58.

(ii) **Note:** Map of Unit 7 of critical habitat for *Phacelia submutica* is provided at paragraph (14)(ii) of this entry.

(13) Unit 8: Mesa County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 227287.92, 4353124.64; 227363.29, 4353992.27; 227486.10, 4355236.26; 227494.99, 4355269.46; 227509.75, 4355301.11; 227529.79, 4355329.72; 227554.49, 4355354.42; 227580.17, 4355372.41; 229695.80, 4356548.43; 229713.96, 4356556.90; 229769.67, 4356573.00; 229791.21, 4356573.00; 229846.71, 4356568.20; 229895.06, 4356513.86; 229901.97, 4356503.99; 230681.73, 4355125.75; 228988.56, 4353080.54; 228569.46, 4352091.46; 229156.20, 4351102.39; 233728.76, 4349562.63; 233736.17, 4349546.74; 234244.43, 4348051.25; 234244.43, 4347992.84; 234223.25, 4347925.78; 234136.83, 4347851.71; 234053.14, 4347868.45; 234019.56, 4347882.27; 228869.43, 4350285.62; 228801.70, 4350322.67; 228248.13, 4350668.17; 228218.86, 4350689.66; 227621.62, 4351711.59; 227402.60, 4352451.12; 227394.12, 4352487.23; 227348.70, 4352740.95; and returning to 227287.92, 4353124.64.

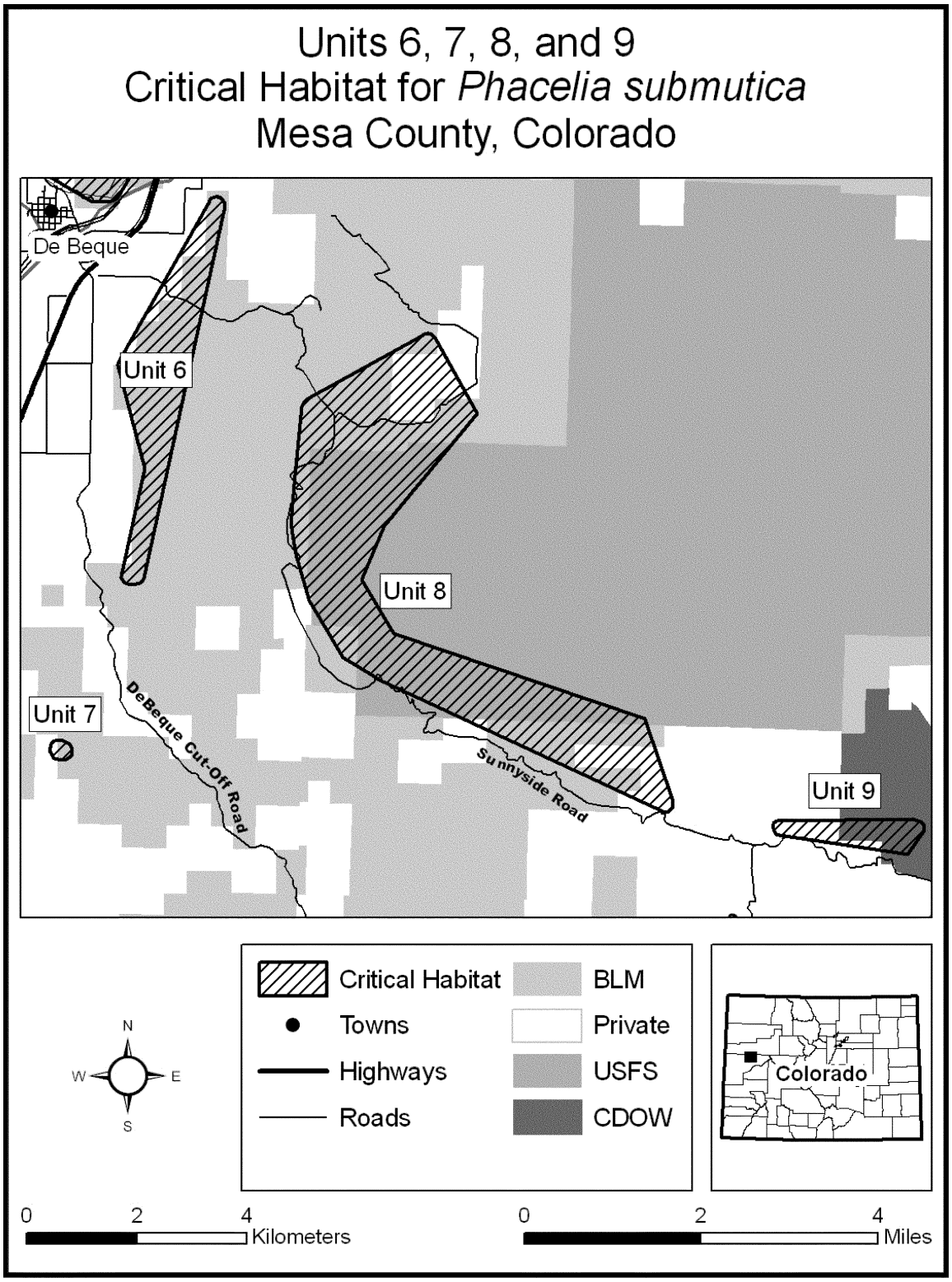
(ii) **Note:** Map of Unit 8 of critical habitat for *Phacelia submutica* is provided at paragraph (14)(ii) of this entry.

(14) Unit 9: Mesa County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 236060.14, 4347594.28; 236061.74, 4347612.58; 236066.50, 4347630.33; 236074.26, 4347646.98; 236084.79, 4347662.02; 236097.78, 4347675.01; 236112.83, 4347685.55; 236129.48, 4347693.31; 236147.22, 4347698.07; 236160.44, 4347699.22; 238599.07, 4347734.44; 238748.35, 4347678.56; 238818.30, 4347624.15; 238813.83, 4347530.21; 238505.71, 4347090.68; 238427.01, 4347093.30; 236169.29, 4347430.50; 236154.51, 4347434.46; 236137.86, 4347442.23; 236122.81, 4347452.76; 236109.83, 4347465.75; 236099.29, 4347480.80; 236094.26, 4347491.59; 236065.90, 4347560.46; 236061.74, 4347575.99; and returning to 236060.14, 4347594.28.

(ii) **Note:** Map of Units 6, 7, 8, and 9 of critical habitat for *Phacelia submutica* follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

* * * * *

Family Plantaginaceae: Penstemon debilis (Parachute penstemon)

(1) Critical habitat units are designated for Garfield County, Colorado.

