BLM Colorado Sensitive Species List

Executive summary:

The following document provides narrative justification for the addition, removal, or retention of taxonomic entities on the BLM – Colorado sensitive species list ("the list"). Following this 2023 update the list includes 131 taxonomic entities - 18 mammals, 23 birds, 9 fishes, 8 reptiles, 4 amphibians, 5 invertebrate/insects, and 64 plants.

A total of 33 species were added to the list for reasons including: 1. new information suggesting the species is in decline, 2. new information suggesting that the species and/or its habitat is threatened such that the species continued viability is at risk, or 3. the species is either a candidate for listing under the Endangered Species Act or has been recommended or proposed for delisting.

Examples of species added to the list based on new information suggesting the species is in decline include a suite of invertebrate/insects that include important native pollinators such as the western bumblebee (*Bombus occidentalis*) and American bumblebee (*Bombus pensylvanicus*). Both species have undergone significant range contractions warranting special consideration relative to management decisions to ensure their persistence. Both species are being reviewed for listing under the ESA. Examples of species added to the list based on evidence that the species and/or its habitat is threatened such that the species continued viability is at risk include the pinyon jay (*Gymnorhinus cyanocephalus*) which has experienced declines related to timber management actions in preferred nesting habitat, and a group of five small-bodied *Myotis* bats which are threatened by recent detection of white-nose syndrome in Colorado. Several species, including the monarch butterfly (*Danaus plexippus*), have been added based on their candidate status for listing under the ESA, or proposal for delisting, including Colorado hookless cactus (*Sclerocactus glaucus*).

A total of 14 species were removed from the list for reasons including: 1. a lack of, or limited amount of, occupied habitat present on BLM-administered lands, 2. taxonomic revision, 3. substantial new information suggesting that the species is more secure across its range than previously understood, or 4. presumed extirpation from the state.

Many of the species removed from the list were plants. Examples of species removed based on a lack of, or limited amount of, occupied habitat present on BLM-administered lands include the plants *Aquilegia chrysantha, Asclepias uncialis, Cryptogramma stelleri, Eriogonum coloradense, Eriogonum clavellatum, Packera pauciflora, Physaria pulvinata, Physaria pruinosa,* and *Trichophorum pumilum.* There were several cases in which a species was retained on the list despite the BLM possessing a limited amount of occupied habitat. In such cases important ecological refugia are represented on lands managed by the BLM which if altered or degraded would cause a significant negative impact to the status of the species. Several species were removed based on taxonomic revision, including the plant *Corispermum navicula,* which genetic study suggests it is part of the common and widespread *C. americanum.* One species, (*Boechera crandallii*) has been removed as a result of substantial new information demonstrating it is largely secure across its range in Colorado. The northern cricket frog (*Acris crepitans*) was removed based on its presumed extirpation from the state.

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List of acronyms:

ACEC = Area of Critical Environmental Concern

AML = Abandoned Mineral Lands

BBS = Breeding Bird Surveys

BCR = Bird Conservation Region

BLM = Bureau of Land Management

CBWG = Colorado Bat Working Group

CNHP = Colorado Natural Heritage Program

CPW = Colorado Parks and Wildlife

CRV = Colorado River Valley Field Office

DPS = Distinct Population Segment

ESA = Endangered Species Act

FS = Forest Service

FWS = US Fish and Wildlife Service

GJ = Grand Junction Field Office

GN = Gunnison Field Office

IMBCR = Integrated Monitoring in Bird Conservation Regions

K = Kremmling Field Office

LS = Little Snake Field Office

NCA = National Conservation Area

OHV = Off-highway Vehicle

PIF = Partners in Flight

RG = Royal Gorge Field Office

SLV = San Luis Valley Field Office

SWAP = State Wildlife Action Plan

TR = Tres Rios Field Office

UN = Uncompahgre Field Office

WR = White River Field Office

WSA = Wilderness Study Area

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Introduction:

In accordance with Manual 6840 the USDI Bureau of Land Management (BLM) Colorado has prepared this updated list of sensitive species in order to facilitate appropriate management of species, and their habitats, that require special management consideration in order to minimize the likelihood and need for their listing under the Endangered Species Act (ESA).

Criteria set forth in section 0.2A of Manual 6840 for designating sensitive species are:

1. Species designated as Bureau sensitive must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species, and either:
    a. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range, or
    b. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.
2. All federally designated candidate species, proposed species, and delisted species in the 5-years following their delisting shall be conserved as Bureau sensitive species.

Special Status Species -

Special status species include all BLM designated sensitive species, those listed as threatened or endangered under the ESA, species that are proposed or candidates for listing, and delisted species for a minimum of five years. In general, species that are listed as threatened or endangered under the ESA, or are proposed or candidates for listing, are not separately designated as BLM sensitive species. The BLM is required to consider listed species in accordance with Section 7(a)(2) of the ESA to ensure, in consultation with the U.S. Fish and Wildlife Service, that any actions authorized and carried out are not likely to jeopardize their continued existence or destroy, or adversely modify, designated critical habitat. A complete list of the threatened, endangered, proposed, and candidate species known or presumed to occur in Colorado are contained in Appendix 2.

Review process -

A thorough review of previously designated BLM sensitive species was completed by a working group of BLM – Colorado biologists. Working groups considered and assessed any newly available information relative to threats and the current status of species to inform their addition, removal, or retention on the list. Further input and review were provided by Colorado Parks and Wildlife (CPW) and Colorado Natural Heritage (CNHP) staff.

MAMMALS

Pygmy rabbit - *Brachylagus idahoensis* (=*Sylivalagus idahoensis*)

The pygmy rabbit (G4/S1) is a new addition to the sensitive species list. The species occurs throughout the semiarid shrub-steppe biome of the Great Basin and adjacent intermountain regions of the western United States. Within this broad biome, pygmy rabbits are associated with tall, dense stands of sagebrush (*Artemisia* spp.) on which they are highly dependent for both food and shelter throughout the year. In Colorado, the species distribution is limited to the northwestern corner of the state, representing a recent expansion of their known range (Estes-Zumpf et al. 2013). At least three occurrences of pygmy rabbit have been confirmed through eDNA analysis in the vicinity of the Vermillion Bluffs in the Little Snake Field Office. Pygmy rabbits are preyed upon by weasels, coyotes, badgers, bobcats, birds of prey, owls, foxes and sometimes humans, who sometimes have difficulty distinguishing them from other rabbit species. Predation is the primary cause of mortality among both adults and juveniles and can be as high as 50 percent in the first five weeks of life. Habitat loss and fragmentation is a primary threat to the species range wide. Monitoring studies in Idaho in 2003 suggest that fragmentation of suitable historic habitat may lead to low numbers of pygmy rabbit detected. Once a population declines below a certain threshold, it is at risk of extirpation from a variety of influences including chance environmental events (*e.g.*, extreme weather), catastrophic habitat loss or resource failure (*e.g.*, from wildfire or insect infestations), predation, disease, demographic limitations, loss of genetic diversity, and inbreeding. The Columbia Basin distinct population segment of pygmy rabbit in Washington/Oregon, was listed as an endangered species under ESA in 2003. The species has been petitioned (2008) for listing under ESA throughout the rest of its range. Pygmy rabbit is a BLM sensitive species in 8 states including Wyoming and Utah. Given the species reliance on sagebrush habitats represented on BLM-administered lands, and evidence that such habitats are threatened such that the species persistence in Colorado is threatened, and population declines documented elsewhere throughout the species range, pygmy rabbit is designated a sensitive species in accordance with criteria 1a and 1b.

Townsend's big-eared bat - *Corynorhinus townsendii pallescens*

Townsend's big-eared bat (G4T3T4/S2) is a colonial nester, with relatively complex and restrictive hibernation roost requirements that feature a high degree of site fidelity. The species occurs throughout the southwestern United States where it roosts in caves or mines. Individuals are thought to not migrate great distances and have been documented making movements of less than 30 miles between summer and winter roosts. In Colorado Townsend's big-eared bat is known to occur in the Tres Rios, Uncompahgre, Grand Junction, White River, Colorado River Valley, San Luis Valley, and Royal Gorge Field Offices, and five National Conservation Areas within those jurisdictions. Several mines in Colorado have been identified as important maternity roost sites. The Roc Creek Mine in the Uncompahgre Field Office contains one of the largest hibernating colonies of bats in Colorado and is the third largest Townsend's big-eared bat hibernaculum found in the state to date. Bats select a mine site for a number of reasons including but not limited to its relatively stable temperature, humidity, multiple entrances, aspect and width of entrance, adit length, local forage, protection from predators and lack of human disturbance. Warm "pockets" are used as maternity roosts and cool "pockets" are used for hibernation. Multiple entrances are necessary not only for access but may also be important for their effect upon the dynamic airflow and temperature within the mine. Winter hibernating colonies are composed of mixed-sexed groups, which can range in

size from a single individual to colonies of several hundred animals. Townsend's big-eared bat is highly sensitive to roost disturbance, such as mine reclamation, mine closure, renewed mining activities, and recreational caving. As the popularity of recreational caving grows, bats may increasingly abandon caves for inactive mines. The Colorado Bat Working Group (CBWG) threat matrix lists renewed mining as one of the highest threats to this species. In addition, the CBWG Conservation Plan notes renewed mining as a concern and states "consider options, such as formal mine withdrawals from mining claims, of significant bat roosts at currently inactive mines to provide long term protection and conservation." The CBWG identified this species as Tier 1 in the SWAP. It is also a FS sensitive species and a BLM sensitive species in 9 western states, including Utah and Wyoming. The primary threat to this species is almost certainly related to disturbance and/or destruction of roost sites. Initial information collected across the western United States identified a loss of historic maternity roosts, indicating a decline in the species across its range. Hibernating bats are considered highly vulnerable to disturbance during the winter period due to the depleted fat stores that can result from premature arousals from torpor. Disturbances in winter can ultimately lead to abandonment and even death for the bats using an affected site. Given the species reliance on specialized refugia in caves and mines represented on BLM-administered lands and evidence that such habitats are threatened with disturbance such that the species persistence is threatened, and population declines documented elsewhere, Townsend's big-eared bat is retained as a sensitive species in accordance with criteria 1a and 1b.

Gunnison's prairie dog - *Cynomys gunnisoni*

Gunnison's prairie dog (G3?/S5) are diurnal, burrowing rodents found in western North America. In Colorado, the species is found in the San Luis Valley and South Park, along the Arkansas River Valley from Twin Lakes to Pueblo, westward into the upper Gunnison River drainage, in Saguache and Cochetopa Park, and in the four corners region (Capodice and Harrell 2003). The range of Gunnison's prairie dog was thought to overlap that of the white-tailed prairie dog in the Uncompahgre River valley between Ridgway and Olathe and in the Cimarron River drainage (Lechleitner 1969, Armstrong 1972). Today, Gunnison's prairie dog appears to have been extirpated from this region of historic sympatry (Renner 2003a). The species occurs in the Grand Junction, Uncompahgre, Gunnison, Royal Gorge, Tres Rios, and San Luis Valley Field Offices, inhabiting shortgrass and mid-grass prairies, grass-shrub habitats in low valleys, and mesic, high elevation sites from 5,039-12,008 feet (Tileston and Lechleitner 1966, Pizzimenti and Nadler 1972, Pizzimenti and Hoffman 1973, Flath 1979, Davidson et al. 1999). The species was petitioned for listing under the ESA in 2004 and designated as a candidate for listing in some parts of its range. The primary threat to Gunnison's prairie dog is its susceptibility to sylvatic plague. Outbreaks have the potential to eradicate entire colonies over a single season. Additionally, recreational shooting, and loss of habitat from energy development pose a threat to the species and its habitat. Pressures on private lands including conversion to agriculture, urbanization, and poisoning further increase the importance of habitat refugia on public lands. The best available information suggests that Gunnison's prairie dog have declined on public lands in Colorado by as much as 37% over a 30-year period. In addition to the range wide conservation plan, Colorado has its own conservation strategy for both Gunnison's and white-tailed prairie dog in place (Seglund and Shnurr 2010). There have been several plague management strategies and treatments developed to eliminate fleas that carry the disease or vaccinate prairie dogs from future outbreaks, and BLM regularly coordinates with CPW to Given the species reliance on habitats represented on BLM-administered lands, and demonstrated population declines, Gunnison's prairie dog is retained as a sensitive species in accordance with criteria 1a and 1b.

White-tailed prairie dog - *Cynomys leucurus*

White-tailed prairie dog (G4/S4) are diurnal, burrowing rodents found in western North America. In Colorado the species is found in North Park, and the Laramie River Valley, the northwest corner of the state, and in the Grand Valley and the Gunnison River basin south to Ridgway. In general, white-tailed prairie dog habitat is more xeric that that of Gunnison's prairie dog and consist of intermountain basins, open shrublands, semi-arid to arid shortgrass steppes, and agricultural lands from 3,772-8,500 feet in the Kremmling, Little Snake, White River, Colorado River Valley, Grand Junction, Uncompahgre, and Gunnison Field Offices. Common vegetation associations are saltbush (*Atriplex* spp.) and sagebrush shrub communities that contain an understory of grasses and forbs (Kelso 1939, Gilbert 1977, Flath 1979, Forrest et al. 1985, Wolf Creek Work Group 2001, Knowles 2002). The species was reviewed for listing under ESA before 2010. The primary threat to white-tailed prairie dog is its susceptibility to sylvatic plague. Outbreaks have the potential to cause high rates of mortality and may result in eradication of entire colonies. Additionally, recreational shooting, and loss of habitat from energy development pose a threat to the species and its habitat. Pressures on private lands including conversion to agriculture, urbanization, and poisoning further increase the importance of habitat refugia on public lands. Significant population and distribution reductions have occurred, including fragmentation of existing colonies. White-tailed prairie dog provide primary habitat opportunities for black-footed ferrets in Colorado. In addition to the range wide conservation plan, Colorado has its own conservation strategy for both Gunnison's and white-tailed prairie dog in place (Seglund and Shnurr 2010). There have been several plague management strategies and treatments developed to eliminate fleas that carry the disease or vaccinate prairie dogs from future outbreaks, and BLM regularly coordinates with CPW to treat white-tailed prairie dog colonies on public lands for sylvatic plague. Given its reliance on ecological refugia represented on BLM-administered lands, and observed population declines, white-tailed prairie dog is retained as a sensitive species in accordance with criteria 1a and 1b.

Black-tailed prairie dog - *Cynomys ludovicianus*

Black-tailed prairie dog (G4/S3) are diurnal, burrowing rodents found in central-western North America. The species occurs on grassy plains or prairies on the Front Range of Colorado and is known from the BLM Royal Gorge Field Office. Prairie dog towns are an integral part of prairie ecosystems. Black-footed ferrets, prairie rattlesnakes, eagles, badgers, weasels, and burrowing owls may all interact in a prairie dog town. Eagles, hawks, falcons, snakes, badgers, coyotes, and ferrets rely on prairie dogs for prey. Historically, the black-tailed prairie dog had the largest geographic range of all prairie dog species, spanning 11 states and parts of Canada and Mexico. Estimates suggest that black-tailed prairie dogs once occupied as much as 100-200 million acres range wide, with 4.6 million acres in Colorado alone - amounting to approximately 20% of the shortgrass and midgrass prairies in the eastern portion of the state (Laurenroth 1979, Van Pelt 1999, FWS 2000). Black-tailed prairie dog are currently estimated to occupy approximately 500,000 acres in Colorado (Colorado Parks and Wildlife 2020). The primary threat to black-tailed prairie dog is its susceptibility to sylvatic plague. Outbreaks are capable of producing high rates of mortality and may result in eradication of entire colonies. Additionally, poisoning, recreational shooting, habitat loss due to cropland conversion, urbanization, habitat modification and fragmentation has negatively affected populations of the black-tailed prairie dog on private lands, increasing the importance of habitat refugia present on publicly managed lands. Given its reliance on ecological refugia represented on BLM-

administered lands, and observed population declines, white-tailed prairie dog is retained as a sensitive species in accordance with criteria 1a and 1b.

Spotted bat - *Euderma maculatum*

The spotted bat (G4/S2) is an insectivorous bat species that forages in a variety of habitats including forest openings and subalpine mountain meadows in spruce, pine, and pinyon-juniper woodlands, large riverine/riparian areas, riparian habitat associated with small to mid-sized streams in narrow canyons, wetlands, meadows, and old agricultural fields. Considered Colorado's rarest bat, its' distribution is quite patchy throughout the state, likely due to its dependence on large, isolated cliffs for roosting. Spotted bats can be locally common in areas with suitable habitat and an abundance of prey, but populations are often separated by large areas in which suitable combinations of roosting and foraging habitat do not exist (FS 2007). The species is threatened by habitat alteration (loss of wetlands or other foraging areas), overutilization (collection of specimens), toxic chemicals (use of pesticides), and roost loss & modification (disturbance or destruction of appropriate rock cliffs). Ten states have designated the spotted bat as a sensitive species, and six state wildlife agencies manage this bat as a species of concern. CPW has included the species on Tier 1 of the SWAP, and it is a FS sensitive species as well. Spotted bat occurs in seven field offices in Colorado – Colorado River Valley, Grand Junction, Little Snake, White River, Tres Rios, Uncompahgre, and San Luis Valley Field Offices. Given its reliance on ecological refugia represented on BLM-administered lands, spotted bat is retained as a sensitive species in accordance with criteria 1b.

Allen's big-eared bat - *Idionycteris phylloyis*

Allen's big-eared bat (G4/S1) has been removed from the sensitive species list. The species inhabits ponderosa pine, pinyon-juniper, dry woodland and riparian areas, but can also occur at higher elevations. Although BLM management may affect potential suitable habitat, the species has only been documented on two occasions in Colorado (once acoustically in the Uncompahgre Field Office, and a mummified specimen from Fruita State Park [GJ]). The species has never been captured in Colorado, even with extensive attempts in monitoring, and is not believed to be a resident or regular migrant in the state. Given these considerations the species has been removed from the sensitive species list.

Hoary bat - *Lasiurus cinereus*

The hoary bat (G3G4/S3S4B) is a new addition to the sensitive species list. A widespread species, ranging from northern Canada to Guatemala, the hoary bat likely occurs in all states except Alaska. In Colorado, the hoary bat likely occurs statewide from the plains to timberline. It is a solitary, tree roosting species and can be expected to live in any forested habitat. (Schorr & Navo 2014). Much of their preferred habitat in the state is located on BLM-administered lands. Hoary bats are found in suitable habitat in every field office in Colorado. The species occurs in the state from April through November, there are no records of hibernation in the state. Hoary bats are insectivores, primarily feeding on moths and may breed in Colorado, although few females have been documented rearing young in the state. The hoary bat can often be seen foraging with the big brown bat near streetlamps or other outdoor lights. (Schorr & Navo 2014). Severe impacts from wind energy have been documented at the population level, especially during migrations resulting in range wide declines of the species (Rodhouse et. al. 2019). With increased emphasis on renewable energy in the state, it is essential BLM considers potential impacts to this species related specifically to proposed wind farms. Other threats to the species include increase in recreation in

suitable habitats, mining activities or modifications, the spread of white-nose syndrome, and woodland management such as vegetation treatments, prescribed fire or fuels reduction projects. Given its reliance on ecological refugia represented on BLM-managed lands and the species susceptibility to energy development projects and other management uses, and documented population declines, the hoary bat is designated as a sensitive species in accordance with criteria 1a and 1b.

North American river otter – *Lontra canadensis*

The river otter (G5/S3) is a new addition to the sensitive species list. Historically widespread, likely occurring in most major river drainages in Colorado, the species was extirpated from the state in the early 20th century (Armstrong 1972, Warren 1942). Fur trapping, water pollution, and the control of streamflow's were primary factors contributing to the species being eliminated from the landscape (Cleland 1952, Weber 1971). Beginning in the 1970's Colorado Parks and Wildlife began reintroducing river otters to Colorado river systems. Reintroductions took place in Cheeseman Reservoir (South Platte), Rocky Mountain National Park (Colorado River), Dolores River, Gunnison River, and Piedra River. Since these initial reintroductions river otters have expanded into most major riverine systems in the state (except for the Arkansas), and today have been confirmed to occupy waters in every field office. The primary threat to the species on BLM-administered lands is the loss of prey fish. Land uses that contribute to the alteration of the hydrologic and thermal characteristics of river habitats, climate change, blockage of migration routes due to dam and diversion construction, predation and competition by non-native aquatic species, the modification of streambeds through channelization, and landscape changes resulting from different land uses may all negatively impact river otter prey base. Given its reliance on ecological refugia represented on BLM-administered lands, the North American river otter is designated as sensitive species in accordance with criteria 1b.

California Myotis - *Myotis californicus*
Western small-footed Myotis - *Myotis ciliolabrum*
Long-eared Myotis - *Myotis evotis*
Little brown Myotis - *Myotis lucifigus*
Yuma Myotis - *Myotis yumanensis*

These small-bodied Myotis species are being added to the sensitive species list as a group due to similarity of threats and distributions. All five of the species are widespread in Colorado and, with the exception of the Yuma Myotis, found in every BLM field office within the state. The Yuma Myotis has a distribution within Colorado that overlaps the Royal Gorge, Tres Rios, Uncompahgre, Grand Junction, Colorado River Valley, White River, and Little Snake Field Offices. The little brown and long-eared Myotis are found in forested areas throughout the state (Adams 1993). The western small-footed and Yuma Myotis are associated with semi-arid and arid habitats in the state, with the Yuma Myotis often occurring near permanent sources of water in those areas (Adams 1993). There are data gaps surrounding the distribution and hibernacula of these species in Colorado, which is increasingly detrimental to the species' long-term conservation as white-nose syndrome spreads to the state. There is also direct potential for BLM management to influence populations of these species in Colorado. Abandoned mines can be used as hibernacula and maternity roosts, resulting in potential negative effects of mine closures (Navo et al. 2018). Research suggests that bat species in Colorado often roost in rock crevices, for which habitat is widespread on BLM lands in the state (Neubaum et al. 2006, Weller et al. 2018). There are broad

implications for effects from management actions that may cause disturbance near rock crevices used as roost sites or hibernacula, such as OHV use, mineral extraction, highways, and vegetation treatments. Forest management and wind energy also have the potential to impact Myotis populations in Colorado via direct mortality, human disturbance, or the removal of habitat such as the removal of snags used for roosting (Navo et al. 2018). Initial detections of white-nose syndrome in Colorado have only been made recently (2022 and 2023). On March 29, 2023 Yuma Myotis was the first bat to test positive for White-nose Syndrome in Colorado. The adult Yuma bat was located at Bent's Old Fort National Historic Site near La Junta. The little brown Myotis has exhibited extreme declines in local populations (over 90%) due to white-nose syndrome where the fungal pathogen occurs, and these other small-bodied myotis species are suspected to be susceptible due to their similarities (Navo et al. 2018, Cheng et al. 2020). White-nose syndrome has been confirmed in 12 North American bat species in 39 states and seven Canadian provinces. Of the 19 bat species native to Colorado, at least 13 may be susceptible to this disease (The Wildlife Society, May 2, 2023). Given its reliance on ecological refugia represented on BLM-administered lands and evidence that such areas are threatened such that the species viability is at risk, and observed population declines, these five Myotis species are designated as sensitive species in accordance with criteria 1a and 1b.

Fringed Myotis – *Myotis thysanodes*

Fringed Myotis (G4/S3) is distributed throughout the western United States, south into Mexico. The species is long-lived, nocturnal, and hibernates from October to March. Although little is known about winter roost sites, fringed Myotis inhabits ponderosa pine forest, grasslands, caves, and mines for part of their life cycle. Suitable tree roosting habitat consists of largely late-successional pine with high densities of snags in early to medium stages of decay. Ideal sites have roost structures (*e.g.*, maternity caves, warm cliffs, and/or moderately decayed snags) immediately proximate to water bodies (*e.g.*, streams, lakes, beaver ponds) in a heterogeneous mix of native late-successional conifer and shrub vegetation communities (ponderosa pine or Douglas-fir intermixed with meadows, pinyon-juniper, and/or sagebrush) (FS 2004). Possible declines across the range of the species are likely related to the loss or modification of roosting habitat, alteration of forested habitats, and exposure to toxic chemicals from pesticides or other sources. Specifically, *Myotis thysanodes* is more vulnerable to alteration of mature forest ecosystems than most bat species because: it depends on old-growth conditions with abundant, large roosting snags; it is a rare species; it occurs in a restricted elevation zone; it exhibits strong site fidelity; it is sensitive to roost disturbance; it has restrictive hibernation requirements; and it has a low reproductive capacity. In addition to the reduction of old-growth forest and snag density, alteration of water flow or persistence can impact bat distributions. Changes in vegetation composition or structure can alter the abundance and diversity of their insect prey base (FS 2004). Threats in the form of disturbance or habitat alteration on BLM-administered lands include recreational use, caving, climbing activity, mining, vegetation treatments, and wind energy. Fringed myotis is found in seven field offices and four associated natural conservation areas on BLM in Colorado, including the Grand Junction, Colorado River Valley, White River, Tres Rios, Uncompahgre, Royal Gorge, and San Luis Valley Field Office. Fringed myotis is a BLM sensitive species in several states including Wyoming, Utah, Arizona, and Idaho, a Forest Service sensitive species, a SWAP Tier 1 species, and ranked as G4/S3 for NatureServe. Given its reliance on specialized ecological refugia represented on BLM-administered lands and evidence that such areas are threatened with alteration such that the species viability is at risk, and population declines, the fringed Myotis is retained as a sensitive species in accordance with criteria 1a and 1b.

Rocky Mountain bighorn sheep - *Ovis canadensis canadensis*

Rocky Mountain bighorn sheep (G4T4/S4) is an herbivorous ungulate that requires open mountainous or canyon terrain. In Colorado the species is found in the Kremmling, Little Snake, Gunnison, Uncompahgre, Tres Rios, Grand Junction, Colorado River Valley, Royal Gorge, and San Luis Valley Field Offices. Bighorn sheep populations experienced significant historic declines across their range as a result of diseases introduced from domestic livestock, unregulated and market hunting, habitat loss, and competition from domestic livestock. Disease events, along with other stressors including reductions in habitat quality, habitat loss or fragmentation, increased human disturbance, competition with livestock, and predation on small, isolated herds have resulted in recent periodic die offs and/or increased risk to local population persistence. Bighorn sheep have been transplanted into historic but vacant ranges in Colorado to offset local population declines or die offs. Given the species susceptibility to disease transmission from domestic livestock such that the species viability is at risk, and documented population declines, Rocky Mountain bighorn sheep is retained as a sensitive species in accordance with criteria 1a and 1b.

Desert bighorn sheep - *Ovis canadensis nelsoni*

The desert bighorn sheep (G4/T4) is a subspecies of bighorn sheep found throughout the desert southwest. Reintroductions of the species to Colorado began in 1979 and have established three primary herds in the southwest portion of the state, where they largely occur on public lands. Desert bighorn sheep habitat is characterized by topographic diversity of vertical cliffs and sandstone rims, to rolling to flat desert valley bottoms dissected by gulches. Vegetation ranges from pinon-juniper and desert shrubs in the canyons and mesas, with aspen and ponderosa pine in the upper drainages, and grasslands intermixed with oak brush, sagebrush, and juniper woodlands at intermediate elevations. Threats include lack of water, loss or degradation of habitat, disturbance - especially during the lambing and winter seasons, and threat of disease. *Pasturella hemolytica*, a respiratory disease found in domestic livestock, is a primary concern for the health and persistence of bighorn sheep populations. Desert bighorn sheep occupy BLM-administered lands in Tres Rios, Uncompahgre, and Grand Junction Field Offices, along with two National Conservation Areas (NCA). Desert bighorn are ranked by NatureServe as G4T4 and are managed as a state SWAP Tier 1 species per the 2013 Desert Bighorn Sheep Plan Addendum. CPW and BLM continue to monitor the species and are engaged in a recreational impact study related to bighorn sheep in the Dominguez Escalante NCA. In addition, as BLM grazing allotment permits are renewed, domestic sheep allotments are evaluated for potential risk of contact with bighorn sheep with concern for *Mycoplasma ovipneumoniae*, a disease that was identified in the 1990's and can lead to widespread die offs where it occurs. Given the species sensitivity to management related activities and reliance on habitats represented on BLM-administered lands, desert bighorn sheep is retained as a sensitive species in accordance with criteria 1b.

Kit fox - *Vulpes macrotis*

The kit fox (G4/S1) is a small-bodied fox that closely resembles the swift fox (*Vulpes velox*) but has larger ears and a more angular appearance. Kit fox hybridize with swift foxes, and some authors have suggested that kit and swift foxes are conspecific. In Colorado, the kit fox is limited to a handful of small areas on the western slope from Montrose to Grand Junction, with most occupying desert shrub, and pinyon-juniper habitats. The southern Rocky Mountains serve as a geographic barrier between swift fox populations to

the east and kit foxes to the west. The species preys on jackrabbits, ground nesting birds, reptiles, and insects. Dens tend to be clustered with little territoriality. Kit fox currently occupy habitat on BLM in the Uncompahgre and Grand Junction Field Offices, along with three National Conservation Areas. Habitat loss due to agricultural conversion and ex-urban development is a primary threat to the species. The state constitutional ban on trapping in Colorado has likely reduced some pressure on the species, but habitat loss and fragmentation is probably the bigger threat. CPW proposed transplants in mid-2000 to bolster the struggling population. Few studies have been conducted in Colorado and little is known about population estimates or trends. Previous data indicates kit fox occur in very low numbers in western Colorado and may be near extirpation in some areas. Coyote predation on kit fox and the competitive advantage of red fox are primary threats to population growth. Degradation, fragmentation, and loss of habitat, and impacts from development, roads, recreation, and domestic livestock grazing may also threaten kit fox in Colorado. Development resulting in habitat loss, degradation, and fragmentation, reduces the potential for successful dispersal. Western Colorado has experienced a boom in oil and gas and residential development, as well as recreational OHV use. The resulting loss and fragmentation of habitat, and human disturbance to kit fox denning areas by recreational enthusiasts, especially OHV users, may pose a major threat to kit fox in Colorado. Impacts of livestock grazing may relate to reduced small mammal prey abundance. The potential importance of white-tailed prairie dogs (*Cynomys leucurus*) as prey and as providers of dens and escape burrows is exacerbated by their apparent decline due to plague, oil and gas development, and shooting. Given its reliance on habitats represented on BLM-administered lands and evidence that such areas are threatened with alteration such that the species viability is at risk, and observed population declines, the kit fox is retained as a sensitive species in accordance with criteria 1a and 1b.

Swift fox - *Vulpes velox*

The swift fox (G3/S3) is a small, buff colored fox with large ears that inhabits the shortgrass and midgrass prairies of the Great Plains region of North America, including the eastern plains of Colorado. Swift fox are most active at night and feed off a diverse prey base including small rodents, lagomorphs, and ground nesting birds. Swift fox prefer open habitats to help detect predators at distance and typically use multiple underground den sites throughout the year for protection from predators and extreme weather conditions. Coyotes are a primary predator of swift fox. Kahn and Fitzgerald (1996) documented swift fox in 13 counties in eastern Colorado comprised of shortgrass prairie and agricultural lands. Swift fox habitat within the Royal Gorge Field Office occurs on scattered BLM parcels and federal sub-surface mineral estate under private land on the Front Range of Colorado. Swift fox have also been documented on BLM in the mixed grass habitat in the San Luis Valley Field Office. The swift fox is considered a furbearer, and was historically hunted for its coat. The trapping season was closed for furbearers in Colorado in 1995 relieving some of the pressure of hunting. The species is a state of Colorado SWAP Tier 2 species. It is also a Forest Service sensitive species and a BLM sensitive species in Wyoming and Montana. The swift fox has experienced a significant range retraction, especially from the east and the north end of their range due to loss or fragmentation of native shortgrass prairie. Swift fox populations were decimated in the early decades of the twentieth century, as a consequence of, widespread and indiscriminate poisoning directed at wolves. Secondary poisoning of prairie dogs may have localized effects on the species as well. However, other major threats to the species include the conversion of the shortgrass prairie to cultivated agricultural uses and increased interspecific competition with coyotes. Studies conducted on the Pawnee National Grassland starting in 2004 indicated the species was stable to increasing in Colorado. A study

conducted by CPW in Eastern Colorado could not detect a change in swift fox populations over the previous 15 years. Although the species is assumed to be stable in low numbers across the core of their range, including Colorado, swift fox are estimated to occupy 25% of their historic range. Maintenance of existing population areas is key to the future of the species. Human activities on BLM-administered lands have the potential to affect swift fox, including mortality from vehicle collisions and loss of habitat from oil & gas development or renewable energy. Given its reliance on habitats represented on BLM-administered lands and evidence that such areas are threatened with alteration such that the species viability is at risk, and observed population declines, the swift fox is retained as a sensitive species in accordance with criteria 1a and 1b.

BIRDS

Northern goshawk - *Accipiter gentilis*

Northern goshawk (G5/S3B, S4N) is a forest raptor that primarily breeds in conifer and mixed conifer-aspen forests in Colorado (Wickersham 2016). The species is a SWAP Tier 2 species, a Forest Service sensitive species in Region 2, and a BLM sensitive species in Arizona, Utah, and Wyoming. Breeding bird surveys show a stable trend to slightly increasing in Colorado (1966-2019) (0.1%) and in BCR 16 (0.4%). IMBCR trends in BCR 16 on BLM lands show an increase of 27.4% but this is based on 1 detection. IMBCR trends in BCR 16 in Colorado show a -5.6% decline. In general, the ability to detect change in goshawk populations is challenging due to low detection probability and small sample sizes. The primary threat to goshawk populations is alteration of its preferred habitat from timber management practices and catastrophic wildfire. Reduced forest canopy cover (<35-40%) has been shown to be especially detrimental to goshawk (Squires et al. 2020). In addition, individuals are vulnerable to nest tree abandonment due to disturbance within the area. For decades, land management agencies have been implementing survey protocols (Woodbridge et al. 2006) and forest management recommendations that were developed for 3 spatial scales (nest, post-fledging, and foraging areas) (Reynolds et al. 1992), which provides a framework to maximize the amount of mature and old forest in goshawk home ranges and reduce the likelihood that the availability of vegetation structures suited to nesting and foraging will limit nest occupancy and reproduction. Given its reliance on specialized ecological refugia that occurs on BLM lands and could be threatened by timber management, and evidence that such areas are threatened with alteration such that species viability is at risk, northern goshawk is retained on the sensitive species list in accordance with criteria 1b.

Sagebrush sparrow - *Artemisiospiza nevadensis*

Sagebrush sparrow (G5/S3B) is a new addition to the sensitive species list. A sagebrush obligate, individuals prefer large, undisturbed tracts of sagebrush for breeding (Braun et al. 2002, Hansley & Beauvais 2004). In Colorado, breeding habitat is confined to the western portion of the state with confirmed breeding documented in the Little Snake, White River, Grand Junction, Colorado River Valley, Uncompahgre, Tres Rios, San Luis Valley and Gunnison Field Offices (Wickersham 2016). The sagebrush sparrow is a SWAP Tier 2 species and is on the FS Region 2 and BLM Wyoming sensitive species lists as well as the BLM sensitive species watch list in New Mexico. Breeding bird surveys show a declining trend between 1966 and 2021 for BCR 16 (-0.98%), but an increasing trend for Colorado (3.1%) overall. IMBCR trends show a declining trend in BCR 16 (-0.08%) and on BLM-managed lands in BCR 16 (-0.05%) and all

BLM-managed lands in Colorado (-0.05%). Changes in breeding information from the first Breeding Bird atlas (1987-1995) to Atlas II (2007-2012) have shown an 8% decline in the number of breeding blocks reported to have confirmed breeding in Colorado (Wickersham 2016). Sagebrush communities are one of the most imperiled ecosystems in the United States (Noss et al. 1995). The amount and quality of sagebrush-steppe ecosystems has been declining across the West for the past several decades (Noss et al. 1995, Mac et al. 1998). The BLM manages a disproportionately large amount of sagebrush-steppe habitat in Colorado compared to private, state, or other federal agencies (Knick et al. 2003). The primary threats to sagebrush-steppe habitats on BLM-administered lands are loss/degradation or fragmentation from anthropogenic development (*e.g.*, energy and road development; transmission lines, pipelines, mining, solar development); livestock grazing; changes in fire frequency; invasion of annual grasses; conifer encroachment; sagebrush alteration; recreation; and drought. Due to its reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends sagebrush sparrow is designated a sensitive species in accordance with criteria 1a and 1b.

Burrowing owl - *Athene cunicularia*

Burrowing owls (G4/S4B) nest in prairie dog or other rodent burrows in shortgrass and/or arid, open shrubland habitats as well as grassy or open urban areas (*e.g.*, airports, golf courses) (Poulin et al. 2020). The majority of occurrence in Colorado have been documented in the eastern part of the state on lands not managed by the BLM. In western Colorado, breeding has been documented in the Little Snake, White River, Grand Junction, San Luis Valley, Uncompahgre, and Tres Rios Field Offices (Wickersham 2016). The species is a SWAP Tier 1 species, a Colorado state threatened species and is considered a national bird of conservation concern by the FWS (FWS 2021). This species is currently on the BLM sensitive species list in Wyoming, New Mexico, Utah, and Arizona, and the FS Region 2 sensitive species list. Breeding bird surveys show a declining trend (1966 – 2021) in Colorado (-1.9%) and an increasing trend in BCR 16 (0.1%). There is no IMBCR trend data available for BCR 16 in Colorado. Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed a 52 percent increase in the number of breeding blocks report to have confirmed nesting in Colorado (Wickersham 2016). In general, burrowing owl populations have seen a sharp decline across much of their range over the past several decades (Poulin et al. 2020). The primary threats on BLM-administered lands are habitat loss/degradation and fragmentation due to oil and gas development, livestock grazing, and invasion of annual grasses. Additional threats include declines in burrowing rodents, especially prairie dogs, predation, human disturbance, disease in prey species (*i.e.,* sylvatic plague), and incidental shooting (McDonald et al. 2004). Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, burrowing owl is retained as a sensitive species in accordance with criteria 1b.

Golden eagle - *Aquila chrysaetos*

The golden eagle (G5/S3S4B, S4N) occurs throughout Colorado, occupying open habitats including grasslands, shrub steppe, semi-wooded habitats such as riparian and pinyon-juniper where they forage for small mammals. The species is a SWAP Tier 1 species, listed by FWS as a bird of conservation concern (FWS 2021), a Forest Service sensitive species in Region 2, a BLM sensitive species in Arizona and Utah, and is on the BLM sensitive species watch list for New Mexico. Breeding bird surveys have shown a slight

declining trend (1966-2019) for Colorado (-0.1%) and in BCR 16 (-0.3%). IMBCR trends show a declining trend for golden eagle in BCR 10 for BLM Colorado (-7.5%) and in BCR 16 for BLM Colorado (-5.1%). Threats to the species remain despite federal protection with the Bald and Golden Eagle Protection Act (1962), which was amended in 1972 because of ongoing concerns for declining golden eagles. Threats include habitat change and disturbance at nest sites, as well as the potential for lead poisoning, secondary poisoning by pesticides or rodenticides, collision with wind turbines, electrocution, and illegal killing (Katzner et al. 2020). Human activity can prevent nesting or interfere with and reduce parental care at active nests. Specifically, it has been shown that a dramatic increase of OHV recreation in Idaho adversely influenced golden eagle nesting biology (Steenhof et al. 2014). In the West, modern energy development of all types (*e.g.*, wind and solar, oil and gas) could potentially affect >40 million ha of shrublands and >70 million ha of grasslands that provide habitat for the species (Copeland et al. 2011). Given its reliance on ecological refugia and unique habitat on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, golden eagle is retained as a sensitive species in accordance with criteria 1b.