(2) Within these areas, the primary constituent elements (PCEs) of the physical and biological features essential to the conservation of Penstemon debilis consist of five components:

(i) *Suitable soils and geology.*

(A) Parachute Member and the Lower Part of the Green River Formation, although soils outside these formations would be suitable for pollinators (see paragraph (2)(v) of this regulation).

(B) Appropriate soil morphology characterized by a surface layer of small to moderate shale channers (small

flagstones) that shift continually due to the steep slopes and below a weakly developed calcareous, sandy to loamy layer with 40 to 90 percent coarse material.

(ii) *Elevation and climate.* Elevations from 5,250 to 9,600 ft (1,600 to 2,920 m) in elevation. Climatic conditions similar to those of the Mahogany Bench, including suitable precipitation and temperatures.

(iii) *Plant community.*

(A) Barren areas with less than 10 percent plant cover.

(B) Other oil shale endemics, which can include: Mentzelia rhizomata, Thalictrum heliophilum, Astragalus lutosus, Lesquerella parviflora, Penstemon osterhoutii, and Festuca dasyclada.

(iv) *Habitat for pollinators.*

(A) Pollinator ground and twig nesting habitats. Habitats suitable for a wide array of pollinators and their life-history and nesting requirements. A mosaic of native plant communities generally would provide for this diversity (see paragraph (2)(iii) of this regulation). These habitats can include areas outside of the soils identified in paragraph (2)(i) of this regulation.

(B) Connectivity between areas allowing pollinators to move from one population to the next within units.

(C) Availability of other floral resources such as other flowering plant species that provide nectar and pollen for pollinators. Grass species do not provide resources for pollinators.

(D) To conserve and accommodate these pollinator requirements, we have identified a 3,280-ft (1,000-meter) area beyond occupied habitat to conserve the pollinators essential for reproduction.

(v) *High levels of natural disturbance.*

(A) Very little to no soil formation.

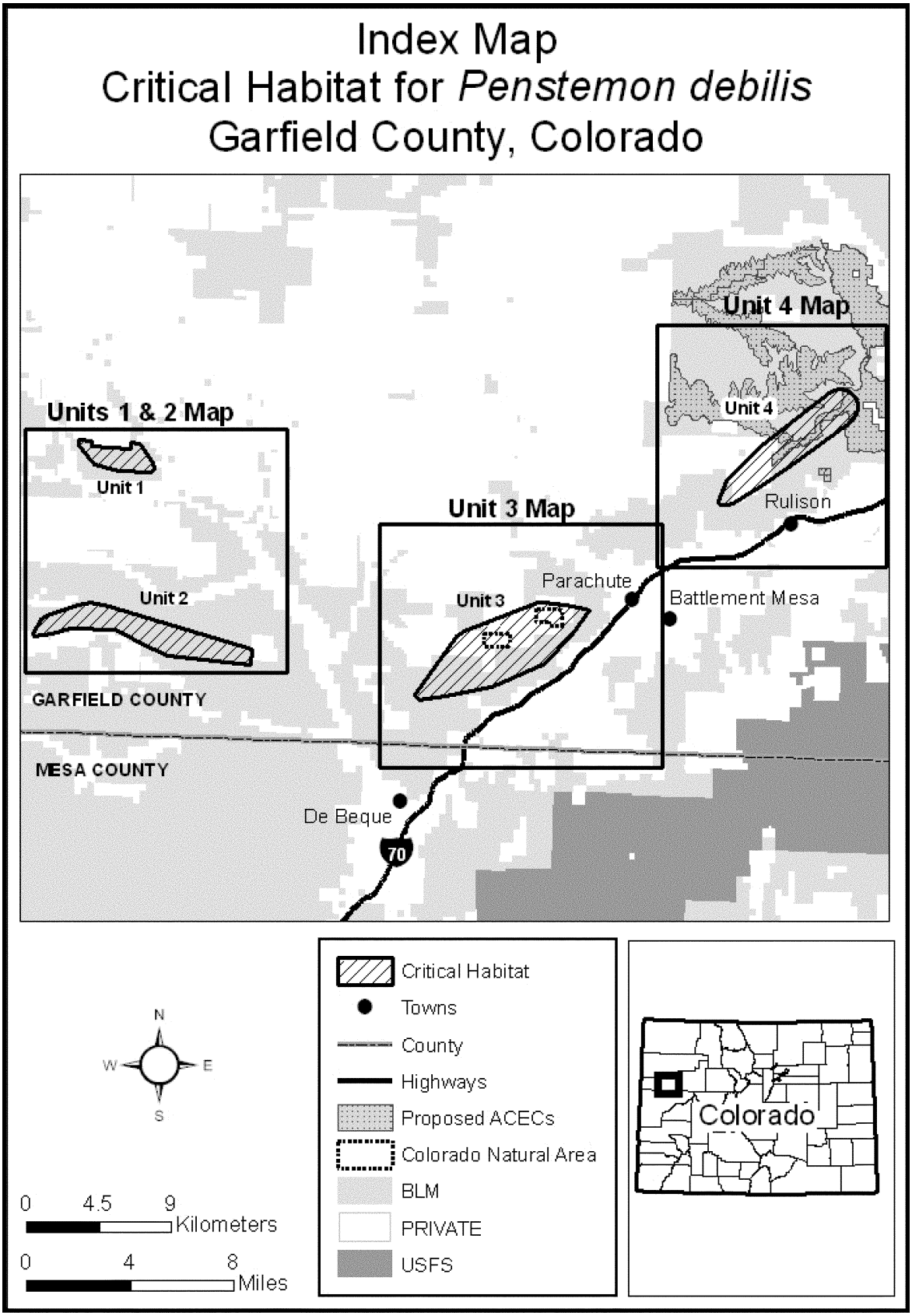
(B) Slow to moderate but constant downward motion of the oil shale that maintains the habitat in an early successional state.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule.

(4) *Critical habitat map units.* Data layers defining map units were created on a base of both satellite imagery (NAIP 2009) as well as USGS geospatial quadrangle maps and were mapped using NAD 83 Universal Transverse Mercator (UTM), zone 13N coordinates. Location information came from a wide array of sources. Geology, soil, and landcover layers also were utilized.

(5) **Note:** Index map of critical habitat for Penstemon debilis follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

(6) Unit 1: Garfield County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 202906.15, 4381320.29; 203687.82, 4381249.23; 203711.51, 4380870.24; 206127.56, 4380775.50; 206151.24, 4381130.80; 206743.41,

4381059.74; 207481.34, 4379882.89; 207546.04, 4379737.88; 207579.46, 4379590.78; 207560.32, 4379461.09; 207478.37, 4379389.00; 207474.54, 4379385.64; 207331.18, 4379313.30; 207242.86, 4379310.27; 205522.68, 4379335.39; 205374.75, 4379343.44; 203884.46, 4379765.47; 203832.32, 4379794.30; 203128.54, 4380665.06; 202917.56, 4380968.75; 202914.21, 4381113.81; and returning to 202906.15, 4381320.29.