Ferruginous hawk - *Buteo regalis*

Ferruginous hawk (G4/S3B, S4N) generally breed in open native grasslands or sagebrush-steppe habitats with flat or rolling terrain (Ng et al. 2020). The presence of prairie dogs in particular, ground squirrels, and/or jackrabbits are important for wintering and breeding birds (Cook et al. 2003, Keeley 2009, Bechard and Schmutz 1995). Most occurrences in Colorado have been documented in the eastern part of the state on lands not managed by the BLM. This species does not frequently breed in western Colorado, with a small number of confirmed breeding occurrences documented in the Little Snake, White River, and Grand Junction Field Offices (Wickersham 2016). The species is a SWAP Tier 2 species, a species of concern in Colorado, and is considered a national bird of conservation concern by the FWS (FWS 2021). This species is currently on the BLM sensitive species list in Wyoming and Arizona, and the FS Region 2 sensitive species List. Breeding bird surveys show a declining trend (1966 – 2021) in Colorado (-0.6%) and in BCR 16 (-0.14). There is no IMBCR trend data available for BCR 16 in Colorado. Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed a 15 percent increase in the number of breeding blocks reported to have confirmed breeding in Colorado, however this may be due to an increased survey effort (Wickersham 2016). Primary threats on BLM-administered lands include habitat loss, conversion, or degradation due to energy and road development, livestock grazing, reductions in abundance and distribution of prey populations due to disease, (*e.g.,* sylvatic plague), shooting and poisoning, human disturbance, invasion of annual grasses, and changes in fire regimes (Collins and Reynolds 2005, Travsky and Beauvais 2005). Given its dependence on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends ferruginous hawk is retained as a sensitive species in accordance with criteria 1a and 1b.

Greater sage-grouse - *Centrocercus urophasianus*

Greater sage-grouse (G3G4/S4) is a sagebrush obligate species that requires large expanses of intact sagebrush habitat to fulfill its life history needs. Suitable breeding and brood-rearing habitat generally consists of vegetative communities dominated by sagebrush with a diverse understory of native bunchgrasses and forbs. Mesic areas/wet meadows are a seasonally important feature as well (Connelly et al. 2004). In Colorado, greater sage-grouse are found in the northwestern portion of the state, with

confirmed breeding in eight counties occurring in the Little Snake, Kremmling, White River, Colorado River Valley and Grand Junction Field Offices (Colorado Greater Sage-Grouse Steering Committee 2008, Wickersham 2016). The species is a SWAP Tier 1 species, a state species of concern, a BLM sensitive species in Wyoming and Utah, and a FS Region 2 sensitive species. Additionally, the species is included on the PIF yellow watch list due to population declines and moderate to high threats (Rosenberg et al. 2016). Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed a 36 percent decrease in the number of breeding blocks reported to have confirmed breeding in Colorado (Wickersham 2016). In a range-wide hierarchical monitoring framework, Coates et al. (2021b) estimated there have been 37% declines in abundance of greater sage-grouse range-wide within a time period of 17 years, 65.2% declines within 33 years, and 80.7% declines within 53 years. Sagebrush communities are one of the most imperiled ecosystems in the United States, and they are being lost or fragmented at an alarming rate (Noss et al. 1995, Knick et al. 2003, Schroeder et al. 2005, Davies et al. 2011, Doherty et al. 2022). The BLM manages a disproportionately large amount of sagebrush-steppe habitat in Colorado compared to private, state, or other federal agencies (Knick et al. 2003). The primary threats on BLM-administered lands are loss/degradation or fragmentation of sagebrush habitat from anthropogenic development (*e.g.*, energy and road development, transmission lines, pipelines, mining, solar development), livestock grazing, feral horse populations (Coates et al. 2021a), changes in fire frequency, invasion of annual grasses, conifer encroachment, sagebrush alteration, and recreation. Given its reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends, greater sage-grouse is retained as a sensitive species in accordance with criteria 1a and 1b.

Mountain plover - *Charadrius montanus*

Mountain plover (G3/S2B) is a species of dry tablelands with sparse, low vegetation, especially where those landscapes hosted native herbivores such as prairie dogs, bison, and pronghorn (Knopf and Wunder 2020). Over 50% of the global population breeds in Colorado (Wickersham 2016) with breeding populations occurring in Royal Gorge and San Luis Valley Field Offices and eBird observations in the breeding season within Kremmling and Little Snake Field Offices. The species is listed as a SWAP Tier 1 species, FWS birds of conservation concern (FWS 2021), Forest Service sensitive species in Region 2, a BLM sensitive bird species in Utah and Wyoming, and is on the BLM sensitive species watch list in New Mexico. Historically numerous in Colorado, populations have suffered long-term declines as a result of landscape changes to habitat, particularly fewer prairie dog towns (Knopf and Wunder 2020, Wickersham 2016). Breeding bird surveys show a declining trend (1966 – 2021) in Colorado (-3.4%) and in BCR 16 (-2.8%). IMBCR doesn't have trend data for mountain plover outside of BCR 18 (eastern plains where there are not any survey grids on BLM land). Productivity (chick success) is higher on shortgrass prairie and higher breeding densities are associated with prairie dog colonies. They are also found breeding on grasslands that were recently burned (Knopf and Rupert 1995). Both prescribed burning and increased size and distribution of prairie dog colonies appear to be effective and complementary means to manage for mountain plover breeding habitat (Augustine and Derner 2012). The primary threats to the species and its habitat on BLM-administered lands are degradation and alteration of habitat and removal of primary native grazers (prairie dogs, bison, and pronghorn), anthropogenic development (*e.g.*, energy and road development; transmission lines, pipelines, mining, solar development), and recreation. Individuals are known to quickly leave nest sites without being detected when approached by walking humans and if

disturbance inhibits returning to the nest for prolonged periods, eggs are subject to overheating (Knopf and Wunder 2020). Given its reliance on ecological refugia and unique habitats on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk and decreasing population trends mountain plover is retained as a sensitive species in accordance with criteria 1a and 1b.

Western snowy plover - *Charadrius nivosus nivosus* – breeding only

Western snowy plover (G3T3/S1B) occupy barren beach habitats in proximity to alkali lakes or playas. Pacific Coast populations were designated as threatened under the Endangered Species Act in 1993 (FWS 1993) and in the interior part of their range the species is ranked as vulnerable because of low numbers and vulnerability due to habitat loss. Colorado's tiny population is stable but not secure (Wickersham 2016). The species is listed as a SWAP Tier 2 species, a FWS bird of conservation concern (FWS 2021), and a BLM sensitive species in Utah. In Colorado, snowy plover are found in isolated populations in arid south and southeast portions of the state, with confirmed breeding in four counties occurring in the San Luis Valley and Royal Gorge Field Offices (Wickersham 2016). Drought impacts habitat availability as many playas occupied by snowy plover were dry at the end of the Colorado Breeding Bird Atlas II (2007-2012) resulting in a 33% decline in the number of breeding blocks reported to be occupied from the first atlas (1987-1995) (Wickersham 2016). Given the extremely restricted and isolated distribution of the species, there have not been observations of snowy plover in Colorado for either BBS or IMBCR, and therefore, there are no trends from these programs for this species. eBird data from 2007-2021 show strong declining trends in abundance in southeast Colorado with declines between 50-63% for the 27 km x 27 km sample areas (Fink et al. 2022). Threats include habitat loss/degradation, disturbance by humans, and/or impacts of non-native and native predators. Increasing predator populations associated with increased human activity and development is a primary threat to the species (Page et al. 2020). Fencing of nest sites as protection against predators has been employed in some locations but in southeast Colorado, there was not a significant increase in nest survivorship between nests inside and outside nest exclosures because fencing didn't prevent small rodents and snakes from preying on eggs (Mabee and Stelle 2000). In Utah, occupancy of snowy plover was negatively associated with distance to water (Ellis et al. 2014). On BLM-administered lands, management that alters/diminishes water flows could result in a reduction of habitat at known breeding sites (*e.g.,* Blanca Wetlands in SLV). Given its reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends snowy plover is retained as a sensitive species in accordance with criteria 1a and 1b.

Black swift - *Cypseloides niger*

Black swift (G4/S3B) is a neotropical migrant that breeds colonially on cliff faces near waterfalls or in caves. Colorado is a state of historical importance for black swift with more known occupied sites than all other western states and Canadian provinces combined (Sparks and Latif 2022). The species is a SWAP Tier 2 species, listed by FWS as a bird of conservation concern (FWS 2021), included on Partners in Flight's yellow watch list because of population declines and moderate to high threats (Rosenberg et al. 2016), a Forest Service sensitive species in Region 2, and a BLM sensitive species in Utah. Breeding bird surveys (BBS) show a slightly increasing trend in Colorado (1966-2019) (0.6%) and in BCR 16 (0.6%) but for species that occupy remote habitats and are patchily distributed, BBS roadside sampling approaches are known to contain a high degree of uncertainty. IMBCR trends do not include black swift because of very few to no

detections annually (detected 1 or 3 individuals in BCR 16 during 4 of 18 years), likely because of inefficiency of point count survey techniques in detecting high and rapid flight of black swift. Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed there was an overall 48% decline in the number of breeding blocks reported to be occupied in Colorado (Wickersham 2016). Levad et al. (2008) cataloged potential nest waterfalls in Colorado, at least ten of those are on BLM lands in the Gunnison and San Luis Valley Field Offices and several of those are monitored annually in collaborative effort between BLM and Bird Conservancy of the Rockies (Sparks and Latif 2022). There are likely more potential nests that need to be mapped and surveyed since effective management requires reliable estimates of population size to determine threats and identify areas of conservation importance. Climate change is a potential major threat to this species, but other threats are known to directly impact black swift, including disturbance at nest sites. Recreation management at nest sites have potential to impact the species (*e.g.*, rock climbing). There is an opportunity to engage the climbing community and other recreators in locations where climbing is known to occur near black swift nesting colonies through education in a way that supports conservation and public interest in conserving the species. Given its reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends black swift is retained as a sensitive species in accordance with criteria 1a and 1b.

Prairie falcon - *Falco mexicanus*

Prairie falcon (G5/S4B, S4N) is a new addition to the sensitive species list. This raptor occupies and breeds in open, shrubby deserts and grasslands throughout the western United States (Wickersham 2016). Prairie falcon nest in scattered locations within Colorado on rocky cliffs up to 11,000 feet in elevation (Wickersham 2016). They are reliant on ground squirrels as a primary food source and their success has been linked to the abundance of this prey item, though they will also forage for pika, smaller birds, and insects (Steenhof 1999). Prairie falcon is not listed by the Forest Service or the BLM as a sensitive species, though it is considered a USFWS Bird of Conservation Concern (USFWS 2021) and is a SWAP Tier 2 Species. According to Colorado's Breeding Bird Atlas there was a 5% decrease in the reported number of blocks that prairie falcon breeds in between Atlas I (1987-1995) and Atlas II (2007-2012) (Wickersham 2016), and it is a PIF priority species within Colorado's Physiographic Region 16 (Beidleman 2000). Breeding Bird Surveys show a stable trend to increasing in Colorado (1966-2019) (1.4%) and in BCR 16 (0.9%). Though prairie falcon is listed as "Apparently Secure" by the CNHP and NatureServe, eBird trends show an overall decrease in reports from 2007-2020 (Fink et al. 2022) and the PIF assessment suggests that much of the population may experience slight to moderate decline in breeding or non-breeding suitability in the future (Partners in Flight 2021). Urbanization is a threat to prairie falcon foraging habitat and can result in abandonment of breeding sites, while nest failure can occur due to recreation-induced disturbance such as rock climbing and hiking (Beidleman 2000). While the effects of livestock grazing on prairie falcon are not well understood, the removal of vegetation could negatively impact prey populations and/or facilitate the invasion of exotic plants such as cheatgrass (*Bromus tectorum*) (Steenhof 1998). On the contrary, vegetation removal via grazing could also make prey more visible and accessible, though this would only be beneficial in the short-term (Steenhof 1998). Based on this species' needs, the BLM should work to identify nest sites, discourage development of breeding habitat, and restrict recreation during the nesting period (Beidleman 2000). Ground squirrel populations and their habitats should be also supported in management efforts. Since nest density is limited by availability and prairie falcon has been reported to

use artificial nest sites that are excavated in cliff faces (Mayer & Licht 1995), this restoration strategy may also be considered. Due to prairie falcon's relatively specialized habitat and nesting requirements, vulnerability to recreation types that occur on BLM land, and nuanced relationship with BLM-designated grazing areas, this species is designated a sensitive in accordance with criteria 1a and 1b.

American peregrine falcon - *Falco peregrinus anatum*

American peregrine falcon (G4T4/S2B) breeds throughout much of western Colorado, from the Front Range to the Western Slope. The species is not known to breed on the eastern plains. Breeding concentrations are found along the Front Range, the Dolores and Colorado River canyons, and in Dinosaur National Monument (Wickersham 2016). American peregrine falcon is a SWAP Tier 2 species, listed by FWS as a bird of conservation concern (FWS 2021), a Forest Service sensitive species in Region 2, is a BLM sensitive species in Arizona and Wyoming, and is on the BLM sensitive species watch list for New Mexico. Trend data for peregrine are conflicting, which is likely a reflection of its widespread but sparse distribution based on limited nest sites and territorial spacing by breeding pairs. Breeding Bird Surveys show a stable trend to slightly increasing in Colorado (1966-2019) (0.1%) and in BCR 16 (0.4%). IMBCR trends in BCR 16 on BLM lands show an increase of 27.4% but this is based on 1 detection. IMBCR trends in BCR 16 in Colorado show a -5.6% decline. eBird data from 2007-2021 show stable to declining trends in abundance in Colorado for 27 km x 27 km sample areas (Fink et al. 2022). Other data have shown dramatic long-term population increases in Colorado. Changes in breeding distribution from the first Colorado Breeding Bird Atlas (1987-1995) showed a remarkable 94% increase in the number of blocks detected in Atlas II (2007-2012) (Wickersham 2016), which reflects massive reintroductions starting in 1984 and subsequent increase in breeding population and increase in annual productivity from 1985 to 1998 (Mesta 1999). Peregrine breed within all of the BLM Field Offices in Colorado. Nesting pairs vary greatly in responsiveness to human activities with pairs in remote locations being the most reactive. Historically, some eyries were abandoned because of human encroachments or increased levels of nearby activity (White et al. 2020). Threats include loss of wetland habitat that supports primary prey, poachers robbing nests, and shooting by hunters (NatureServe 2023). Specific threats to the peregrine on BLM-administered lands include habitat loss and degradation for primary prey due to cattle grazing and development in wetland areas, human disturbance at nest eyries because of development of renewable energy projects (solar, wind, geothermal, hydropower), recreation and/or other development projects. Given its reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk American peregrine falcon is retained as a sensitive species in accordance with criteria 1b.

Pinyon jay - *Gymnorhinus cyanocephalus*

Pinyon jay (G3/S3) is a new addition to the sensitive species list. Pinyon jays are highly social and cooperative birds that occupy pinyon forests (*Pinus edulis*) and, because of population declines, have been recently petitioned for listing under the Endangered Species Act (Defenders of Wildlife 2022). The pinyon jay is a SWAP Tier 2 species, listed by FWS as a bird of conservation concern (FWS 2021), Partners in Flight's yellow watch list because of population declines and moderate to high threats (Rosenberg et al. 2016), and is a Forest Service sensitive species in Region 2. The species is a BLM sensitive species in Arizona and New Mexico. Breeding bird surveys show a declining trend (1966-2019) for the species in Colorado (-1.7%) and in BCR 16 (-2.1%). IMBCR trends are declining for all BLM strata in Colorado including: BCR 10 on BLM lands in Colorado (-12.3%) and BCR 16 on BLM lands in Colorado (-6.6%). It is notable that declines

in these BCR on BLM lands are greater than declines within the respective BCR overall. Pinyon jay prefer a mixed-age mosaic of woodland interspersed with sagebrush shrubland. They roost and nest within relatively dense groves of older pinyon trees but tend to locate their nests within half a mile of habitat edges. The BLM has been managing sagebrush ecosystems for several decades by implementing pinyon pine and juniper removal in an effort to restore habitat for greater sage-grouse, mule deer, and other species. These treatments tend to target the edges of sagebrush parks that are selected for by pinyon jay for nesting. Conifer management across sagebrush ecosystems has recently been identified as having mixed effects for other wildlife species, especially pinyon-juniper associates such as pinyon jay (Bombaci and Pejchar 2015, Coop et al. 2017, Magee et al. 2019, Zeller et al. 2021). BLM conifer management has potential to have a direct impact on pinyon jay and there is a clear need to develop management strategies that make pinyon-juniper treatments compatible with habitat requirements for the species. Due to its reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends pinyon jay is designated a sensitive species in accordance with criteria 1a and 1b.

Bald eagle - *Haliaeetus leucocephalus*

The bald eagle (G5/S3B, S3N) is found throughout northern and western Colorado where they occur near large lakes and rivers in forested areas where there are adequate prey and old, large-diameter cottonwood or conifer trees available for nesting. The species is a SWAP Tier 2 species, listed by FWS as a bird of conservation concern (FWS 2021), a Forest Service sensitive species in Region 2, and a BLM Sensitive Species in Arizona, Utah, and Wyoming. Once primarily a migrant or winter resident in Colorado, bald eagles have dramatically increased breeding during the past 30 years (Wickersham 2016). Breeding Bird Surveys show an increasing trend (1966-2019) for Colorado (8.5%), in BCR 16 (6.6%), and BCR 10 (4.5%). IMBCR trends show an increasing trend for the species in Colorado on BLM-administered lands (4.6%) but a declining trend in BCR 16 for BLM in Colorado (-5.1%). Threats to the species remain despite federal protection under the Bald and Golden Eagle Protection Act (1962) because most non-natural mortalities are human caused (Wickersham 2016). Threats include illegal shootings, electrocutions, lead poisoning, collisions, and habitat loss or degradation due to human encroachment at breeding sites that may limit further population expansion. The effects of disturbance at nest and roost sites increase with duration and frequency of events and can increase energetic demands and reduce survival, especially in the winter if food and quality foraging sites is limiting. Nest abandonment and reproductive failure is also possible during the nesting season (Buehler 2022). However, disturbance impacts are generally not significant at a population level and there is a wide range of sensitivity to disturbance across individuals and populations (Buehler 2022). Specific threats to bald eagle on BLM-administered lands include development of renewable energy projects (*e.g.*, solar, wind, geothermal, hydropower), recreation and/or other development projects that may disturb or alter habitat at nesting and winter roost sites. Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, bald eagle is retained as a sensitive species in accordance with criteria 1b.

Loggerhead shrike - *Lanius ludovicianus*

Loggerhead shrike (G4/S3S4B) is a new addition to the sensitive species list. In Colorado the species breeds in isolated stands of trees within otherwise open habitats (Wickersham 2016). Individuals frequent

agricultural fields, pastures, riparian areas, and desert scrublands. Important habitat characteristics are the presence of dense shrubs or trees for nesting and nearby open herbaceous areas for foraging (*e.g.*, grasslands) (Keinath and Schneider 2005). Loggerhead shrike is a SWAP Tier 2 species and is a Forest Service sensitive species in Region 2. The species is a BLM sensitive species in Wyoming and is on BLM sensitive species watch list in New Mexico. There have been unexplained declines in loggerhead shrike populations throughout its range. Breeding bird surveys show a declining trend (1966-2019) for Colorado (-0.9%) and a declining trend in BCR 16 (-1.4%). IMBCR trends in BCR 10 for BLM Colorado are -3%, but there is an increasing trend in Tres Rios Field Office (7.4%), and loggerhead shrike are stable in BCR 16 for BLM Colorado (0% change). Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) show there was an overall 8% decline in the number of breeding blocks reported to be occupied in Colorado (Wickersham 2016). The primary threats on BLM-administered lands are loss/degradation or fragmentation of breeding and wintering habitat from anthropogenic development (*e.g.*, energy and road development, transmission lines, pipelines, mining, solar development), livestock grazing, changes in fire frequency, invasion of annual grasses, recreation, and drought. Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends loggerhead shrike is designated a sensitive species in accordance with criteria 1a and 1b.

Brown-capped rosy-finch - *Leucosticte australis*

Brown-capped rosy-finch (G4/S3B, S4N) is a new addition to the sensitive species list. The species has a very limited distribution and is nearly restricted to Colorado, although populations extend into northern New Mexico and southern Wyoming. Brown-capped rosy-finch breed almost exclusively in alpine tundra at or above ~11,000 feet elevation. They remain at high elevations throughout the year but outside of the breeding season they will move down in elevation into areas with thinner snowpacks such as high parks, meadows, and open grassland valleys between mountain ranges. During the winter they feed on exposed vegetation and come to feeders and have high site-fidelity to these feeding areas, but they may be absent during fair weather and in years with less snow (Johnson et al. 2020). The species is a SWAP Tier 1 species, is listed by FWS as a bird of conservation concern (FWS 2021) and is one of 19 species on the Partners in Flight's red list (Rosenberg et al. 2016) because of restricted distributions and small, declining populations. Lack of information was identified as a primary concern for this species in the SWAP. Given the extremely restricted and high-elevation distribution of the species individuals are rarely detected during BBS surveys and therefore, BBS does not show trends for this species. IMBCR surveys show a -2.7% decline on all surveys within BCR 16 in Colorado (all landownerships) and a -47.8% decline on BLM lands in BCR 16 in Colorado. However, there are very few detections during IMBCR surveys on BLM lands in Colorado so there this estimate has low precision; however, there is a very high probability (94%) that the trend is declining (unpublished data Bird Conservancy of the Rockies 2022). Declining brown-capped rosy-finch populations have been reported using Christmas bird count survey information, however, because populations in the winter are eruptive and nomadic in nature, these surveys are considered anecdotal evidence of declines (National Audubon Society 2020). Changes in breeding information from the first Breeding Bird Atlas to Atlas II showed there was a 3% decline in the number of breeding blocks reported to be occupied in Colorado (Wickersham 2016). Reasons for declines are not well understood but changes in available habitat due to climate change is often cited as potential threat (Seglund et al. 2018, Johnson et al. 2020). The potential threats to this species on BLM-administered lands during the breeding season

include: recreation, AML mine closures, and grazing. Winter feeding areas are very important and occur at lower elevations on BLM lands. These areas are impacted by drought, sheep grazing, recreation, and invasive weeds. Brown-capped rosy-finch are tolerant to human presence but increased recreation in alpine areas in Colorado is identified as a potential threat (Seglund et al. 2018, Johnson et al. 2020). Abandoned mine shafts and adits have been documented as being used for nesting so AML closures of abandoned mines has potential to disturb or destroy nests if closures coincide with active nesting. Domestic sheep grazing can affect forb cover, which in turn can impact invertebrate populations and so grazing management in alpine areas have potential to impact the species. Given the species reliance on ecological refugia and unique habitat represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends brown-capped rosy-finch is designated a sensitive species in accordance with criteria 1a and 1b.

Lewis's woodpecker - *Melanerpes lewis*

Lewis's woodpecker (G4/S4) is a new addition to the sensitive species list. The species is locally common but sporadically distributed found throughout western and southeastern Colorado. Lewis's woodpecker is a SWAP Tier 2 species, listed by FWS as a Bird of Conservation Concern (FWS 2021), on Partners in Flight's yellow watch list because of population declines and moderate to high threats (Rosenberg et al. 2016) and is a Forest Service sensitive species in Region 2. The species is a BLM sensitive species in Utah and is on BLM Sensitive Species Watch List in New Mexico. Breeding Bird Surveys show a slight declining trend (1966-2019) for Colorado (-0.5%) and for BCR 16 (-0.5%). There were not sufficient consistent observations from IMBCR data to show trends for BLM lands in BCR 16. Lewis's woodpecker distribution can be difficult to document because the species is sporadic in occurrence throughout its range and may go through dramatic cycles of abundance in relation to local changes in habitat (Vierling et al. 2020). Individuals require snags in advanced stages of decay or trees with softer wood (*e.g.*, *Populus* spp.) for nest sites because they are not a strong excavator compared with other woodpecker species. In Colorado, they most often nest in riparian areas dominated by cottonwoods (Wickersham 2016). Threats to the species include human induced changes to habitat, introduction of non-native cavity-nesting birds (*e.g.*, European starling, house sparrow), suppression of fire, alteration of natural stream-flow patterns that may affect structure, availability, and quality of breeding habitat. Riparian vegetation declines related to reduction in water tables and streamflow are well documented and those are influenced by BLM management that can degrade riparian areas if not properly managed (*e.g.*, recreation, timber, grazing). BLM restoration projects in impacted riparian areas such as the low-tech river restoration work that is currently being implemented by many BLM field offices and partners in Colorado (*e.g.*, beaver dam analogs (BDA), post assisted log structures (PALS), and Zeedyke structures) have potential to improve habitat for Lewis's woodpecker. Given the species dependence on ecological refugia and unique habitat on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends Lewis's woodpecker is designated a sensitive species in accordance with criteria 1a and 1b.

Long-billed curlew - *Numenius americanus* – breeding only

Long-billed curlew (G5/S2B) is considered relatively rare in Colorado (Wickersham 2016), breeding mainly in eastern Colorado but observations during the breeding season are documented sparsely in appropriate habitat throughout northern and western Colorado, including west of Grand Junction and in the North Park, Middle Park, and South Park intermountain basins. Long-billed curlew breed in short-stature grasses

with flat to rolling topography and generally avoid habitats with trees, high density of shrubs, and tall, dense grass (Dugger and Dugger 2020). The species is listed as a SWAP Tier 2 species, FWS birds of conservation concern (FWS 2021), Forest Service sensitive species in Region 2, a BLM sensitive bird species in Wyoming and is on the BLM sensitive species watch list in New Mexico. Breeding bird surveys show a declining trend (1966-2019) for Colorado (-3.9%) and BCR 16 (-0.1%). IMBCR trends show a declining trend for long-billed curlew in Colorado (-3.2%) but IMBCR surveys have not detected the species outside of BCR 18 and there have not been any detections on BLM-administered lands in Colorado. Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed an overall 58% decline in the number of breeding blocks reported to be occupied in Colorado (Wickersham 2016). Historically, the major threat to breeding populations was the removal of primary, native grazers (*i.e.,* bison, pronghorn, and prairie dogs), which altered the once heterogeneous, patchy grasslands landscape. Long-billed curlew can benefit from wildfire in grassland habitats during late summer and fire suppression may negatively affect breeding habitat by allowing forest encroachment and growth of tall grasses and shrubs (Cannings 1999). Infestation of crested wheatgrass and knapweed (*Centaurea* spp.) can severely degrade nesting habitat (Dugger and Dugger 2020). Curlews are particularly sensitive to human disturbance during the nesting season (especially excessive OHV-use and other forms of recreation) with disturbance during the brood rearing season being especially detrimental (Jenni et al. 1981, Dugger and Dugger 2020). Oil and gas exploration can negatively impact the species through loss or fragmentation of habitat or disturbance during nesting. The primary threats on BLM-administered lands are oil and gas exploration, incompatible livestock grazing, changes in fire frequency, proliferation of non-native or invasive plants, conifer encroachment, and recreation. Given its reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends long-billed curlew is retained as a sensitive species in accordance with criteria 1a and 1b.

American white pelican - *Pelecanus erythrorhynchos*

American white pelican (G4/S1B) nest on islands and peninsulas in large bodies of water as well as ephemeral islands in shallower lakes. Scattered colonies of white pelican occur throughout Colorado. The species is listed as a SWAP Tier 2 species and a BLM sensitive species in Utah. Breeding bird surveys show an increasing trend (1966-2019) for Colorado (8%) and BCR 16 (5.9%). IMBCR trends show a declining trend for American white pelican in Colorado (-8%) and in BCR 16 (-7.7%) but that was based on only one detection in BCR 16 and 57 detections in BCR 18 (eastern plains) and no detections on BLM-administered land. Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed no overall change in the number of breeding blocks reported to be occupied in Colorado, but there was an addition of a new colony on Walden Reservoir and there was a decline at MacFarlane Reservoir (Wickersham 2016). Both reservoirs are on BLM-administered lands managed by Kremmling Field Office. White pelicans are highly sensitive to human intrusions into breeding colonies, which cause desertions, especially during courtship and early incubation (Knopf and Evans 2020). BLM-administered lands in the San Luis Valley Field Office support important stop-over habitat and the SLV has built islands within wetlands to provide habitat for the species. Given its reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, American white pelican is retained as a sensitive species in accordance with criteria 1b.

White-faced ibis - *Plegadis chihi* – breeding only

White-faced ibis (G5/S2B) nest in isolated colonies in Colorado and feed in marshes, wet meadows, flooded croplands, and shallow waters of ponds, lakes, and reservoirs. Ibis nest in emergent vegetation or low trees and shrubs over shallow water, and occasionally on the ground on small islands. The species is listed as a SWAP Tier 2 species and a BLM sensitive species in Wyoming. Breeding bird surveys show an increasing trend (1966-2019) for Colorado (3.5%) and BCR 16 (1.8%). IMBCR trends show a declining trend for the species in Colorado (-15.9%) but IMBCR surveys have not detected white-faced ibis on BLM-administered lands in Colorado. Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed there was an overall 50% increase in the number of breeding blocks reported to be occupied in Colorado (Wickersham 2016). eBird data from 2007-2021, suggests that the greatest abundance of white-faced ibis is in San Luis Valley, but the same data also show declines of 37-41% for the 27 km x 27 km sample areas in the area (Fink et al. 2022). White-faced ibis are considered a species of management concern on the basis of limited breeding sites and because they are vulnerable to habitat alteration. Of particular concern is the diversion of water from wetlands, especially during periods of drought, which has led to abandonment of colony sites (Ryder and Manry 2020). In the San Luis Valley where ibis breed on BLM-administered lands, birds are threatened by diminishing water availability (Wickersham 2016). The major threats on BLM-administered lands are habitat loss and degradation due to cattle grazing and development in wetland areas, pesticides, and human disturbance of breeding colonies (Ryder and Manry 2020). Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends white-faced ibis is retained as a sensitive species in accordance with criteria 1a and 1b.

Broad-tailed hummingbird - *Selasaphorus platycercus*

Broad-tailed hummingbird (G5/S5) is a new addition to the sensitive species list. The species occurs at higher elevations in the southern and central Rocky Mountains and breeds in open forests with flower-rich meadows (Wickersham 2016). The core of the species breeding range occurs in Colorado. Broad-tailed hummingbird is not listed as a SWAP species, nor is it listed by the Forest Service or the BLM as a sensitive species. It is listed by FWS as a bird of conservation concern (FWS 2021). Research by English et al. (2021) showed that hummingbirds in the genus *Selasphorus* have declined since 1970 and the rate of decline increased from 2009-2019, highlighting the need of conservation actions for these hummingbirds. In Colorado, BBS detections of broad-tailed hummingbird declined -1.9% from 1966 to 2019. Even more concerning, these declining trends appear to have accelerated over the past few decades. BBS data in Colorado show earlier declines were more gradual (-0.58% decline from 1966-2000) but more recent BBS survey data show a steeper decline (-2.43% decline from 2000-2019). Population trends from BBS data in BCR 16 are very similar to the BBS trends in the state of Colorado. This is especially concerning for this species because Colorado hosts the core of its breeding range. IMBCR trends in BCR 10 for BLM Colorado are -14.7%, which is much lower than in all lands within BCR 10 in Colorado (-1.9%). In BCR 16 for BLM Colorado there is a very slight increasing trend (0.8%) but one that is lower than trends for all lands within BCR 16 in Colorado (2.8%). eBird data show declining trends in abundance from 2007-2021 across the breeding range except for in Greater Yellowstone. Colorado in particular shows declining abundance with declines as high as -35% for some of the 27 km x 27 km sample areas (Fink et al. 2022). Causes of the declines of the species are not clear, but climate may affect both breeding success and overwinter survival.

BLM management such as grazing, recreation, and timber management, can impact cover of forbs and shrubs that provide nectar for hummingbirds. Meadow restoration, seeding, and planting of important nectaring plants are projects that the BLM can implement to improve habitat for hummingbirds and other pollinator species. Given the species dependence on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends broad-tailed hummingbird is designated a sensitive species in accordance with criteria 1a and 1b.

Brewer's sparrow - *Spizella breweri*

Brewer's sparrow (G5/S4B), a sagebrush obligate species, is considered the most abundant bird occurring in the sagebrush ecosystem. This species prefers large tracts of tall, dense sagebrush interspersed with native bunchgrasses and bare ground (Rotenberry et al. 1999). In Colorado, Brewer's sparrow primarily occur in the western half of the state, with confirmed breeding documented in the Little Snake, White River, Kremmling, Grand Junction, Colorado River Valley, Uncompahgre, Tres Rios, Royal Gorge, and San Luis Valley Field Offices (Wickersham 2016, Fink et al. 2022). The species is a SWAP Tier 2 species, and is currently on the BLM sensitive species in Wyoming, as well as the FS Region 2 sensitive species list. Partners In Flight and the Intermountain West Joint Venture consider Brewer's sparrow a species of continental importance. BBS surveys show a declining trend (1966 – 2021) in Colorado (-0.97%) and in BCR 16 (-0.96%). IMBCR trends show a declining trend in BCR 16 and on BLM-managed lands in BCR 16 (-0.03% and –0.01%, respectively), but a nominal increase on all BLM-managed lands in Colorado (1.003%). eBird data from 2007 - 2021 show strong declining trends in abundance in Colorado, particularly in the northwest part of the state, with declines as high as -43% for some of the 27 km x 27 km sample areas (Fink et al. 2022). Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed a four percent increase in the number of breeding blocks reported to have confirmed breeding in Colorado (Wickersham 2016). The amount and quality of sagebrush-steppe ecosystems has been declining across the west for the past several decades (Noss et al. 1995, Mac et al. 1998). The BLM manages a disproportionately high amount of sagebrush-steppe habitat in Colorado compared to private, state, or other federal agencies (Knick et al. 2003). The primary threats on BLM-administered lands are loss/degradation or fragmentation of sagebrush habitat from anthropogenic development (*e.g.*, energy and road development, transmission lines, pipelines, mining, solar development), livestock grazing, changes in fire frequency, invasion of annual grasses, conifer encroachment, sagebrush alteration, recreation, and drought. Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends Brewer's sparrow is retained as a sensitive species in accordance with criteria 1a and 1b.

Columbian sharp-tailed grouse - *Tympanuchus phasianellus columbianus*

Columbian sharp-tailed grouse (G4T3/S2) is endemic to big sagebrush, shrub-steppe, montane shrub, and riparian shrub plant communities of western North America. Range wide, this subspecies has declined to only 5% of its historic distribution (Bart 2000). Most occurrences in Colorado are in the northwest corner of the state. Since early 2000 CPW has transplanted sharp-tailed grouse in Montezuma and Grand counties and both populations are stable to increasing (Wickersham 2016). This species is a SWAP Tier 1 species, a Forest Service sensitive species in Region 2, and a BLM sensitive species in Wyoming. BBS surveys do not

show trends in Colorado or BCR 16. There is no IMBCR trend data available for BCR 16 in Colorado. Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed a 150% increase in the number of breeding blocks reported to have confirmed breeding in Colorado; but it should be noted that the majority of Atlas II data came from lek counts collected annually by CPW throughout the species occupied range at leks documented since the publication of Atlas I (Wickersham 2016). Primary threats on BLM-administered lands include habitat loss and degradation due to road and oil/gas development, excessive livestock grazing, cheatgrass invasion, pesticides, and disturbance from recreation (Baydack and Hein 1987, Beck 2006). Protection and enhancement of existing habitats and restoration of habitats that are no longer occupied or are severely degraded are the keys to maintaining sharp-tailed grouse in Colorado. Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends Columbian sharp-tailed grouse are retained as a sensitive species in accordance with criteria 1a and 1b.

Gray vireo - *Vireo vicinior*

Gray vireo (G5/S2B) is a new addition to the sensitive species list. Individuals are generally intermittently distributed at low densities across their range (Hargrove and Unitt 2014). In Colorado, they occur in the extreme western portion of the state, with confirmed breeding in the Little Snake, White River, Grand Junction, Uncompahgre, and Tres Rios Field Offices. A small population has been documented on non-BLM administered lands in the Royal Gorge Field Office (Wickersham 2016, Fink et al. 2022). Birds are found almost exclusively in pinyon-juniper woodlands, where they typically nest in juniper trees (Wickersham 2016). Grey vireo is a SWAP Tier 2 species and is a BLM sensitive species in New Mexico. The species is on the Partners in Flight (PIF) yellow watch list, due to limited breeding range and moderate threats (*i.e.*, pinyon-juniper removal) (Casey 2013, Rosenberg et al. 2016). BBS survey data (1966 – 2021) shows an increasing trend in BCR 16 (2.4%) and Colorado (4.4%). Similarly, IMBCR data shows an increasing trend in Colorado (1.02%), in BCR 16 (1.02%) and on BLM lands in BCR 16 (1.002%). However, there is a decreasing trend on all BLM lands in Colorado (-0.021%). Changes in breeding information from the first Breeding Bird Atlas (1987-1995) to Atlas II (2007-2012) showed a 29 percent increase in the number of breeding blocks reported to have confirmed breeding in Colorado (Wickersham 2016). Although trends for this species are generally increasing in Colorado, it received a State ranking of S2B (imperiled breeding population) by CNHP. This species is considered vulnerable due to its limited breeding range and small population size. Grey vireos appear to be susceptible to nest parasitism by brown-headed cowbirds (Hargrove and Unitt 2014). The BLM manages a disproportionately high amount of pinyon-juniper woodland in western Colorado. The primary threat to this species on BLM-administered lands is loss of woodlands due to fuels reduction/vegetation treatments; oil and gas development; large-scale wildfires/prescribed burns; disease; insects; and drought. BLM conifer management has potential to have a direct impact on the species and there is a clear need to develop management strategies that make pinyon-juniper treatments compatible with habitat requirements for the species. Given the species reliance on ecological refugia and unique habitat on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends gray vireo is designated a sensitive species in accordance with criteria 1a and 1b.