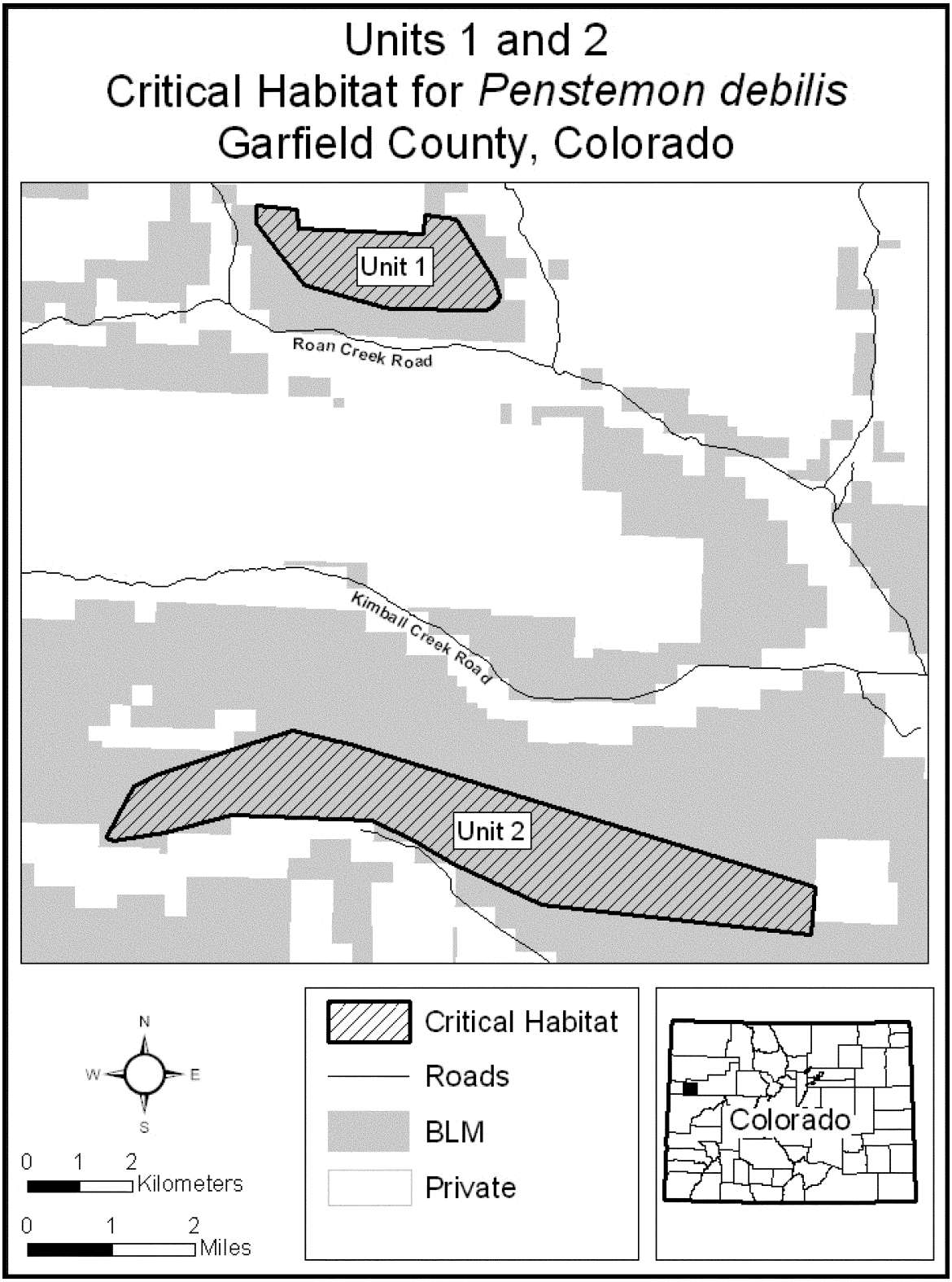
(ii) **Note:** Map of Unit 1 of critical habitat for Penstemon debilis is provided at paragraph (7)(ii) of this entry.

(7) Unit 2: Garfield County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 200037.93, 4369152.60; 200064.07, 4369235.93; 200561.00, 4370149.00; 200968.81, 4370359.43; 202579.41, 4370903.05; 203616.76, 4371206.04; 204719.41, 4370944.44; 213659.95, 4368221.51; 213580.99, 4367281.93; 208401.49, 4367866.21; 206696.04, 4368647.87; 205938.06, 4369097.92; 205132.71, 4369500.59; 202432.42, 4369595.34; 201153.33, 4369263.73; 200171.00, 4369099.00; and returning to 200037.93, 4369152.6.

(ii) **Note:** Map of Units 1 and 2 of critical habitat for Penstemon debilis follows:

BILLING CODE 4310–55–P



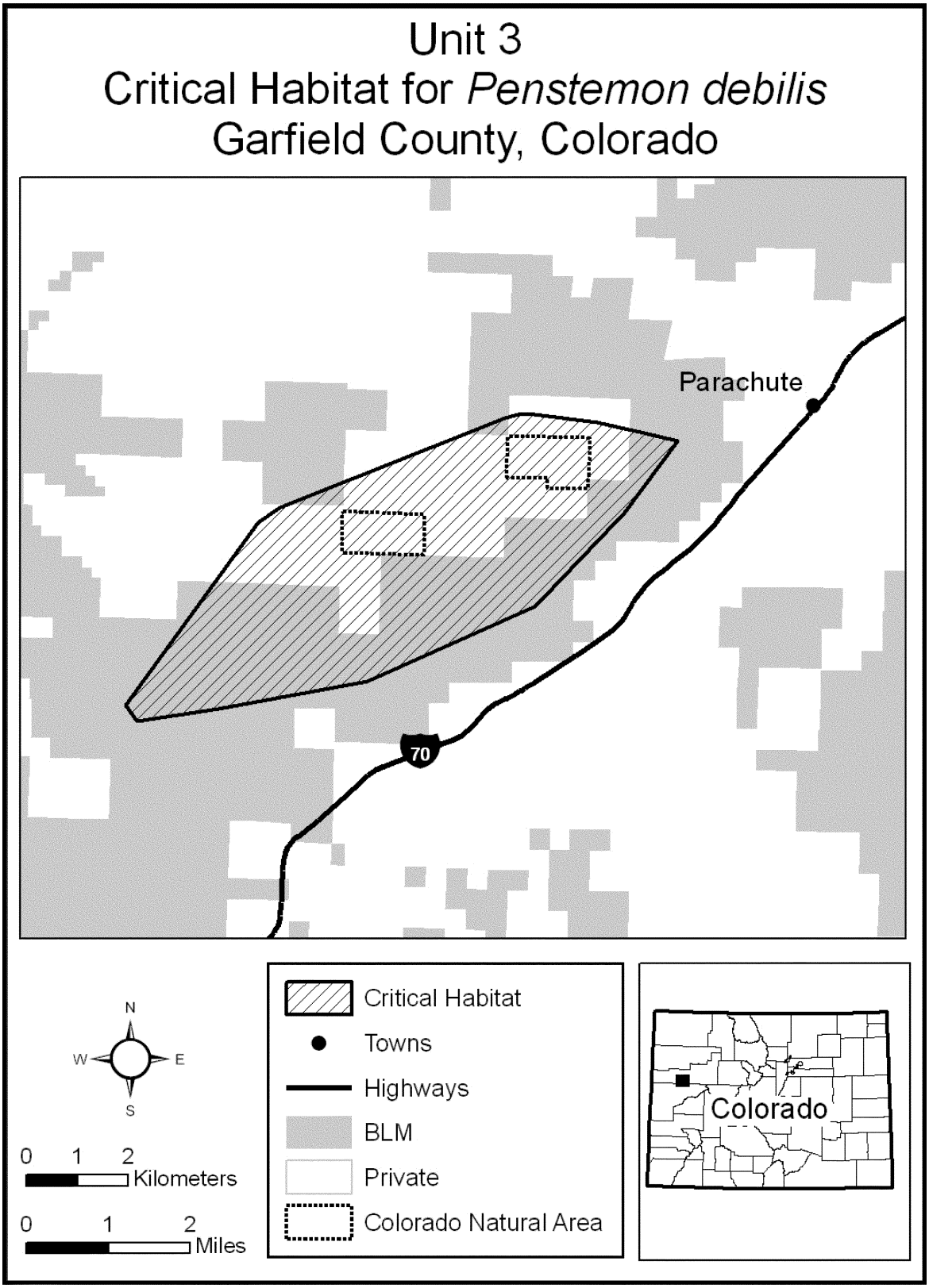
BILLING CODE 4310–55–C

(8) Unit 3: Garfield County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 223794.63, 4365442.99; 226421.38, 4369052.84; 226846.74, 4369360.71; 231279.92, 4371117.43; 231538.71, 4371188.86; 231847.17, 4371187.49; 233083.49, 4371030.55; 234022.16, 4370823.43; 234684.25, 4370657.01; 233636.51, 4369246.26; 231875.03, 4367395.93; 228564.25, 4365920.22; 225627.45, 4365376.45; 224031.96, 4365135.93; and returning to 223794.63, 4365442.99.]

(ii) **Note:** Map of Unit 3 of critical habitat for Penstemon debilis follows:

BILLING CODE 4310–55–P

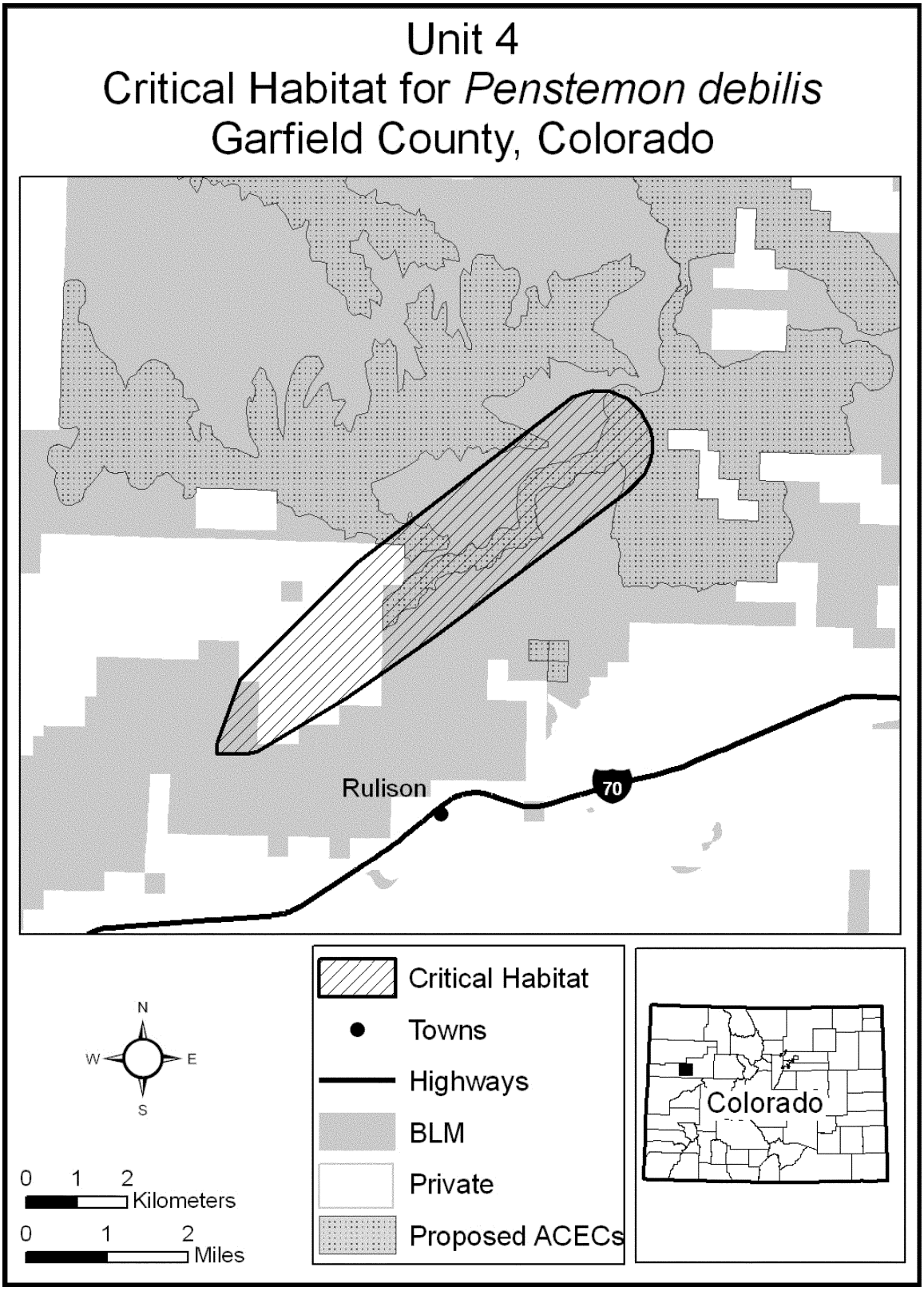


(9) Unit 4: Garfield County, Colorado

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 242721.77, 4377480.02; 243191.00, 4378729.00; 245443.06, 4380986.80; 245458.93, 4381002.66; 245475.49, 4381017.80; 245509.28, 4381047.32; 245532.34, 4381066.29; 249608.89, 4384223.08; 249636.03, 4384243.26; 249649.77, 4384253.12; 249662.66, 4384262.04; 249667.22, 4384265.16; 249676.38, 4384271.35; 249699.98, 4384286.36; 249738.49, 4384309.37; 249778.00, 4384330.63; 249818.42, 4384350.10; 249838.85,