FISHES

Bluehead sucker – *Catostomus discobolus*

The bluehead sucker (G4/S4) is endemic to the Colorado River basin, ranging from Idaho south to Nevada, Utah, Wyoming, Colorado, New Mexico, and Arizona. In Colorado this species occupies low elevation mainstem rivers within the larger Colorado River basin including the Colorado River, Dolores River, Gunnison River, San Miguel River, White River, Yampa River, San Juan River, and Little Snake River as well as tributaries to these rivers generally below 7,500 feet. This species can complete its life cycle and maintain populations entirely within smaller tributaries – a distinction from flannelmouth sucker that generally only use tributaries for spawning and by young fish prior to returning to larger rivers. The BLM manages the majority of occupied habitat for this species in Colorado. Threats include alteration of the hydrologic and thermal (Clarkson and Childs 2000, Ward et al. 2002) characteristics of river habitats, climate change, blockage of migration routes due to dam and diversion construction, predation and competition by non-native aquatic species, hybridization with other *Catostomus* species, modification of streambeds through channelization, and landscape changes resulting from different land uses. Over the long term, this species has experienced a substantial decline in extent of occurrence, area of occupancy, population size, and habitat quality across much of its range. It is listed as a Colorado species of concern, and a sensitive species by the Forest Service. A range-wide conservation agreement and strategy for roundtail chub, bluehead sucker, and flannelmouth sucker was completed in 2006 (UTDNR 2006). BLM Colorado is signatory to this plan, and has, along with the other signatory agencies, agreed to expedite the implementation of conservation measures to ensure the species is conserved to preclude the need for listing under the Endangered Species Act. Given the species reliance on streams present on BLM-administered lands and evidence that such streams are threatened with alteration such that the species viability is at risk, and documented population declines, the bluehead sucker is retained as a sensitive species in accordance with criteria 1a and 1b.

Flannelmouth sucker – *Catostomus latipinnis*

The flannelmouth sucker (G3G4/S3) historical range included the Colorado River basin, from southwestern Wyoming to southern Arizona and the Mexican state of Sonora (Lee et al. 1980, Page and Burr 2011). The species has been extirpated from the Gila River drainage and the Colorado River below Lake Mead (Arizona Game and Fish Department 1995), except where they were introduced downstream from Lake Mohave in Arizona and Nevada in the mid-1970s (this population still exists) and in another area along the Arizona-California border (Minckley and Marsh 2009). It has also been extirpated in the Colorado River basin in northern Mexico (Minckley 2002). In Colorado this species occupies low elevation mainstem rivers within the larger Colorado River basin including the Colorado River, Dolores River, Gunnison River, San Miguel River, White River, Yampa River, San Juan River, and Little Snake River as well as tributaries to these rivers generally below 6500 feet. The BLM manages the majority of occupied habitat for this species in Colorado. Threats include alteration of the hydrologic and thermal (Clarkson and Childs 2000, Ward et al. 2002) characteristics of river habitats, climate change, blockage of migration routes due to dam and diversion construction, predation and competition by non-native aquatic species, hybridization with other *Catostomus* species, modification of streambeds through channelization, and landscape changes resulting from different land uses. Over the long term, this species has experienced a substantial decline in extent of occurrence, area of occupancy, population size, and habitat quality,

particularly in the southern portion of the range. It is listed as a Colorado Species of Concern, and a sensitive species by the U.S. Forest Service. A range wide conservation agreement and strategy for roundtail chub, bluehead sucker, and flannelmouth sucker was completed in 2006 (UT DNR 2006). BLM Colorado is signatory to this plan, and has, along with the other signatory agencies, agreed to expedite the implementation of conservation measures to ensure we conserve the species and preclude the need for listing under the Endangered Species Act. Given the species reliance on streams present on BLM-administered lands and evidence that such streams are threatened with alteration such that the species viability is at risk, and documented population declines, the flannelmouth sucker is retained as a sensitive species in accordance with criteria 1a and 1b.

Mountain sucker – *Catostomus platyrhynchus*

Mountain sucker (G5/S2?) is found throughout the western United States in California, Colorado, Idaho, Montana, Nebraska, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming; Alberta, British Colombia, and Saskatchewan, western Canada (Page and Burr 2011). It is widely distributed in some parts of its range and sparsely distributed in others. Colorado represents the southern extent of the range in the U.S. and this species is endemic to the White and Yampa River basins in the northwest corner of the state. This species can range in elevation up to 9,000 feet but is generally found in cool, clean water mid elevation mountain streams with cobble, sand, or gravel substrate, and favors pools. Mountain sucker is stable in some regions while in decline in others. Indications of declining populations in the historical range have been reported in California (Decker 1989, Erman 1986). In the Missouri River drainage in Wyoming, mountain sucker populations have declined in 12 of 18 sites, 11 of 15 streams, 8 of 10 subdrainages, and 5 of 15 drainages (Patton et al. 1998). Threats include climate change, habitat loss and degradation, and invasive species. It is a species of concern in Colorado. Given the species reliance on streams present on BLM-administered lands and documented population declines, the mountain sucker is retained as a sensitive species in accordance with criteria 1a.

Rio Grande sucker – *Catostomus plebeius*

The Rio Grande sucker (G3G4/S1) ranges from south-central Colorado into New Mexico south to the Mexican states of Chihuahua, Durango, and Zacatecas. The species was introduced in Arizona and New Mexico. It is common and stable in portions of the range and has declined in the north. The trend in Mexico uncertain. Several sizable populations occur in New Mexico (see New Mexico Department of Game and Fish 1996). In Colorado, the species was historically found throughout much of the Rio Grande drainage, though currently only one population remains in the state in Hot Creek (Langlois et al. 1994, Swift-Miller et al. 1999). Habitat includes rocky pools, runs, and riffles of small to medium rivers (Lee et al. 1980, Page and Burr 2011); usually over gravel and/or cobble, also in backwaters and pools below riffles; this species rarely occurs in waters with heavy silt and organic detritus (Sublette et al. 1990). It favors low gradient; low velocity stream reaches (Calamusso et al. 2002). Factors that have caused declines include depleted flows that result in increased temperatures, dewatering, habitat alteration from siltation, channelization, habitat destruction, including pollution, trans-basin diversions, and interactions with non-native fish (Zuckerman and Langlois 1990). Swift-Miller et al. (1999) found that hybridization with the non-native white sucker does not appear to be a major factor in decline of Rio Grande sucker in Colorado, whereas other biotic interactions with that species may be important. Calamusso et al. (2002) reported that white suckers simply "replaced" native Rio Grande suckers in New Mexico, and they stated

that further research is needed to determine the mechanisms by which white suckers and other non-native species limit the distribution and abundance of *C. plebeius*. This species is critically imperiled in Colorado. Given its reliance on streams present on BLM-administered lands and evidence that such streams are threatened with alteration such that the species is threatened with extirpation from the state, and documented population declines, the Rio Grande sucker is retained as a sensitive species in accordance with criteria 1a and 1b.

Arkansas darter – *Etheostoma cragini*

The Arkansas darter (G3G4/S2) range includes the Great Plains region of southeastern Colorado, southwestern and southcentral Kansas, and northwestern Oklahoma, and the Spring, Neosho (Grand), and Illinois river drainages of the Ozark Plateau region in southwestern Missouri, southeastern Kansas, northeastern Oklahoma, and northwestern Arkansas. Localized populations occur in the Arkansas River drainage in southeastern Colorado (upstream to El Paso County) (Miller 1984). Colorado represents the western most extent of the range. Almost all populations (> 95%). occur on private land. Preferred habitat is spring-fed headwaters and creeks with cool, clear, shallow water, slow current, and herbaceous aquatic vegetation such as growths of watercress or other aquatic plants; often in pools with sand, fine gravel, or organic detritus substrate; sometimes in turbid water away from springs (Lee et al. 1980, Cross and Collins 1995, Hargrave and Johnson 2003, Miller and Robison 2004, Page and Burr 2011). Darter populations in Colorado persist in large, deep pools during late summer low-water periods when streams may become intermittent. The species is found in the Upper Arkansas River, Adobe Creek, Fountain Creek, Horse Creek, Upper Arkansas at John Martin, Big Sandy Creek, Rush Creek, Black Squirrel Creek, and Chico Creek drainages. Populations are impacted by decreased water quantity in western portions of its range including Arkansas River tributaries in eastern Colorado. In this portion of the species' range the intensity and overall threat level are considered moderate to high. Current range-wide trend (past 10 years) is uncertain, but distribution and abundance likely are slowly declining (FWS 2011). Recent sampling of fifteen historical sites in Colorado produced collections of *E. cragini* in fourteen sites. Overall, the species appears to be relatively stable within Colorado, though populations in the Arkansas river floodplain have persisted and even thrived, while those in the more upland portions of the species' range, which were formerly considered the most robust, have held steady or perhaps lost ground (Crockett 2010). Given its reliance on streams present on BLM-administered lands that provide refugia for the species the Arkansas darter is retained as a sensitive species in accordance with criteria 1b.

Rio Grande chub – *Gila pandora*

Rio Grande chub (G3/S1?) is found in New Mexico, western Texas, and south-central Colorado. Despite a large decline in distribution and abundance they can be locally common. Formerly this species was widespread in creeks of the upper Rio Grande and Pecos watersheds in New Mexico and the Rio Grande and San Luis basin in southern Colorado, with an isolated population in the Davis Mountains, Texas (Little Aguja Creek [Nations Canyon Creek], Pecos River system, Jeff Davis County) (Sublette et al. 1990, Zuckerman and Langlois 1990, Calamusso and Rinne 1996, Bestgen et al. 2003, Rees et al. 2005, Hubbs et al. 2008). Several small subpopulations exist in Colorado, and many small subpopulations occur in New Mexico (Zuckerman and Langlois 1990, Calamusso and Rinne 1996, Bestgen et al. 2003, Rees et al. 2005). An isolated, introduced population occurs in Dome Lake on the Gunnison National Forest, Colorado (Rees et al. 2005). This chub is most common in flowing pools of headwaters, creeks, and small rivers,

often near inflow of riffles and in association with cover such as undercut banks, aquatic vegetation, and plant debris (Lee et al. 1980, Sublette et al. 1990, Rees et al. 2005, Page and Burr 2011). It also occurs in impoundments (see Sublette et al. 1990). In Colorado's Rio Grande basin, Bestgen et al. (2003) routinely found fish at sites where sand was the dominant substrate and least often found at sites with cobble substrate. Water diversion projects have resulted in flow regime changes in both tributary and mainstem rivers and streams (Rees et al. 2005). Construction of diversion dams and reservoirs has degraded and fragmented habitats and caused passage barriers (Rees et al. 2005). The introduction of non-native species (*e.g.*, brown trout, brook trout, northern pike, common carp, white sucker) has increased predation and competition (Rees et al. 2005). Land use changes and local development (*e.g.*, road building, timber harvesting, mining) and excessive grazing in riparian zones have degraded natural stream ecosystem function (Bestgen et al. 2003, Rees et al. 2005). Given its reliance on streams present on BLM-administered lands and evidence that such streams are threatened with alteration such that its continued viability is at risk, and documented population declines, the Rio Grande chub is retained as a sensitive species in accordance with criteria 1a and 1b.

Roundtail chub – *Gila robusta*

The roundtail chub (G3/S2) is endemic to the Colorado River basin. Historically its range included the Colorado River and its tributaries from southwestern Wyoming, Utah, and Colorado southward to the Little Colorado River confluence in Arizona, south of which the species occurred only in primary tributaries of the Colorado River (Carman 2006). The southward extent of its range included much of the Bill Williams and Gila drainages in Arizona. Occasionally this species may have occupied the Colorado River delta in northern Sonora and Baja California (Minckley and Marsh 2009). In Colorado this species occupies low elevation mainstem rivers within the larger Colorado River basin including the Colorado River, Dolores River, Gunnison River, San Miguel River, White River, Yampa River, San Juan River, and Little Snake River as well as tributaries to these rivers generally below 6,500' elevation. The BLM manages the majority of occupied habitat for this species in Colorado. Threats to the species and its habitat include alteration of the hydrologic and thermal (Clarkson and Childs 2000, Ward et al. 2002) characteristics of river habitats, climate change, blockage of migration routes due to dam and diversion construction, predation and competition by non-native aquatic species, modification of streambeds through channelization, and landscape changes resulting from various land uses. Over the long term, this species has experienced a substantial decline in extent of occurrence, area of occupancy, population size, and habitat quality across much of its range. It is listed as a Colorado species of concern, and a sensitive species by the Forest Service. Given its reliance on streams present on BLM-administered lands and evidence that such streams are threatened with alteration such that its continued viability is at risk, and documented population declines, the roundtail chub is retained as a sensitive species in accordance with criteria 1a and 1b.

Colorado River cutthroat trout – *Oncorhynchus clarkii pleuriticus* (includes the Blue, Green, and Red lineages in western CO)

The Colorado River cutthroat trout (G4T3/S3) is comprised of three genetically distinct lineages – the Blue Lineage native to the Green, Yampa, and White River basins in northwestern Colorado, northeastern Utah, and southern Wyoming; the Green Lineage native to the Colorado, Dolores, and Gunnison River basins in west-central Colorado, and eastern Utah, and the Red Lineage native to the San Juan River basin in southwest Colorado. All three lineages require cold, clear water and well-vegetated streambanks for cover

and bank stability, instream cover in the form of deep pools and boulders and logs are also important. The species thrives at high elevations (Spahr et al. 1991, Young 1995). Decline is related to hybridization with introduced rainbow trout; replacement by introduced cutthroat trout, brook trout, rainbow trout, and brown trout; interference with recolonization by established populations of non-native salmonids; habitat alteration/fragmentation from overgrazing by livestock, logging, toxic effluents from mining, and water diversion for irrigation; and overharvest (Spahr et al. 1991, Behnke 1992, Young 1995, 1996). The impact of climate change on stream environments is an emerging risk to salmonid populations in the western US. The potential effects to Colorado River cutthroat trout populations are well known and broadly consist of reductions in available suitable habitat (*i.e.,* reduced flow, increases stream temperatures) and increased exposure to stochastic disturbance events (*e.g.*, increased frequency of fire and floods) (Hirsch et al. 2013). There are approximately 361 Colorado River cutthroat trout conservation populations that occupy approximately 3,403 km of stream habitat, consisting of about 11% of the estimated historic range (Hirsch et al. 2013). Given its reliance on streams present on BLM-administered lands and evidence that such streams are threatened with alteration such that its continued viability is at risk, and documented population declines, the Colorado River cutthroat trout is retained as a sensitive species in accordance with criteria 1a and 1b.

Rio Grande cutthroat trout – *Oncorhynchus clarkii virginalis*

The Rio Grande cutthroat trout (G4T3/S3) is a subspecies of cutthroat native to cold streams in the Rio Grande basin in southern Colorado and New Mexico. Fish require cold, clear water and well-vegetated streambanks for cover and bank stability, instream cover in the form of deep pools and boulders and logs is also important. Given its dependence on cold water environments Rio Grande cutthroat thrives at high elevations. Stream lengths of about 5 miles (8 km) or more provide the most favorable habitat (see FWS 2002). Rio Grande cutthroat trout are primarily found in streams but occasionally occur in lacustrine (lake or reservoir) habitats. The historic range of Rio Grande cutthroat trout is somewhat uncertain, but it is probable the subspecies occupied the colder reaches of streams in the mountainous portions of the Rio Grande, Canadian, and Pecos River drainages in southern Colorado and New Mexico (Behnke, 1992 and 2002). Widespread introductions of non-native salmonids over the last century, however, have limited current distributions of Rio Grande cutthroat trout to isolated headwater streams and lakes. Reductions in the subspecies distribution have been documented in a number of reports (Behnke, 1979, Pritchard and Cowley, 2006). The Rio Grande Cutthroat Trout Conservation Team worked with agency experts to develop the spatially referenced database that contains all available information on the abundance, genetic integrity, and distribution of the subspecies relative to its historic range. The 2022 version of the database identifies 772 miles of occupied stream habitat (11.6% of historically occupied habitat), with 125 conservation populations identified, including 92 conservation populations with greater than 99% genetic purity. Introduction of non-native trout is widely recognized as one of the leading causes of historical range reduction in cutthroat trout subspecies (Peterson et al. 2004). Non-native rainbow, brook, and brown trout and Yellowstone cutthroat trout have been introduced extensively throughout the range of Rio Grande cutthroat trout, and they readily hybridize with (rainbow and other cutthroat subspecies), compete with (brook and brown trout), and prey upon (brown trout) Rio Grande cutthroat trout. Rio Grande cutthroat trout have hybridized with non-native salmonids in many areas, reducing the genetic integrity of this subspecies. Additionally, habitat loss and degradation are considered primary threats. Populations have been lost because of water diversions, stream drying and other climate change or drought effects, dams, habitat degradation, and changes in hydrology. Stream degradation from

overgrazing by livestock, loss of streamside cover resulting from timber harvest and roads, and loss and/or degradation of habitats from wildfires. In addition, habitats are fragmented (FWS 2002), and most populations are isolated in headwater habitats that are more susceptible to extreme events. Gene flow among populations is virtually nonexistent (Rinne 1995). The Rio Grande cutthroat is designated as a species of special concern by Colorado Parks and Wildlife. Regions 2 and 3 of the Forest Service and the BLM in Colorado and New Mexico have all classified it as a sensitive species. The Rio Grande Cutthroat Trout Conservation Team, made up of state and federal agencies and tribes in Colorado and New Mexico as well as a variety of other non-governmental partners, was established in 2003. The Conservation Agreement for the Range-wide Preservation and Management of the Rio Grande Cutthroat Trout (2003 Conservation Agreement) was also first signed in 2023. BLM Colorado has been an active member of this team since 2003 and has been a signatory entity on both the Conservation Agreement and the Conservation Strategy, committing with its partners to expedite the implementation of conservation measures to ensure we conserve the species and preclude the need for listing under the Endangered Species Act. Given its reliance on streams present on BLM-administered lands and evidence that such streams are threatened with alteration such that its continued viability is at risk, and documented population declines, the Rio Grande cutthroat trout is retained as a sensitive species in accordance with criteria 1a and 1b.

REPTILES

Colorado checkered whiptail - *Aspidoscelis neotesselata*

The Colorado checkered whiptail (G3/S2) is a new addition to the sensitive species list. The species is endemic to southeastern Colorado, ranging from Rocky Mountain foothills in Fremont County at elevations up to 6,900 feet and southeast around the Arkansas, Huerfano, Apishapa, and Purgatoire rivers and their tributaries. The lizard is associated with juniper and pinyon-juniper woodlands, arid, rocky canyons, rocky hillsides, shrubby areas, and open savannah. The species is triploid, having three sets of chromosomes, and is entirely composed of females which can reproduce parthenogenetically. The species is sensitive to development and habitat loss. A recent study at Fort Carson also found evidence of noise-induced stress in this species, with potential ramifications for reproductive success (Kepas et al. 2023). The species distribution overlaps BLM-administered surface acres and subsurface minerals, and individuals have been detected within the Garden Park ACEC in the Royal Gorge Field Office. There is potential overlap with OHV areas, minerals development, rights of way, and other BLM actions that have potential to negatively affect the species. Beyond potential land-use ramifications, the complete distribution of the species is unknown, and its ecology is poorly understood, especially on BLM lands. Given its dependence on habitats represented on BLM-administered lands and evidence that such habitats are threatened with alteration such that the viability of the species is at risk, the Colorado checkered whiptail is designated a sensitive species in accordance with criteria 1b.

Midget faded rattlesnake – *Crotalus oreganus concolor*

The midget faded rattlesnake (G5T4/S3?) is endemic to southwestern Wyoming, northwestern Colorado, and adjacent Utah, below 7,000 ft in elevation (Hammerson 1999). In Colorado, this species will occupy virtually every terrestrial habitat type that exists within its geographic and elevational range. This includes semi-desert shrubland, riparian zones, piñon-juniper woodlands, and montane woodlands (Colorado

Parks and Wildlife). This species occurs in sagebrush communities and depends on rocky outcrops for cover, variable thermal conditions, and hibernation (Wyoming Game and Fish Department 2022). It is threatened by unregulated collection by reptile enthusiasts. Increased mineral exploration and recreational OHV-use within its range will bring this snake into more frequent contact with people and motor vehicles, which will increase snake mortality. Herpetologists knowledgeable about this snake suggest that it may soon receive full species status based on significant differences in venom structure and other characters. The elevation and type of habitat the midget faded rattlesnake occupies in its range make it likely to depend on BLM-administered lands for success of many populations, making it a species with high potential to respond to BLM management. Given its dependence on specialized habitats represented on BLM-administered lands the midget faded rattlesnake is retained as a sensitive species in accordance with criteria 1b.