4384359.38; 249859.67, 4384367.73; 249901.68, 4384383.50; 249922.86, 4384390.91; 249944.35, 4384397.36; 249987.59, 4384409.30; 250031.33, 4384419.28; 250075.48, 4384427.29; 250138.32, 4384436.98; 250178.44, 4384442.24; 250223.13, 4384446.26; 250245.51, 4384447.77; 250267.95, 4384448.27; 250312.81, 4384448.27; 250335.24, 4384447.77; 250357.63, 4384446.26; 250402.32, 4384442.24; 250426.41, 4384439.48; 250430.89, 4384438.85; 250459.56, 4384434.76; 250479.91, 4384431.42; 250520.47, 4384423.91; 250562.42, 4384414.26; 250605.67, 4384402.32; 250648.34, 4384388.46; 250690.34, 4384372.69; 250711.17, 4384364.34; 250731.60, 4384355.06; 250772.02, 4384335.59; 250792.01, 4384325.41; 250811.53, 4384314.33; 250850.04, 4384291.32; 250887.49, 4384266.60; 250923.78, 4384240.23; 250941.63, 4384226.64; 250958.86, 4384212.26; 250992.65, 4384182.74; 251025.07, 4384151.74; 251056.08, 4384119.31; 251076.49, 4384096.62; 251086.93, 4384084.27; 251092.10, 4384078.05; 251109.95, 4384056.24; 251118.88, 4384045.00; 251136.41, 4384022.27; 251157.79, 4383992.34; 251182.51, 4383954.89; 251201.82, 4383923.11; 251216.21, 4383897.34; 251223.21, 4383884.35; 251236.10, 4383859.56; 251239.59, 4383852.72; 251246.47, 4383838.98; 251259.13, 4383811.66; 251276.77, 4383770.40; 251285.12, 4383749.58; 251292.53, 4383728.40; 251306.40, 4383685.73; 251315.85, 4383652.83; 251321.59, 4383629.94; 251324.33, 4383618.47; 251331.27, 4383587.73; 251333.50, 4383577.32; 251337.75, 4383556.47; 251343.27, 4383523.86; 251349.29, 4383479.40; 251353.31, 4383434.72; 251355.32, 4383389.90; 251355.83, 4383367.46; 251355.32, 4383345.03; 251353.31, 4383300.21; 251349.29, 4383255.53; 251343.27, 4383211.07; 251336.94, 4383174.60; 251330.90, 4383146.08; 251327.68, 4383131.86; 251319.74, 4383099.14; 251317.83, 4383091.52; 251313.89, 4383076.30; 251305.40, 4383047.21; 251291.54, 4383004.54; 251280.41, 4382973.76; 251272.78, 4382954.63; 251268.86, 4382945.10; 251257.95, 4382919.32; 251253.09, 4382908.20; 251243.09, 4382886.07; 251227.77, 4382855.08; 251206.51, 4382815.57; 251195.43, 4382796.06; 251183.50, 4382777.06; 251158.78, 4382739.62; 251132.41, 4382703.32; 251104.44, 4382668.24; 251090.06, 4382651.02; 251071.10, 4382629.21; 251042.63, 4382596.73; 251011.62, 4382564.31; 250979.20, 4382533.30; 250945.41, 4382503.78; 250928.19, 4382489.40; 250910.33, 4382475.81; 247067.01, 4379599.29; 247053.05, 4379588.99; 247024.77, 4379568.88; 245278.56, 4378356.07; 243539.79, 4377302.88; 243299.65, 4377257.84; 242735.72, 4377245.93; and returning to 242721.77, 4377480.02]

(ii) **Note:** Map of Unit 4 of critical habitat for Penstemon debilis follows:



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* * * * *

Family Polemoniaceae: *Ipomopsis polyantha* (Pagosa skyrocket)

(1) Critical habitat units are designated for Archuleta County, Colorado.

(2) Within these areas, the primary constituent elements (PCEs) of the physical and biological features essential to the conservation of *Ipomopsis polyantha* consist of five components:

(i) *Mancos shale soils.*

(ii) *Elevation and climate.* Elevations from 6,400 to 8,100 ft (1,950 to 2,475 m)

and current climatic conditions similar to those that historically occurred around Pagosa Springs, Colorado. Climatic conditions include suitable precipitation; cold, dry springs; and winter snow.

(iii) *Plant community.*

(A) Suitable native plant communities (as described in paragraph (2)(iii)(B) of this entry) with small (less than 100 ft^2 (10 m^2)) or larger (several hectares or acres) barren areas with less than 20 percent plant cover in the actual barren areas.

(B) Appropriate potential native plant communities, although these communities may not be like they were historically because they have already been altered. Therefore, there only needs to be the potential for the appropriate native plant community. For example, Ponderosa pine forests may have been cut, or areas that had native vegetation may have been scraped. Native habitats and plants would be preferred to habitats dominated by nonnative invasive species. These plant communities include:

(*1*) Barren shales;

(*2*) Open montane grassland (primarily Arizona fescue) understory at the edges of open Ponderosa pine; or

(*3*) Clearings within the ponderosa pine/Rocky Mountain juniper and Utah juniper/oak communities.

(iv) *Habitat for pollinators.*

(A) Pollinator ground and twig nesting areas. Habitats suitable for a wide array of pollinators and their life-history and nesting requirements. A mosaic of native plant communities generally would provide for this diversity.

(B) Connectivity between areas allowing pollinators to move from one site to the next within each population.

(C) Availability of other floral resources, such as other flowering plant species that provide nectar and pollen for pollinators. Grass species do not provide resources for pollinators.

(D) To conserve and accommodate these pollinator requirements, we have identified a 3,280-ft (1,000-m) area beyond occupied habitat to conserve the pollinators essential for reproduction.

(v) *Appropriate disturbance regime.*

(A) Appropriate disturbance levels—Light to moderate, or intermittent or discontinuous.

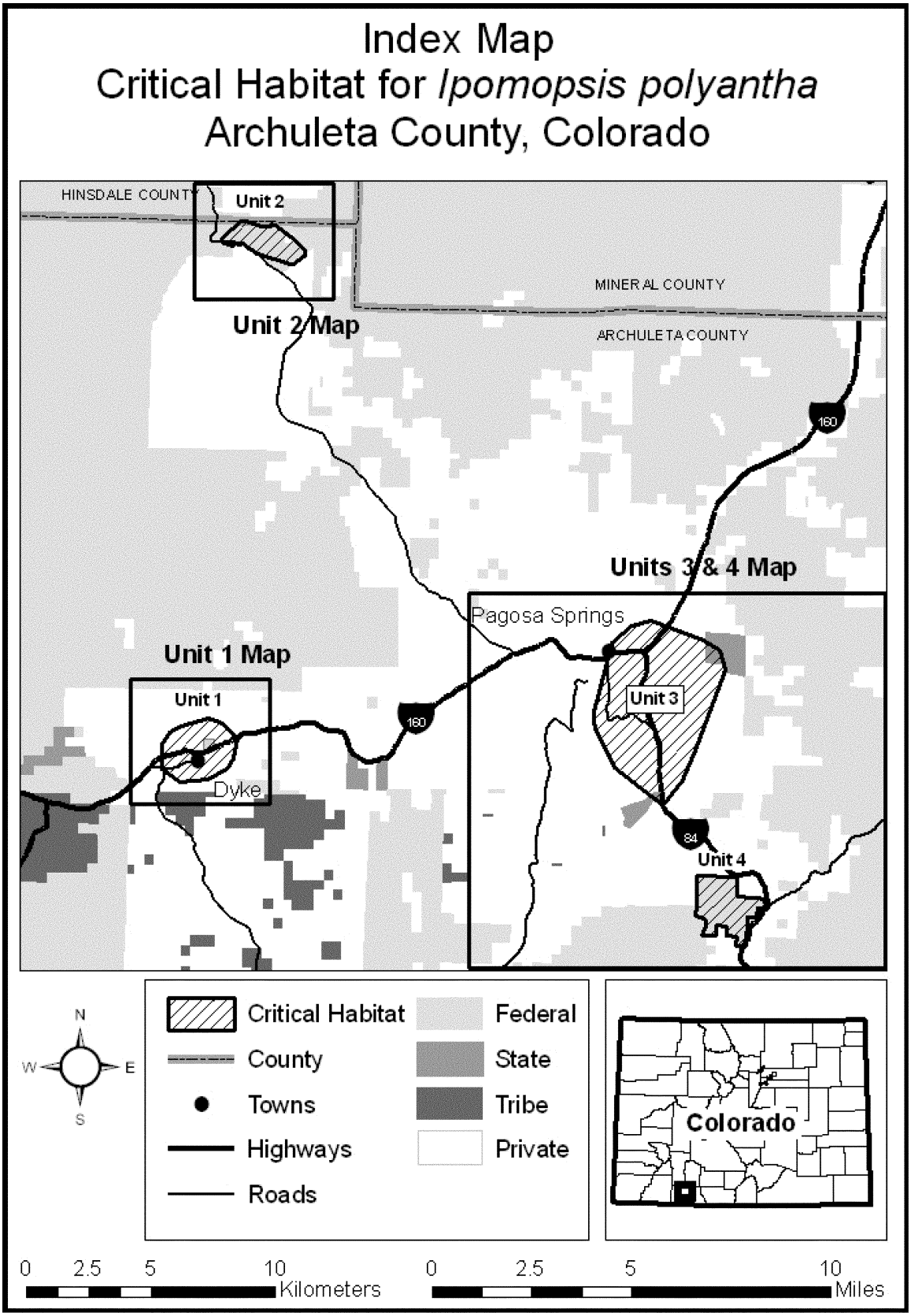
(B) Naturally maintained disturbances through soil erosion or human-maintained disturbances that can include light grazing, occasional ground clearing, and other disturbances that are not severe or continual.

(3) Critical habitat does not include manmade structures (such as buildings, aqueducts, runways, roads, and other paved areas) and the land on which they are located existing within the legal boundaries on the effective date of this rule. However, because Ipomopsis polyantha is found along the edges of roads and buildings, the edges of roads and edges of structures are included in the designation.

(4) *Critical habitat map units.* Data layers defining map units were created on a base of both aerial imagery (NAIP 2009) as well as USGS geospatial quadrangle maps and were mapped using NAD 83 Universal Transverse Mercator (UTM), zone 13N coordinates. Location information came from a wide array of sources.

(5) **Note:** Index map of critical habitat for *Ipomopsis polyantha* follows:

BILLING CODE 4310–55–P

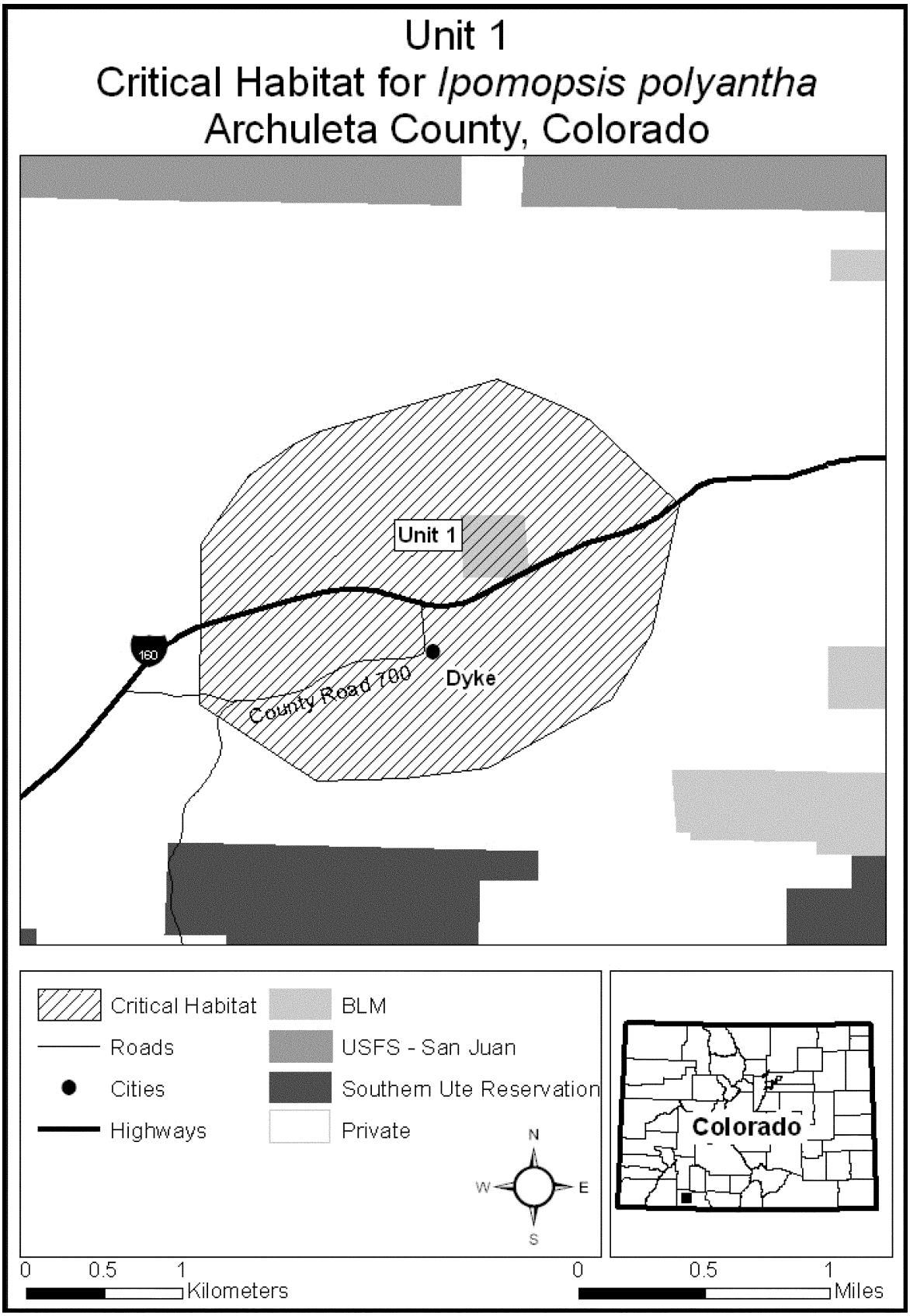


(6) Unit 1: Archuleta County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13 coordinates (E,N): 303791.32, 4122535.03; 303793.45, 4122922.32; 304096.00, 4123362.40; 304369.56, 4123552.58; 304559.79, 4123642.82; 305688.95, 4123978.43; 306091.12, 4123810.03; 306288.11, 4123711.53; 306854.07, 4123177.90; 306682.38, 4122356.39; 306421.31, 4121926.16; 305629.19, 4121491.52;

305085.53, 4121418.90; 304527.32, 4121406.59; 303782.83, 4121898.71; and returning to 303791.32, 4122535.03.

(ii) **Note:** Map of Unit 1 of critical habitat for *Ipomopsis polyantha* follows:



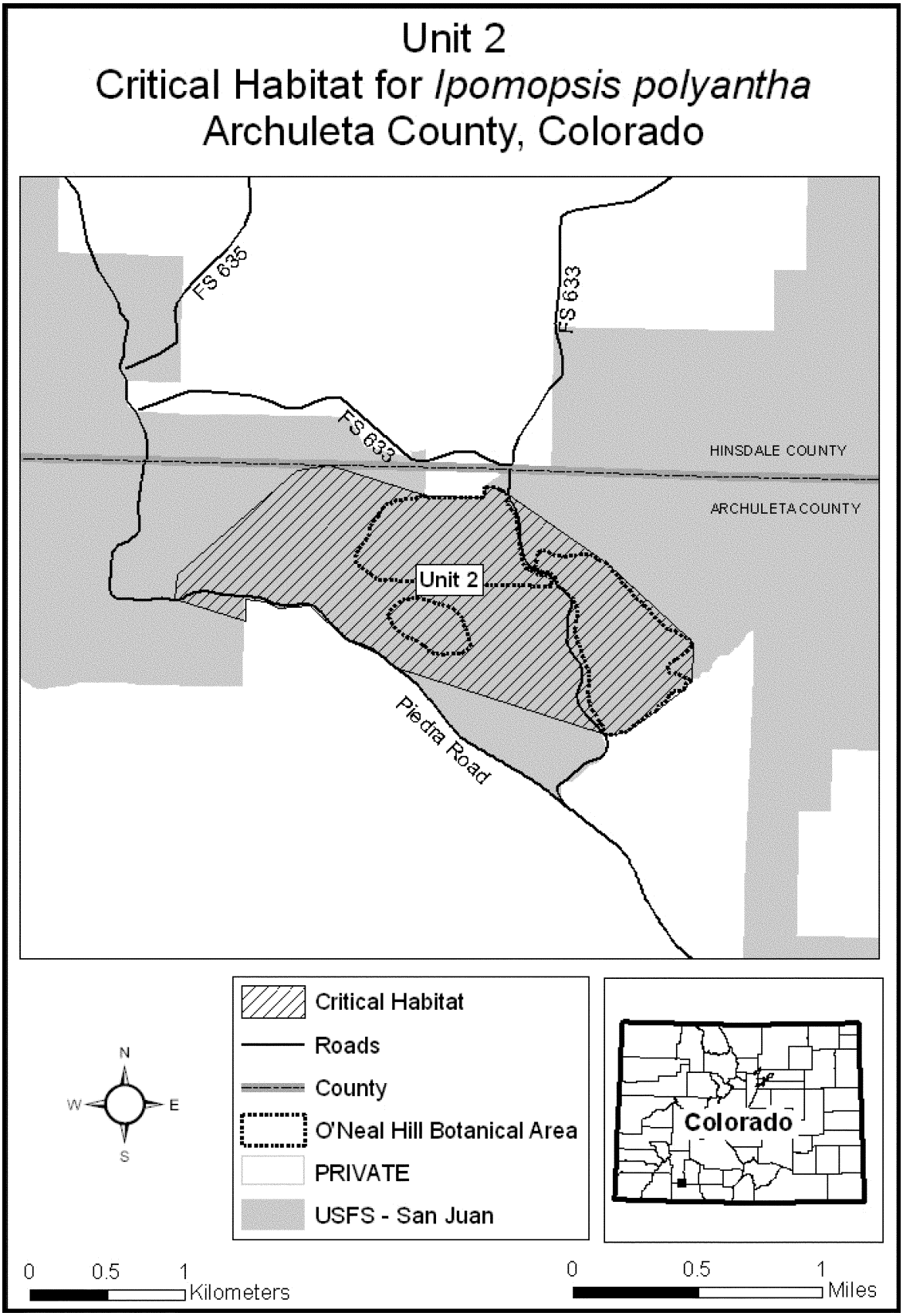
BILLING CODE 4310–55–C

(7) Unit 2: Archuleta County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13 coordinates (E,N): 306215.91, 4143150.27; 306228.72, 4143313.61; 307003.79, 4143989.39; 307211.97, 4144018.22; 307840.95, 4143816.88; 308210.39, 4143809.74; 308215.75, 4143886.66; 308293.59, 4143872.46; 308346.60, 4143847.52; 309004.29, 4143385.20; 309534.52, 4142892.90; 309558.00, 4142861.72; 309548.26, 4142623.97; 309546.44, 4142621.82; 309498.44, 4142571.81; 309318.44, 4142432.81; 309132.45, 4142298.80; 309124.45, 4142295.80; 309054.45, 4142279.80; 309046.45, 4142278.80; 309016.45, 4142278.80; 308991.49, 4142282.38; 307639.65, 4142712.29; 307518.06, 4142804.69; 307308.93, 4142897.10; 307090.07, 4143115.96; 306885.80, 4143091.64; 306798.26, 4143140.28; 306666.95, 4143154.87; 306667.03, 4143009.21; and returning to 306215.91, 4143150.27.