Long-nosed leopard lizard – *Gambelia wislizenii*

The long-nosed leopard lizard (G5/S1) is found from Oregon, southern Idaho, Utah and western Colorado south through eastern and southern California, Nevada, Arizona, New Mexico, and western Texas to northeastern Baja and north-central mainland Mexico (including Isla Tiburon, Sonora, in the Gulf of California) (McGuire 1996, Stebbins 2003). Habitat includes desert and semidesert areas with scattered shrubs or other low plants (*e.g.,* creosote bush & sagebrush), especially areas with abundant rodent burrows (Nussbaum et al. 1983, Hammerson 1999, Stebbins 2003). The species is primarily ground dwelling, but sometimes individuals climb into bushes. When threatened, leopard lizards typically escape to the base of a shrub and remain motionless. When inactive, they occupy burrows. Major threats include habitat loss and degradation resulting from agricultural, commercial, and residential development and invasion of exotic herbaceous plants (*e.g.,* cheatgrass) (Hammerson 1999). Trends cannot be precisely quantified, but the area of occupancy and abundance probably are declining at a slow rate as a result of ongoing habitat loss and degradation. Elevation and type of habitat make this species likely to depend on BLM land in its range; the longnose leopard lizard could be highly responsive to BLM management. Given its dependence on specialized habitats represented on BLM-administered lands, and population declines, the long-nosed leopard lizard is retained as a sensitive species in accordance with criteria 1a and 1b.

California kingsnake – *Lampropeltis californiae*

The California kingsnake (G5/S1) is a new addition the sensitive species list. This species range extends from southern Oregon, western and southern Nevada, southern Utah, and extreme southwestern Colorado (Hammerson 1999) southward through California, Arizona, and possibly extreme western New Mexico, south to the Mexican states of Baja and northern Sinaloa (Pyron and Burbrink 2009). This primarily terrestrial snake occurs in a wide range of habitats, including forest, woodland, shrubland, swamps, marshes, river bottoms, grassland, semidesert, desert, and farmland. Periods of inactivity are spent in crevices or burrows, under rocks, logs, stumps, vegetation, or other cover. No major threats are known. Over the long term, a substantial extent of habitat has been lost and/or degraded due to intense urbanization and agricultural development, but a large amount of occupied suitable habitat remains. Some local populations near towns probably have been depleted by collection for the pet trade, but most populations are not vulnerable to excessive collection. The species is considered critically imperiled in Colorado at the edge of its distribution. Given its dependence on habitats represented on BLM-

administered lands where it is threatened with extirpation from the state the California kingsnake is designated a sensitive species in accordance with criteria 1a and 1b.

Speckled kingsnake – *Lampropeltis holbrooki*

The speckled kingsnake (G5/S1) ranges from southeastern Colorado (Hammerson 1999), southeastern Nebraska, and southern Iowa southward through the south-central United States to the Gulf Coast of Louisiana and Texas and into northeastern Mexico (Pyron and Burbrink 2009). This snake is popular in the pet trade, and local collection may reduce some populations. Some habitat has been lost and/or degraded as a result of intensive urbanization and agricultural development. Overall, the threat level is low but the species is critically imperiled in the northern portion of its range including in Colorado where it is restricted to a small area in the southeastern corner of the state within the Royal Gorge Field Office. Given its dependence on habitats represented on BLM-administered lands where it is threatened with extirpation from the state the speckled kingsnake is retained as a sensitive species in accordance with criteria 1a and 1b.

Mesa Verde nightsnake - *Hypsiglenia chlorophaea loreala*

Mesa Verde nightsnake (G5TNR/S2) is a new addition to the sensitive species list. The species is found in extreme western Colorado from Garfield County south to Montezuma and La Plata counties in the Grand Junction, Uncompahgre, and Tres Rios Field Offices. This snake generally inhabits arid and semiarid plains, canyons, and hillsides, usually in rocky, dissected or hilly terrain with sandy or gravelly soils, including areas dominated by desert, grassland, shrubland, savanna, or woodland (Hammerson 1999, Stebbins 2003). Periods of inactivity are spent under rocks or other surface cover, in crevices, or underground. Limited threats have been identified due to preferred rocky habitat considered generally unsuitable or incompatible for anthropogenic uses. Trends for this species are not well documented. BLM managed lands account for at least 30 percent of known suitable habitat for the species. BLM managed lands account for less than 50 percent of the known species element occurrences but the habitat type or location is important for species recovery and reintroductions are determined feasible and important for conservation. The Canyon of the Ancients National Monument (TR) designated a rare snake and lizard area for the preservation of desert spiny lizard, longnose leopard lizard, and Mesa Verde nightsnake. Given its dependence on habitats represented on BLM-administered lands where it is threatened with extirpation from the state the Mesa Verde nightsnake is designated a sensitive species in accordance with criteria 1a and 1b.

Desert spiny lizard - *Sceloporus magister*

The desert spiny lizard (G5/S2) is a new addition to the sensitive species list. The species ranges from California east to Nevada, Utah, Colorado, Arizona, New Mexico, and into Texas. In Colorado, this species is found in the extreme southwestern part of the state in the Tres Rios Field Office. This lizard inhabits arid and semiarid regions, from plains to lower mountain slopes, including desert shrubland and woodland, mesquite-yucca grassland, juniper and mesquite woodland, shrubby areas along arroyos and playa edges, and cottonwood/willow habitats along rivers (Degenhardt et al. 1996, Hammerson 1999, Stebbins 2003). It occurs on trees, rocks, and on the ground near cover. Eggs are laid in soil/underground. Trends for this species are not well documented. In the Tres Rios Field Office observations of desert spiny have declined over the last decade (West, 2023 personal communication). BLM-administered lands

account for less than 50 percent of the known species element occurrences, but the habitat type or location is important for species recovery and reintroductions are determined feasible and important for conservation. The Canyon of the Ancients National Monument designated a rare snake and lizard area for the preservation of desert spiny lizard, long-nosed leopard lizard, and Mesa Verde nightsnake. Given its dependence on habitats represented on BLM-administered lands where it is threatened with extirpation from the state the desert spiny lizard is designated a sensitive species in accordance with criteria 1a and 1b.

Massasauga – *Sistrurus tergeminus*

The massasauga (G3/S2) is found in the United States in the southwestern plains from southeastern Colorado extreme southeastern Nebraska and northwestern Missouri, southwest through east-central Kansas and west-central Oklahoma into northern and central Texas about as far southwest as the Colorado River. It is also found in northern Mexico. Most authors seem to agree that western massasaugas in this portion of their range prefer to overwinter in low, swampy areas close to marshes, lakes, and rivers. They then travel to prairies, open grasslands, meadows, or dry woodlands. Habitat for massasauga in Colorado consists of dry plains grassland and sand hill areas. Massasaugas may be attracted to sandy soils supporting abundant rodent populations. The massasauga occurs in southeastern Colorado at elevations below about 5,500 feet and is locally common within the Royal Gorge Field Office. Despite its local abundance the species is considered imperiled in Colorado and is dependent on appropriately managed habitats present on BLM-administered lands. Given its dependence on habitats represented on BLM-administered lands and evidence that such habitats are threatened with alteration such that the viability of the species is at risk, the massasauga is retained as a sensitive species in accordance with criteria 1b.

AMPHIBIANS

Northern cricket frog – *Acris crepitans*

Northern cricket frog (G5/SH) has been removed from the sensitive species list due to its presumed extirpation from the state. Found across central and southern U.S. the species was historically known from a small area along the extreme eastern margin of Colorado which represents the western edge of historical occurrence (Hammerson and Livo 1999). This species inhabits the edges of sunny marshes, marshy ponds, and small slow-moving streams in open country. It may periodically range into adjacent non-wetland habitats in some regions. Eggs and larvae develop in the shallow water of ponds, marshes, ditches, slow streams, springs, or rain pools. Hibernation sites are underground on land near water; may hibernate communally (*e.g.*, McCallum and Trauth 2003). The species is considered secure in the majority of its range, in the eastern US, although it is generally in decline in the northwestern portion of its range. Threats include climate change, disease, predation, and competition with other species. In Colorado, the northern cricket frog has been historically observed along the Republican River system in the northeast part of the state. The last known specimen in Colorado was observed in 1979 along the North Fork of the Republican River (Hammerson 1999). In Colorado, northern cricket frog habitat occurs along sunny, muddy or marshy, gently sloping edges of permanent or semi-permanent ponds, reservoirs, and streams; along irrigation ditches; in pastures; and in sand hill country. Given its likely extirpation from the state the northern cricket frog has been removed from the list of sensitive species.

Boreal toad – *Anaxyrus boreas* pop. 1 (Southern Rocky Mountain population)

Boreal toads (G4T1/S1) use wet habitats in foothill, montane, and subalpine areas and are seldom far from water. They can potentially be found in all riparian habitat types, including marshes, wet meadows, streams, beaver ponds, glacial kettle ponds, and lakes that are interspersed in subalpine forest of lodgepole pine, Engelmann spruce, subalpine fir, and aspen. Formerly widespread and numerous in southern Wyoming, Colorado, and northern New Mexico, the Southern Rocky Mountain DPS (also known as pop. 1) has declined substantially since the 1970s. Large breeding populations are now confined to a few areas in Colorado. The cause of the decline has been the subject of much speculation and is not firmly established. Die-offs in the Southern Rockies have been associated with chytrid fungus (*Batrachochytrium dendrobatidis*) infections (Daszak et al. 2000), which attacks keratinized tissue and is especially detrimental to recently metamorphed toadlets. In Colorado, chytrid fungus has been implicated in dramatic declines in several populations of boreal toads since its discovery in the state in 1999 (FWS 2017). Wetland habitat alteration due to recreation (Campbell 1970), grazing (Bartelt 1998), reservoir construction (Hammerson 1999), and additional threats including timber harvest, fire management, environmental pollutants, and non-native species introduction (Keinath and McGee 2005) present secondary threats. Climate change also presents a threat, as reduced hydroperiod at breeding ponds was found to negatively impact recruitment in populations in Colorado (Lambert et al. 2016). Changes in snowpack could impact survival and breeding success of boreal toads (Corn 2003, Scherer et al. 2008). Declines may be related in part to sensitivity of eggs to increased levels of ultraviolet radiation (Blaustein et al. 1994), although UV-B alone does not appear to be the cause of the decline in recent decades in the southern Rocky Mountains (Corn 1998). A long-term decline of >70% and a short-term decline of 30-70% are predicted for the Southern Rocky Mountain DPS. Models developed to assess the current viability of the eastern clade of boreal toads suggest that there is a > 95% probability of persistence of boreal toads in the Southern Rocky Mountains over the next 50 years but with lower population levels (FWS 2017). Since the 1970s, populations in Colorado and Wyoming have undergone a drastic decline (>90% of historic occurrences are extirpated) and New Mexico populations have been extirpated (Corn et al. 1989, Hammerson 1999, Carey 1993, Degendardt 1996). Declines are still occurring, even in relatively pristine areas (Muths 2003). Suitable habitat for this species is unique to the highest elevation wet meadow habitats found on BLM-administered lands across Colorado. Given its reliance on unique habitats represented on BLM-administered lands and evidence that such areas are threatened with alteration such that the species viability in the state is at risk, and documented population declines, boreal toad is retained as a sensitive species in accordance with criteria 1a and 1b.

Canyon treefrog – *Dyrophytes arenicolor* (*=Hyla arenicolor*)

The canyon treefrog (G5/S2) occurs from western and southeastern Colorado and southern Utah, south through Arizona and western New Mexico in the United States to northern Oaxaca in Mexico. There are also isolated populations in northeastern New Mexico and the Big Bend area of western Texas. It is found from near sea level to about 9800 feet (Stebbins 1985). This species is imperiled in Colorado. It frequents arroyos in semi-arid grassland, streams in pinon-juniper and pine-oak woodlands habitats primarily managed by the BLM in Colorado (Stebbins 1985). It is primarily terrestrial, and in breeds in pools along canyon-bottom streams. Given its reliance on habitats represented on BLM-administered lands and

evidence that such areas are threatened with alteration such that the species persistence in the state is threatened, the canyon treefrog is retained as a sensitive species in accordance with criteria 1b.

Plains leopard frog – *Lithobates blairi*

The plains leopard frog (G5/S3) ranges from the southern edge of South Dakota to central Texas (Bartlett and Bartlett 1999), west to eastern Colorado (Hammerson 1999) and central New Mexico (Degenhardt et al. 1996), east in the Prairie Peninsula to Indiana, south along the Mississippi River to southeastern Missouri (Johnson 1987). Disjunct populations occur in southeastern Arizona (Clarkson and Rorabauch 1989), and an apparently introduced population at Ashurst Lake, Coconino County, north-central Arizona (Brown 1992). The species occurs up to elevations of around 5,905 feet in Arizona and Colorado, 3,281-7382 feet in New Mexico (Degenhardt et al. 1996). Stebbins (1985) reported the elevational range as 361-8,497 feet. *Lithobates blairi* hybridizes with *Lithobates pipiens* in eastern Colorado (Hammerson 1999). Suitable habitat includes riparian/riverine corridors, wetlands, and wetland/upland mosaics in which wetland patches are separated by less than 1 km of upland habitat; it also includes any upland habitat regularly used for feeding or wintering. In Colorado, the plains leopard frog occurs in the southeastern portion of the state. It inhabits the margins of streams, natural and artificial ponds, reservoirs, creek pools, irrigation ditches, and other bodies of water in plains grassland, sand hills, stream valleys, or canyon bottoms. Although the plains leopard frog remains widely distributed within southeastern Colorado, lack of adequate data makes it difficult to assess trends in abundance in the state. It has become rare or absent where bullfrogs have been introduced in Colorado. Given its reliance on habitats represented on BLM-administered lands and observed population declines, the plains leopard frog is retained as a sensitive species in accordance with criteria 1a and 1b.

Northern leopard frog – *Lithobates pipiens*

The northern leopard frog (G5/S3) has a large range throughout much of the U.S. and southern Canada and is still common in many areas and in a diverse array of pristine and disturbed habitats. Populations have declined in some areas due to habitat loss and degradation, overexploitation, interactions with non-native species, and unknown causes. Northern leopard frogs live in the vicinity of springs, slow streams, marshes, bogs, ponds, canals, flood plains, reservoirs, and lakes; usually they are in or near permanent water with rooted aquatic vegetation. In summer, they commonly inhabit wet meadows and fields. The frogs take cover underwater, in damp niches, or in caves when inactive. Wintering sites are usually underwater, though some frogs possibly overwinter underground. Threats include commercial overexploitation, and, in some areas, probably competition/predation by bullfrogs or other introduced species. Habitat alteration and loss including flood-control measures and diversion of water for irrigation have probably reduced the availability of breeding habitat along floodplains in lowland segments of some streams. Exposure to pH 5.5 or lower increases vulnerability to bacterial infection (Simon et al. 2002). Decline in populations in the Rocky Mountains has been documented (Corn et al. 1989). Local extirpation and colonization may be normal ecological features of the northern leopard frog in the drought-prone climate of Colorado. Given its reliance on habitats represented on BLM-administered lands and evidence that such areas are threatened with alteration such that the species viability in the state is at risk, and observed population declines, the northern leopard frog is retained as a sensitive species in accordance with criteria 1a and 1b.

INVERTEBRATES

Silverpot butterfly – *Argynnis nokomis nokomis* (*=Speyeria nokomis nokomis*)

The silverspot butterfly (G3T1/T1) is a critically imperiled butterfly found in western Colorado, Utah, and New Mexico. The subspecies is proposed for listing as threatened under the Endangered Species Act (FWS 2022). The species requires moist, open meadows with a diversity of vegetation for shelter. Individuals require bog violet (*Viola* spp.) when in their larval stage, which they feed on exclusively. Habitat loss and fragmentation, incompatible livestock grazing, human caused hydrologic alteration and genetic isolation are all drivers of the species current condition. Climate change is projected to have an additional negative effect. Given the species reliance on specialized habitats represented on BLM-administered and evidence that such areas are threatened with alteration such that the species continued viability is at risk, and observed population declines, silverspot butterfly is retained as a sensitive species in accordance with criteria 1a and 1b.

Western bumblebee - *Bombus occidentalis*

The western bumblebee (G3/S3S4) is a new addition the sensitive species list. Native to the western United States, Canada, and Alaska the species' range has contracted substantially in recent years. Western bumblebee was petitioned for listing under the Endangered Species Act and is currently under review (FWS 2016). Threats to the species and its habitat include pathogen spillover of *Nosema bombi*. Habitat loss and alteration due to agricultural intensification, urban development, conifer encroachment, incompatible grazing, timber management and climate change pose threats to the species and its habitat. Insecticides and competition with European honeybees provide additional stress on the species. Given its reliance on habitats represented on BLM-administered lands and the likelihood of management to affect the species, and documented population declines, western bumblebee is designated a sensitive species in accordance with criteria 1a and 1b.

American bumblebee – *Bombus pensylvanicus*

The American bumblebee (G3G4/S2S3) is a new addition to the sensitive species list. A wide-ranging species ranging from the Great Plains to the eastern and central United States and Canada, the species has experienced substantial declines over the past century. The species is under review for listing under the Endangered Species Act (FWS 2021). The species nests in open fields and occasionally in cavities underground. Threats to the species and its habitat include pathogen spillover (*Nosema*), habitat destruction as a result of agriculture and livestock, the use of pesticides, climate change, and competition from non-native honeybees. Given the species reliance on habitats represented on BLM-administered lands, and documented population declines, the American bumblebee is designated a sensitive species in accordance with criteria 1b.

Suckley's cuckoo bumblebee – *Bombus suckleyi*

Suckley's cuckoo bumblebee (G2G3/S2) is a new addition to the sensitive species list. The species is a generalist pollinator and a rare obligate, parasitic bumblebee which invades nests of other bees (including *B. occidentalis*). Suckley's cuckoo bee is under review for listing as an endangered species under the Endangered Species Act (FWS 2021). The species has declined substantially since the early 1900's across its range, a pattern that mimics the decline of its principal host, *B. occidentalis.* Habitat loss from livestock grazing, fire management, bark beetle management, agricultural intensification have reduced the quality

and quantity of available habitat. Loss of hosts, climate change, and competition from non-native honeybees all pose a threat to the species and its habitat. Given the species reliance on habitats represented on BLM-administered lands and sensitivity to management actions involving livestock, and documented population declines, Suckley's cuckoo bee is designated a sensitive species in accordance with criteria 1a and 1b.

Monarch butterfly - *Danaus plexippus*

The monarch butterfly (G4/S5) is a new addition to the sensitive species list. Monarchs are relatively wide-ranging in North America and is currently a candidate for listing under the Endangered Species Act (FWS 2020). The migratory monarch, which undertake long-distance seasonal migrations to overwintering sites in California and Mexico, has sustained large declines in recent years of close to 90%, that are most dramatic in the western United States. The species is a milkweed (*Asclepias* spp.) obligate, requiring these plants during their larval phase. Threats to the species include insecticide, conversion of grasslands to agriculture, and urban development. The loss of milkweeds across North America are also a contributing factor. Given the species reliance on habitats represented on BLM-administered lands, and recent observed population declines, the monarch butterfly is designated a sensitive species in accordance with criteria 1a and 1b.