(ii) **Note:** Map of Unit 2 of critical habitat for Ipomopsis polyantha follows:

BILLING CODE 4310–55–P



(8) Unit 3: Archuleta County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 321192.95, 4123901.22; 321219.78, 4124232.82; 321945.28,

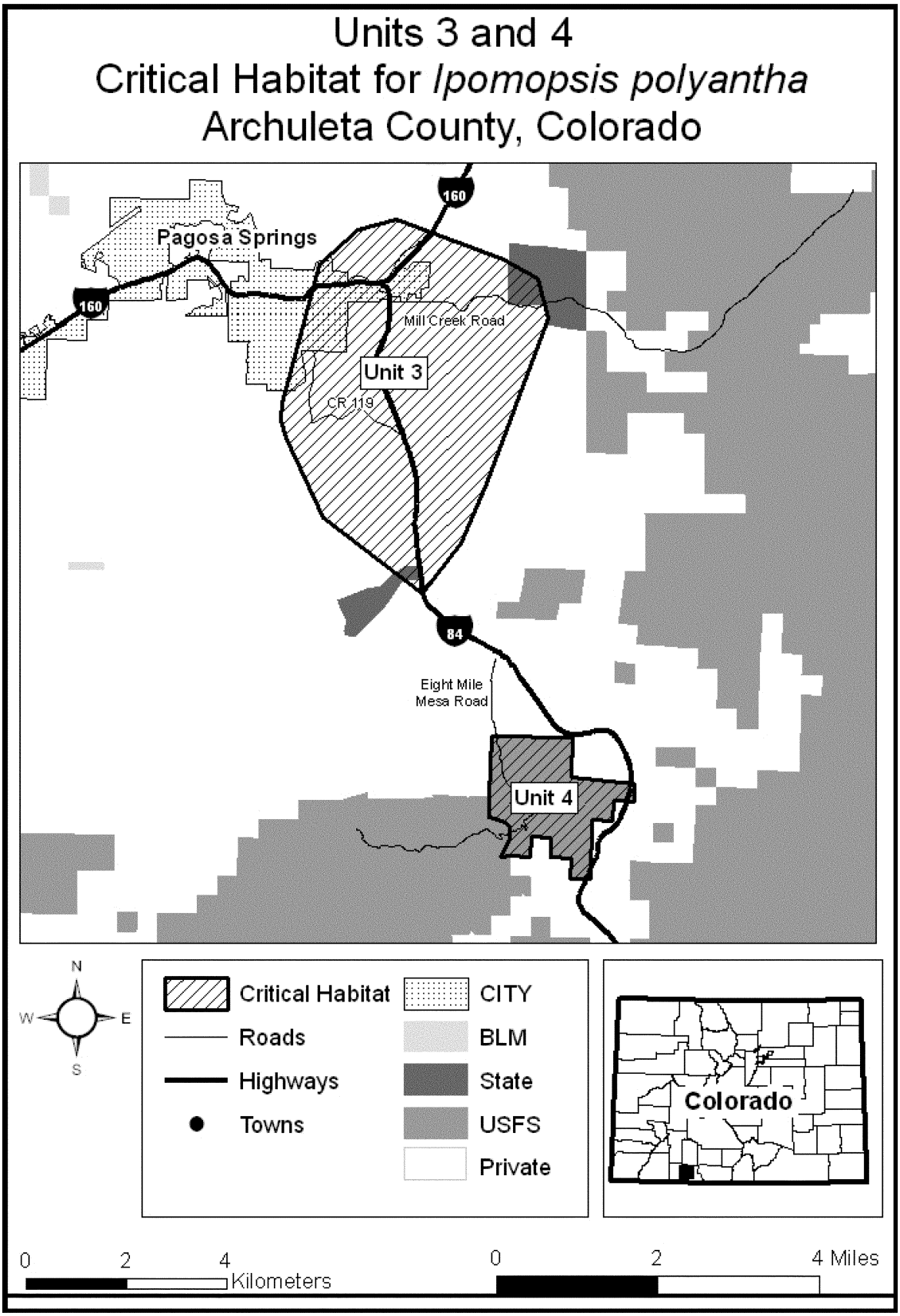
4127008.59; 322719.45, 4127682.22; 323501.91, 4127905.25; 325613.28, 4127099.77; 326316.06, 4126714.67; 326499.78, 4125923.28; 325267.71, 4122561.16; 324767.28, 4121430.82; 324009.92, 4120447.34; 322039.88, 4121949.02; 321275.11, 4123556.12; and returning to 321192.95, 4123901.22.

(ii) **Note:** Map of Unit 3 of critical habitat for Ipomopsis polyantha is provided at paragraph (9)(ii) of this entry.

(9) Unit 4: Archuleta County, Colorado.

(i) Land bounded by the following UTM NAD83, zone 13N coordinates (E,N): 325341.89, 4116396.61; 325387.72, 4117588.25; 326991.87, 4117571.07; 326986.14, 4116780.45; 328223.62, 4116654.41; 328223.62, 4116287.75; 327816.85, 4116316.40; 327799.67, 4115921.09; 327392.90, 4115932.55; 327369.98, 4114758.09; 326957.49, 4114763.82; 326963.22, 4115164.85; 326567.91, 4115187.77; 326562.18, 4115588.81; 326172.61, 4115594.53; 326161.15, 4115204.96; 325777.30, 4115210.69; 325576.78, 4115199.23; 325737.20, 4115554.43; 325754.39, 4115795.05; 325668.45, 4115886.72; 325324.70, 4115995.57; and returning to 325341.89, 4116396.61.

(ii) **Note:** Map of Units 3 and 4 of critical habitat for *Ipomopsis polyantha* follows:


Units 3 and 4
Critical Habitat for *Ipomopsis polyantha*
Archuleta County, Colorado
Pagosa Springs
160
160
Mill Creek Road
Unit 3
CR 119
84
Eight Mile
Mesa Road
Unit 4
N
W
E
S
Critical Habitat
Roads
Highways
Towns
CITY
BLM
State
USFS
Private
Colorado
0
2
4
Kilometers
0
2
4 Miles

* * * * *

Dated: July 12, 2011.

Eileen Sobeck,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 2011–18428 Filed 7–26–11; 8:45 am]

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