PLANTS

Uinta Basin Gilia - *Aliciella stenothyrsa* (*=Gilia stenothyrsa*)

Uinta Basin Gilia (G3/S2) is endemic to the Unita Basin in Colorado and Utah. Eight occurrences are known from Colorado of which approximately 56% are found on lands administered by the BLM White River and Grand Junction Field Offices. Plants are biennials found in open areas on soils derived from the Green River and Uinta Formations in semi-desert shrubland, coniferous woodland, salt desert scrub, sagebrush, and mountain mahogany communities. The species cooccurs with several other regional endemic plant species at Weaver Ridge and Park Mountain, including White River beardtongue, Rollins' Cryptantha, and ephedra buckwheat. These specialized shale barrens habitats represented on BLM lands are threatened with alteration from oil and gas development and oil shale mining given the petroleum resources present in the formations on which the species occurs. Additional threats to the species and its habitat include OHV use, the construction and maintenance of transmission lines, livestock grazing, and climate change. According to the CNHP 50% of occurrences are in areas with moderate to high levels of landscape disturbance (CNHP 2022). Given the species reliance on unique habitats represented on BLM-administered lands and evidence that such areas are threatened with alteration such that species viability is at risk, Uinta Basin Gilia is retained as a sensitive species in accordance with criteria 1b.

Jones' bluestar - *Amsonia jonesii*

Jones' bluestar (G4/S2) is a regional endemic to the four-corners states. In Colorado, the species is known from nine occurrences of which six of which haven't been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). Eighty-five percent of the known occurrences are located on BLM lands managed by the Grand Junction and Tres Rios Field Offices (CNHP 2022). Plants are found on sandy substrate in pinyon-juniper woodland and semi-desert scrub, and sagebrush communities. Threats to the species and its habitat include encroachment by non-native

invasive plant species, OHV use, and climate change. Two of the extant occurrences are located within McInnis Canyons National Conservation Area. While the special land designation affords theses populations some degree of protection from surface disturbing activities, both sites are near popular recreational trail systems. Given its rarity and the importance of these populations to the species overall distribution Jones' bluestar is retained as a sensitive species in accordance with criteria 1a and 1b.

Golden columbine - *Aquilegia chrysantha*

Golden columbine (G4/S3) has been removed from the sensitive species list. The determination to remove the species was made based on the fact that only one occurrence is known from BLM managed lands in Colorado – representing less than one percent of the species total distribution in the state (CNHP 2022). The limited amount of occupied habitat occurring on BLM-administered lands limits the agency's ability to meaningfully affect the conservation of the species through its management. Given this consideration golden columbine does not meet the criteria of a sensitive species under Manual 6840 and has been removed from the sensitive species list.

Rock tansy - *Artemisia capitata* (*=Sphaeromeria capitata*)

Formerly circumscribed as *Sphaeromeria capitata,* rock tansy (G4/S1) now belongs to the genus *Artemisia* (Garcia et al. 2011). The species occurs from Montana to southern Utah and is apparently secure in the northern portion of its range (NatureServe 2015). In Colorado the species is known from just two small occurrences which are located on lands managed by the Little Snake Field Office (CNHP 2022). Plants are found in isolated patches on dry, rocky hills in silty soils from 6,667-7,835 ft. (Cronquist 1994). Potential oil and gas development, livestock grazing, and climate change threaten these small, isolated populations with extirpation from the state, thereby curtailing the species overall distribution. Given that the species is reliant on ecological refugia present on BLM-administered lands which if improperly managed could result in its extirpation from the state, rock tansy is retained on the sensitive species list in accordance with criteria 1b.

Wheel milkweed - *Asclepias uncialis*

Wheel milkvetch (G2/S2) has been removed from the sensitive species list. The determination to remove the species was based on the fact the only one percent of the species total distribution in Colorado occurs on BLM managed lands (CNHP 2022), thereby limiting the agency's ability to meaningfully affect the conservation of the species though its management. The primary threat to the species is conversion of land to agriculture and residential development, neither of which are pertinent to BLM lands. Of the limited amount of occupied habitat for which BLM Colorado does bear management responsibility, a portion occurs in the Garden Park ACEC where it is effectively buffered from a variety of surface disturbing activities. Given the limited amount of habitat under the BLM's discretion wheel milkweed does not meet the criteria of a sensitive species under Manual 6840 and has been removed from the sensitive species list.

Gunnison milkvetch - *Astragalus anisus*

Gunnison milkvetch (G3/S3) is endemic to Colorado's Gunnison Basin where 70% of occurrences are located on lands administered by the BLM Gunnison Field Office (CNHP 2022). The species occurs in sagebrush shrubland and sagebrush steppe habitats that retain moderate canopy cover. While there is no

trend monitoring data available for this species, currently 52% of occurrences haven't been observed in twenty or more years or are lacking population information (Handwerk and Smith 2023). In general, the quality of sagebrush habitats has been declining over the past several decades. Livestock grazing at inappropriate levels, competition from non-native invasive species, recreation, fire, and climate change all threaten important ecological refugia for this species on BLM lands. Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends, Gunnison milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Debeque milkvetch - *Astragalus debequaeus*

Debeque milkvetch (G2/S2) is endemic to western Colorado where nearly 90% of its known distribution occurs on BLM managed lands in the Grand Junction and Colorado River Valley Field Offices (CNHP 2022). One small disjunct occurrence is known from Escalante Canyon in the Uncompahgre Field Office. Plants are generally found growing on steep variegated exposures of Wasatch Formation (Atwell Gulch member), often along the margin of washes or at the toe of slopes. The dominant plant community consists of pinon-juniper woodland intermixed with sagebrush. Near Debeque the species cooccurs with several other regional endemic plant species including Dawson's hookless cactus, Naturita milkvetch, and the federally threatened Debeque Phacelia. Surface disturbance from oil and gas exploration and development poses a direct threat to the species and its habitat given the petroleum resources present in the formation on which Debeque milkvetch is found. Monitoring by the BLM occurring between 2006 and 2019 demonstrated that *A. debequaeus* individuals are short lived (generally 3-5 years) (BLM 2020). Population trends have fluctuated over the duration of monitoring and had been increasing between 2017 and 2019, though the region has experienced extreme drought since 2020, which may have negatively affected population abundance. Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends Debeque milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Rimrock milkvetch - *Astragalus desperatus var. neeseae* (=*Astragalus equisolensis*)

Rimrock milkvetch (G5T2?/S2) is known primarily from the Uinta Basin in Utah with the Colorado portion of the distribution considered disjunct. Ackerfield treats *A. equisolensis* as synonymous with *A. desperatus var. neeseae* (Ackerfield 2022). In Colorado, the species occurs along the canyons of the Dolores River near Gateway in the Grand Junction Field Office. Approximately 75% of known occurrences are found on land administered by the BLM (CNHP 2022). Plants are found growing in desert scrub and salt-desert scrub communities, frequently associated with juniper, blackbrush, and horsebrush as well as shadscale and sagebrush. The primary threat to the species is considered to be road construction and maintenance – several occurrences are located adjacent to the Tabeguache Scenic and Historic Byway (CO-141). Given the importance of these disjunct populations on the overall representation of the species and its reliance on specialized habitats represented on BLM lands rimrock milkvetch is retained as a sensitive species in accordance with criteria 1b.

Debris milkvetch - *Astragalus detritalis*

Debris milkvetch (G3/S2S3) is endemic to the Uinta Basin, with eleven occurrences known from Colorado in the White River and Little Snake Field Offices. Two-thirds of the known occurrences either haven't been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). Twenty-three percent of the species Colorado distribution occurs on BLM administered lands (CNHP 2022). Plants occur in pinyon-juniper and mixed desert scrub communities often on rocky soils. Livestock grazing, oil and gas development, disturbance from road construction and maintenance, encroachment of non-native invasive species, and climate change all pose a threat to the species and its habitat. Recent survey efforts by CNHP found that 43% of occurrences are located in areas with moderate to high levels of landscape disturbance. Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends debris milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Duchesne milkvetch - *Astragalus duchesnensis*

The core of Duchesne milkvetch's (G3/S2) distribution occurs in Utah's Uinta Basin with eight occurrences known from Colorado in the White River and Little Snake Field Offices. Approximately 61% of the species Colorado distribution occurs on BLM administered lands (CNHP 2022). Plants occur in salt desert scrub and pinyon-juniper communities on sandy mesas or around shale outcrops (Welsh 1993). Surface disturbance associated with oil and gas exploration and development and oil shale mining pose a direct threat to the species and its habitat given the petroleum resources found in the formations on which the species occurs. Given the species reliance on ecological refugia and unique habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, Duchesne milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Grand Junction milkvetch - *Astragalus linifolius*

Grand Junction milkvetch has been removed from the sensitive species list. Genetic structure analysis has determined that *A. linifolius* be subsumed into *A. rafaelensis* which is retained on the sensitive species list under that name (Statwick, Neale & Sher 2016). Given that Grand Junction milkvetch is not a distinct taxonomic entity it does not meet the criteria of a sensitive species under Manual 6840 and has been removed from the sensitive species list.

Skiff milkvetch - *Astragalus microcymbus*

Skiff milkvetch (G1G2/S1S2) is narrowly endemic, found in just two small areas in Colorado's upper Gunnison River basin. Greater than 75% of known occurrences are found on BLM lands managed by the Gunnison Field Office (CNHP 2022). The 4,570-acre South Beaver Creek ACEC – established for the benefit and protection of skiff milkvetch – encompasses a large portion of the known occurrences on BLM land (BLM 1993). Total population size is estimated to be around 10,000 individuals. Plants occur on rocky slopes in sagebrush communities, occasionally with juniper. Monitoring by the Denver Botanic Gardens on behalf of the BLM over the last 28 years has demonstrated widespread population declines leading to concerns related to the persistence of the species (Denver Botanic Garden 2022). Threats to the species and its habitat include drought associated with climate change, competition from non-native invasive species, and small mammal herbivory. Given its reliance on ecological refugia represented on BLM-

administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends, Skiff milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Ferron's milkvetch - *Astragalus musiniensis*

The core of Ferron's milkvetch (G3/S1) distribution is in Utah where it is considered uncommon, but not extremely rare. In Colorado the species is known from just four occurrences in the Grand Valley where it occurs entirely on lands managed by the BLM Grand Junction Field Office (CNHP 2022). Half of the known occurrences in Colorado either haven't been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). Ferron's milkvetch is a component of the desert scrub community, often found growing among sparse pinyon-juniper woodland on shale, sandstone, or their alluvium. Two occurrences are located in areas with special management designation (McInnis Canyons National Conservation Area and Badger Wash ACEC). There is limited information pertaining to the relevant threats to this species, though it's likely that recreation (both motorized and non-motorized) has the potential to negatively impact several sites that are close to established trail systems. Drought associated with climate change is an additional threat. Given its rarity in the state and the importance of BLM managed habitats to its persistence, and declining population trends, Ferron's milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Naturita milkvetch - *Astragalus naturitensis*

Naturita milkvetch (G3/S3) is known from New Mexico and Utah, though the core of its distribution is in Colorado where 79% occurs on lands managed by the BLM Grand Junction, Colorado River Valley, Uncompahgre, and Tres Rios Field Offices (CNHP 2022). Despite being relatively wide ranging, plants are typically found in small, scattered occurrences among pinyon-juniper occupying sandstone crevices and ledges where soils are shallow. Near Debeque, Naturita milkvetch is found in proximity to a suite of regional endemic plant species including Dawson's hookless cactus, Debeque milkvetch, and the federally threatened Debeque Phacelia (*Phacelia submutica*). Oil and gas development as well as uranium mining pose a threat to the species and its habitat across large portions of its range. Additionally, recreation and livestock grazing have the potential to negatively impact sites. Monitoring of the species at a single location near Nucla has demonstrated a decreasing trend that is associated with a string of hot and dry years since 2017 (Holsinger personal comm 2023). The population has decreased by approximately 50% since monitoring was established in 2015. Given the species reliance on ecological refugia on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining population trends, Naturita milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Fisher milkvetch - *Astragalus piscator*

Fisher milkvetch (G3/S1) is known from Utah, Arizona, and Colorado. The core of the species distribution is located in the canyons of the Colorado and Dolores River near Moab. In Colorado, the species is known from four occurrences in the vicinity of Gateway. Plants are found growing on soils derived from Cutler Formation sandstone among sparse juniper and desert-scrub communities. Ninety-seven percent of the species known distribution in Colorado occurs on lands administered by the BLM Grand Junction Field Office (CNHP 2022). Nearly all of the known populations benefit from protections associated with The

Palisade WSA and The Palisade ACEC, which are either closed to motorized vehicles or classified as vehicles restricted to designated routes (BLM 2015). Threats to the species include road maintenance, climate change, livestock grazing, and encroachment by non-native invasive species. Given the species reliance on ecological refugia on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, Fisher milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

San Rafael milkvetch - *Astragalus rafaelensis*

San Rafael milkvetch (G3/S3) is a selenium hyperaccumulator first described in 1923 from a location in the San Rafael Swell in Utah. Five years later *Astragalus linifolius,* or the Grand Junction milkvetch, was described near Grand Junction, Colorado. These two taxa share a nearly identical morphology and have similar ecologies and life history strategies. Both are drought–adapted perennials that are found on rocky slopes and hillsides within pinyon–juniper, rabbitbrush, sagebrush and saltbush plant communities. Genetic structure analysis has determined that *A. linifolius* be subsumed into *A. rafaelensis* (Statwick, Neale & Sher, 2016). The inclusion of *A. linifolius* within *A. rafaelensis* expands its range slightly – now occurring both east and west of the Uncompahgre Plateau. Approximately 95% of known occurrences are on lands administered by the BLM Grand Junction and Uncompahgre Field Offices (CNHP 2022). Greater than half of the known occurrences either haven't been observed in twenty or more years or lack detailed population information (Handwerk and Smith 2023). OHV-use, competition from non-native invasive species, and climate change pose a threat to the species and its habitat. Given the species reliance on ecological refugia on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining populations, Fisher milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Ripley's milkvetch - *Astragalus ripleyi*

Ripley’s milkvetch (G3/S2) is a regional endemic known from southern Colorado and adjacent northern New Mexico. In Colorado the majority of occurrences are found on lands managed by the BLM San Luis Valley Field Office. Ripley’s milkvetch is a substrate endemic, occurring on volcanic derived soils associated with the San Juan Volcanic Field. Habitats include open ponderosa pine-Arizona fescue association, open-canopy pinyon-juniper woodlands with Arizona fescue understory, edges of closed-canopy ponderosa pine and mixed conifer forest. Little, if any monitoring has been implemented for this species, however a short 3-year study suggests that this species may exhibit dormancy. Currently 60% of known occurrences either haven’t been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). Wide-spread fire suppression is thought to be the main threat to the species and its habitat. Ripley’s milkvetch is considered extremely palatable to livestock, with grazing by domestic sheep a considerable threat. Other threats include competition from invasive species, and activities that contribute to soil compaction, soil disturbance and soil erosion. The RaJadero Canyon ACEC in Conejos County provides some level of protection from surface disturbing activities to a portion of the known occurrences. This area was also designated as a Colorado State Natural Area in 1996, despite providing some measure of protection to several occurrences there are no formal management protocols or plans specifically for this species. Given the species reliance on ecological refugia on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and

declining populations, Ripley's milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Sandstone milkvetch - *Astragalus sesquiflorus*

Sandstone milkvetch (G3G4/S1) occurs in Utah and Arizona in addition to Colorado. Plants occur on sandstone rock ledges or in fissures of domed slickrock or sandstone talus below cliffs, and occasionally in sandy washes. In Colorado the species is known from just four occurrences in the Paradox Valley and in the Dolores River Canyon near Uravan. Until recently none of these occurrences had been observed in twenty or more years or had no relevant population information (CNHP 2022). All four occurrences are located in the Uncompahgre Field Office. Surveys by the CNHP during the 2021 field season were able to relocate only one of the known occurrences suggesting that the other three may have been extirpated (Handwerk and Smith 2023). Threats to the species and its habitat are not well defined though close to 90% of occurrences are located in areas with moderate to high landscape disturbance (Handwerk and Smith 2023). Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining populations, sandstone milkvetch is retained as a sensitive species in accordance with criteria 1a and 1b.

Duchesne springparsley - *Aulospermum duchesnensis* (*=Cymopterus duchesnensis*)

Duchesne springparsley (G3/S2) is endemic to the Uinta Basin, the species primarily occurs in Utah and is known from approximately five occurrences in Colorado near the Vermillion Bluffs all of which occur on lands managed by the BLM Little Snake Field Office (CNHP 2022). Ackerfield's updated Flora of Colorado treats this species as a member of the genus *Aulospermum* (Ackerfield 2022). This updated taxonomy does not change the species overall distribution or rarity. Plants grow in cold desert shrubland and sagebrush communities on sandy or shaley soils derived from the Morrison, Green River, Wasatch, and Mancos Formations often among juniper. While most occurrences are located in areas with low levels of landscape disturbance the species remains vulnerable to negative impacts from livestock grazing and climate change (Handwerk and Smith 2023). Given its reliance on ecological refugia represented on BLM-administered lands, Duchesne springparsely is retained as a sensitive species in accordance with criteria 1b.

Crandall's rockcress - *Boechera crandallii* (*=Arabis crandallii*)

Crandall's rockcress has been removed from the sensitive species list. This species primarily occurs in Colorado with a handful of occurrences known from Wyoming. In Colorado the species distribution is centered in the Gunnison Basin, though there are scattered occurrences located in the Kremmling and Uncompahgre Field Offices as well. Approximately 40% of the occurrences in Colorado are located on BLM managed lands (CNHP 2022). Plants typically grow in open stony limestone chip-rock areas within sagebrush parks (Rollins 1993). Other associated species include ponderosa pine, antelope bitterbrush (*Purshia tridentata*), and mountain mahogany (*Cercocarpus montanus*) (CNHP 2012). Work by the CNHP on behalf of BLM to revisit occurrences that hadn't been observed in twenty years or more successfully relocated a large portion of historic occurrences and determined that a significant portion have low levels of landscape disturbance (Handwerk and Smith 2023). These considerations combined with the fact that there are greater than fifty occurrences known in the state prompted CNHP to revise its state rank to S3S4

and solicit NatureServe to revise the global rank to G3G4. Given these considerations Crandall's rockcress has been removed from the sensitive species list.

Grand Junction Chylismia - *Chylismia eastwoodiae* (=*Camissonia eastwoodiae*)

Grand Junction Chylismia (G3/S2) is known from fifteen occurrences in Colorado of which 78% are found on lands administered by the BLM Grand Junction and Uncompahgre Field Offices (CNHP 2022). This species also occurs in Utah and Arizona. Plants are annuals and generally found in low densities on barren clay soils of the Mancos Formation often alongside Gardner's saltbush (*Atriplex gardneri*) at the toe of the Bookcliffs in the Grand Valley and at Cottonwood Mesa near Hotchkiss. The primary threat to the species and its habitat is impact from OHV use since the steep shale barrens are attractive to riders (Rondeau et al. 2011). Fifty percent of the known occurrences either haven't been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and declining populations, Grand Junction Chylismia is retained as a sensitive species in accordance with criteria 1a and 1b.

Slender spiderflower - *Cleomella multicaulis* (=*Cleome multicaulis* & *Peritoma multicaulis*)

Historically, slender spiderflower (G2G3/S2S3) was known to occur from Wyoming to northern Mexico though it is presumed to have been extirpated from Arizona and New Mexico (Laurenzi and Spence 2012). In Colorado the species is known from approximately 40 occurrences in Colorado's San Luis Valley where it is found on alkaline or saline soils near ponds, sinks, meadows, and playa lakebeds. Of the species distribution that occurs on lands other than private, the BLM San Luis Valley Field Office retains management responsibility for the majority (CNHP 2022). A portion of the species distribution benefits from the designation of the Blanca Wetlands ACEC. The primary threat to the species is considered to be water development projects that result in wetland hydrologic alteration (Rondeau et al. 2011). While there is no active monitoring of the species occurring in Colorado at this time, indication from other states suggests the species is in decline as evidenced by the extirpation of the species from portions of its historic range. Given the importance of the habitats at the Blanca Wetlands to function as an ecological refugia and the declines documented elsewhere throughout its range slender spiderflower is retained as a sensitive species in accordance with criteria 1a and 1b.

Boat-shaped bugseed – *Corispermum navicula*

Boat-shaped bugseed has been removed from the sensitive species list. Phylogenetic analysis has indicated that *C. navicula* be subsumed into the common and widespread *C. americanum* (Naibauer and McGlaughlin 2022). Boat-shaped bugseed was previously thought to be a very narrowly restricted endemic found within two dune habitats in North Park, Colorado. The North Sand Hills, a popular OHV recreation area that comprises the majority of the species distribution, is managed by the BLM Kremmling Field Office. Given that the populations in North Park are not a distinct taxonomic entity and the widespread nature of *C. americanum,* boat shaped bugseed no longer meets the criteria for designation as a sensitive species under Manual 6840 and has been removed from the sensitive species list.

Slender rock brake - *Cryptogramma stelleri*

Slender rock brake (G5/S2) has been removed from the sensitive species list. This species is not known from BLM managed lands in Colorado (CNHP 2021). Known from seventeen occurrences in the state, the species grows in scattered locations on moss and duff in moist coniferous forests. Given the lack of documented occurrences on lands managed by the BLM the species does not meet the criteria of a sensitive species and has been removed from the sensitive species list.

Heil's tansy mustard - *Descurainia kenheilii*

Heil's tansy mustard (G2/S2) is a new addition to the sensitive species list under criteria 1b. The species was first described in 1997 from a single specimen originating from BLM land at Stony Pass in the Gunnison Field Office (Al-Shehbaz 2007). The population wasn't relocated until 2021. Based on an evaluation of herbarium specimens the species range was extended to fourteen sites in the high elevation basins of the San Juan Mountains, approximately 70% of which are on BLM land (CNHP 2022, O'Kane and Heil 2022). Plants are found growing in alpine tundra where soils are thin and rocky. Sheep grazing and motorized recreation are both present at Stony Pass and may negatively impact the Heil's tansy mustard and its habitat. Additionally, climate change is considered a threat to the species. Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, Heil's tansy mustard designated a sensitive species in accordance with criteria 1b.

Kachina fleabane - *Erigeron kachinensis*

Kachina fleabane (G3/S1) is a Colorado Plateau endemic known from three occurrences in the canyons of the Dolores River in extreme western Colorado. The BLM Grand Junction, Uncompahgre, and Tres Rios Field Offices retain management responsibility for all the known occurrences in Colorado (CNHP 2022). Plants are found growing in hanging gardens within canyon alcoves, seeps in sheer Cedar Mesa sandstone walls, or along fissures in rock faces. These unique microhabitats are sensitive to disruptions in their hydrology, including during periods of extended drought. Recreation and mining are also cited as threats to the species and its habitat. Two of the occurrences in Colorado benefit from protection provided by special land designations – the Dolores River Riparian ACEC and The Palisade ACEC respectively. There is no monitoring of this species occurring presently, though recent surveys in Utah were unsuccessful at relocating plants at several occurrences, suggesting the species may be in decline (NatureServe 2019). Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and population declines, Kachina fleabane is retained as a sensitive species list in accordance with criteria 1a and 1b.

Single-stem buckwheat - *Eriogonum acaule*

Single-stem buckwheat (G3/S1) is endemic to the Wyoming Basin with six occurrences known in Colorado all located on lands managed by the BLM Little Snake Field Office (CNHP 2022). Plants exhibit a low mat-forming habit in barren areas of fine soils often with sagebrush and saltbrush. Primary threats to the species on BLM-administered lands include OHV-use and competition from non-native invasive plant species (particularly *Bromus tectorum*), and climate change. Due to its preference for barren areas and the lack of available forage livestock grazing is not considered a significant threat. Given its reliance on

ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, single-stem buckwheat is retained as a sensitive species in accordance with criteria 1b.

Brandegee's buckwheat - *Eriogonum brandegeei*

Brandegee's buckwheat (G2/S2) is endemic to barren, easily erodible outcrops of the Dry Union Formation (Chaffee County) and Morrison Formation (Fremont County). Approximately 25% of the species distribution occurs on lands managed by the BLM Royal Gorge Field Office (CNHP 2022). The primary threat to this species and its habitat is OHV-use. The steep barren slopes on which the species occurs are attractive to both motorized and non-motorized recreationists. Impacts from erosion resulting from OHVs and mountain bikes have been observed both on BLM and State managed lands (Anderson 2006). Several areas benefit from protections afforded by special land designations. The Droney Gulch ACEC near Salida and the Garden Park ACEC north of Canon City protect portions of both centers of distribution. Demographic monitoring of the species has indicated that plants are long-lived and that populations are largely stable in spite of recent persistent drought (BLM 2021). Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, Brandegee's buckwheat is retained as a sensitive species in accordance with criteria 1b.

Comb Wash buckwheat - *Eriogonum clavellatum*

Comb Wash buckwheat has been removed from the sensitive species list. This species isn't known from BLM land in Colorado (CNHP 2023). There are a handful of occurrences in Colorado all of which occur on Tribal land in the southwest corner of Montezuma County. Given the lack of representation on BLM lands Comb Wash buckwheat does not meet the criteria of sensitive species under Manual 6840 and has been removed from the sensitive species list.

Colorado buckwheat - *Eriogonum coloradense*

Colorado buckwheat has been removed from the sensitive species list. Approximately 17% of the known occurrences are located on BLM lands (CNHP 2023) limiting the ability of the agency to affect the overall status of the species through its management. Colorado buckwheat is not designated as a sensitive species by the Forest Service which accounts for the majority of its distribution. Given these considerations Colorado buckwheat does not meet the criteria of a sensitive species under Manual 6840 and has been removed from the sensitive species list.

Grand buckwheat - *Eriogonum contortum*

Grand buckwheat (G3/S2) is known from Colorado and Utah. In Colorado, 90% of the species distribution occurs on BLM lands managed by the Grand Junction Field Office (CNHP 2022). Plants are found growing on badlands composed of Mancos Formation shales with vegetative components of the salt desert scrub community. Threats to the species are not well defined but include impacts from motorized recreation, competition from non-native invasive species. Approximately 65% of the known occurrences either haven't been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability

is at risk, and declining population trends, Grand buckwheat is retained as a sensitive species in accordance with criteria 1a and 1b.

Ephedra buckwheat - *Eriogonum ephedroides*

Endemic to the Unita Basin, ephedra buckwheat (G3/S2) is a member of a suite of regional edaphic endemics closely tied to the Green River oil shales. There are four documented occurrences in Colorado of which 58% are located on lands managed by the BLM White River Field Office (CNHP 2022). Plants are found growing along barren exposures of white shale among sparse pinyon and juniper. Other associated species include *Forsellesia meionandra, Artemisia tridentata* ssp. *tridentata, Tetradymia spinosa, Atriplex confertifolia*, *Penstemon mucronatus,* and the sensitive species; *Cryptantha rollinsii, Penstemon grahamii,* and *Penstemon albifluvis.* The primary threat to the species and its habitat is oil and gas development and oil shale mining given the petroleum resources present in the formations of which it is found. Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, ephedra buckwheat is retained as a sensitive species in accordance with criteria 1b.

Woodside buckwheat - *Eriogonum tumulosum*

Woodside buckwheat (G3Q/S2S3) is known from Colorado and Utah, all the occurrences in Colorado are located in either Dinosaur National Monument or on BLM lands managed by the Little Snake Field Office (CNHP 2022). Plants occur on gravely soils or clay flats in sagebrush and saltbrush communities as well as in pinyon juniper woodlands. At least one large occurrence on BLM land benefits from protection associated with special land designation in the Irish Canyon ACEC. The primary threat to the species is considered to be competition from non-native invasive plant species (particularly *Bromus tectorum*). Climate change poses an additional threat. Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, woodside buckwheat is retained as a sensitive species in accordance with criteria 1b.

Clay hill buckwheat – *Eriogonum viridulum*

Clay hill buckwheat (G4/S1) is endemic to the Uinta Basin in Utah with a single disjunct occurrence known from Colorado – occurring on BLM managed lands near Vermillion Falls in the Little Snake Field Office (NatureServe 2022). The site is located on a slope adjacent to a highway though at a distance that road maintenance is not considered a threat. The species was thought to have been extirpated from the state based on uncertainty related to species identification and a duration of greater than twenty years since it had last been observed (NatureServe 2022). Surveys conducted by CNHP on behalf of the BLM during 2022 were successful in relocating the population and verifying its identification as clay hill buckwheat (Handwerk and Smith 2023). Given the extreme rarity of the species in Colorado and its dependence on specialized habitats represented on BLM-administered land, clay hill buckwheat is retained on the sensitive species list in accordance with criteria 1b.

Tufted Frasera - *Frasera paniculata*

Tufted Frasera (G4/S1) is known from the four corners region, with three occurrences in Colorado that occur entirely on BLM managed lands in the Grand Junction Field Office (CNHP 2022). One of the

occurrences is ranked historical - indicating that it hasn't been observed in twenty or more years (Handwerk and Smith 2023). Plants are typically found growing in dry, sandy habitats in desert scrub and pinyon-juniper communities. Two occurrences are located within The Palisade ACEC and benefit from protections associated with this special land designation. Recent assessments have determined that most occurrences are located in areas with minimal landscape disturbance (Handwerk and Smith 2023). Specific threats to this species are not well defined. Given its rarity in the state and reliance on specialized habitats represented on BLM-administered lands, tufted Frasera is retained on the sensitive species list in accordance with criteria 1b.

Cathedral Bluff dwarf Gentian - *Gentianella tortuosa*

Cathedral Bluff dwarf Gentian (G3?/S1) is known from Nevada and Utah in addition to Colorado where it consists of a single occurrence along the Cathedral Bluffs. The entirety of the species Colorado distribution is located on lands managed by the BLM White River Field Office (CNHP 2022) and is contained within the South Cathedral Bluffs ACEC where it benefits from protections associated with the special land designation. Plants are found on exposures of Green River Formation shale among sagebrush and spruce-fir forest. The primary threat to the species is oil and gas development and oil shale mining given the petroleum resources present in the formation on which it is found. Due to its rarity and the importance of the Cathedral Bluffs population to the overall representation of the species Cathedral Bluff dwarf Gentian is retained on the sensitive species list in accordance with criteria 1b.

Lone Mesa snakeweed - *Gutierrezia elegans*

Lone Mesa snakeweed (G1/S1) is endemic to Dolores County, Colorado. Eleven percent of this species distribution is located on BLM land managed by the Tres Rios Field Office (CNHP 2022). The remainder of the species distribution is made up of a patchwork of Forest Service and State administered lands. Plants are found on outcrops of Mancos Formation shales with thin soil cover growing with sagebrush, ponderosa pine, and pinyon-juniper. Despite the limited amount of habitat managed by the BLM the agency is an important contributor to the conservation of the species overall. Threats to the species on BLM-administered lands include oil and gas exploration and development, erosion, motorized recreation, and grazing. Drought associated with climate change poses an additional threat to the species and its habitat. Given its rarity and reliance on specialized ecological refugia represented on BLM lands, and evidence that such areas are threatened with alteration such that the viability of the species is at risk, Lone Mesa snakeweed is retained as a sensitive species in accordance with criteria 1b.

Colorado desert-parsley - *Lomatium concinnum*

Colorado desert-parsley (G2G3/S2S3) is endemic to Mancos Formation shales in Colorado's Uncompahgre Valley and the North Fork Gunnison River Valley near Hotchkiss. Approximately 64% of the species known distribution occurs on lands administered by the Uncompahgre Field Office (CNHP 2022). Plants are found growing on barren clay soils occasionally with saltbrush, greasewood, and sagebrush from 5,200-8,000 ft. Northeast of Montrose the species cooccurs in places with the federally endangered clay-loving buckwheat (*Eriogonum pelinophilum*). OHV-use, livestock grazing, and climate change all pose a threat to the species on BLM-administered lands. Of the 36 known occurrences approximately half either haven't been observed in twenty or more years or are lacking relevant population information (Handwerk and Smith 2023). Given its reliance on ecological refugia and specialized habitats represented on BLM-

administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and apparent declining population trends, Colorado desert-parsley is retained as a sensitive species in accordance with criteria 1a and 1b.

Canyonlands Lomatium - *Lomatium latilobum* (*=Aletes latilobus*)

A Colorado Plateau endemic, the center of Canyonlands Lomatium's (G2/S2) distribution is found in Utah near Moab. Six occurrences are known from Colorado of which 35% are located on lands administered by the BLM Grand Junction Field Office (CNHP 2022). This species is found in the red rock canyons of Colorado National Monument and McInnis Canyons NCA. Plants are found growing on sandstone ledges and in rocky soils derived from the Entrada Formation and at the contact point of the Chinle and Wingate sandstone, occasionally among pinyon-juniper (Spackman 1996). The primary threat to the species and its habitat is trampling from hikers. While plants are relatively well protected by the inaccessibility of its habitat and land-use restriction associated with their location within the National Conservation Area, levels of recreational use are high across the species limited range. Given its reliance on specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, Canyonlands Lomatium is retained as a sensitive species in accordance with criteria 1a and 1b.

Paradox Lupine - *Lupinus crassus*

Paradox Lupine (G2/S2) is a Colorado endemic known from the Paradox Valley and adjacent areas near Naturita and Uravan. Approximately 55% of the species distribution occurs on lands managed by the BLM Uncompahgre Field Office (CNHP 2022). Plants occur in pinyon-juniper woodlands on soils derived from Mancos Formation shale near Naturita and on quaternary alluvium derived from sedimentary Chinle Formation in the Paradox Valley, and occasionally on loamy to clayey soils and adobe hills (Peterson 1983, O'Kane 1988). The species and its habitat are susceptible to impacts from livestock grazing and its associated activities, encroachment from non-native invasive plants, and surface disturbance resulting from mining (CNHP 2022). This species is also threatened by climate change. Monitoring by the BLM near Nucla has demonstrated a 53% decline in plant density since 2016 as a result of exceptionally hot and dry conditions (Holsinger 2023). On at least two monitoring occasions no plants were observed during the growing season. Given the species reliance on ecological refugia represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, and recent drought related declines, Paradox Lupine is retained on the sensitive species list in accordance with criteria 1a and 1b.

Dolores River skeletonplant - *Lygodesmia grandiflora var. doloresensis*

Dolores River skeletonplant (G5?T1T2/S1S2) is a Colorado Plateau endemic known from extreme western Colorado and adjacent Utah. The CNHP tracks sixteen occurrences in Colorado found primarily along the Dolores River in the vicinity of Gateway. Several other small occurrences are located in the North Fruita Desert and in Ruby Canyon near the Colorado-Utah border. The Grand Junction Field Office retains responsibility for the management of 82% of the known occurrences in Colorado (CNHP 2022). Plants typically grow along canyon bottoms in sandy alluvium and colluvium in juniper, saltbrush, and sagebrush communities between the river and canyon walls. Plants are frequently found in disturbed areas along roadsides. A large portion of the species occurrences are located in areas with high levels of disturbance

(Handwerk and Smith 2023). Given the species proximity to roadways in many places it is susceptible to impacts from various land uses including road maintenance, livestock grazing, OHV-use, and encroachment from non-native invasive plants. Given its reliance on specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that the species viability is at risk, Dolores River skeletonplant is retained as a sensitive species in accordance with criteria 1b.

Golden blazingstar - *Mentzelia chrysantha* (=*Nuttallia chrysantha*)

Golden blazingstar (G2/S2) is a Colorado endemic found in the Arkansas Valley near Canon City. The BLM Royal Gorge Field Office retains management responsibility for approximately 45% of the known occurrences (CNHP 2022). Plants are typically found on moderately steep barren slopes of limestone, shale, or alkaline clay and in roadcuts. Given the steep erosive nature of its habitat, associated vegetation is sparse and typically includes *Frankenia jamesii* and *Atriplex canescens* (Anderson 2006). It is likely that golden blazingstar relies on these unstable soils to limit competition with other species. This species and its habitat are threatened by road construction and maintenance and competition from non-native invasive plant species. Habitat loss associated with urban development occurring on private land constrains the species range thereby increasing the importance of habitats occurring on BLM managed lands. Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that the species viability is at risk, golden blazingstar is retained as a sensitive species in accordance with criteria 1a and 1b.

Royal Gorge blazingstar - *Mentzelia densa* (=*Nuttalia densa*)

Royal Gorge blazingstar (G2G3/S2S3) is a Colorado endemic found in the canyons of the Arkansas River from Salida to Canon City including in the Royal Gorge. The Royal Gorge Field Office retains management responsibility for 75% of the known occurrences (CNHP 2022). Plants occupy dry open areas in washes, steep rocky slopes, and are frequently found along roadsides and in naturally disturbed areas. The larger vegetation community consists of pinyon-juniper woodland. The species and its habitat are threatened by road and railroad construction and maintenance activities, competition from non-native invasive plant species, OHV-use, and trampling from recreationists. The corridor where the species occurs is relatively fragmented by residential development and infrastructure. While the species can withstand, and in some cases benefit from, a moderate amount of disturbance the long-term persistence of the species will benefit from special consideration on BLM managed lands. Given these considerations Royal Gorge blazingstar is retained on the sensitive species list in accordance with criteria 1a and 1b.

Paradox Valley blazingstar - *Mentzelia paradoxensis*

Paradox Valley blazingstar (G2/S2) is a new addition to the sensitive species list. The species is a Colorado endemic. Plants are found on dry, sandy, or gypsum slopes of the Mancos Shale and Paradox Formations. Associated vegetation includes pinyon-juniper, *Artemisia tridentata*, *Atriplex*, *Eriogonum*, *Chrysothamnus*, *Fraxinus*, and *Salix*. Currently eight occurrences are identified in the Paradox and Gypsum Valleys in the Uncompahgre and Tres Rios Field Offices. Sixty-seven percent of these occurrences are found on lands administered by the BLM (CNHP 2022). The threats to the species and its habitat are not well defined; however, it is considered highly vulnerable to climate change. Given its reliance on specialized habitats

represented on BLM-administered lands Paradox Valley blazingstar is added as a sensitive species in accordance with criteria and 1b.

Roan Cliffs blazingstar - *Mentzelia rhizomata* (=*Nuttalia rhizomata*)

Roan Cliffs blazingstar (G2G3/S2S3) is a Colorado oil shale endemic that is restricted to unique habitats on talus and steep shale slopes of the Parachute Creek Member of the Green River Formation. Approximately 40% of the known occurrences are located on BLM managed lands in the Colorado River Valley and Grand Junction Field Offices (CNHP 2022). This species was first described as *Mentzelia argillosa* in Colorado and Utah. Reveal (2002) separated the Colorado plants as *Mentzelia rhizomata*, retaining the name *Mentzelia argillosa* for the Utah plants. Associated species include gambel oak, western chokecherry, mountain mahogany, and Utah juniper. The species cooccurs with the federally listed Parachute beardtongue (*Penstemon debilis*) at Anvil Points. Oil and gas development and potential oil shale mining are the primary threats to this species on BLM-administered lands given the petroleum resources found in the formation on which it occurs. Competition from invasive plant species, road development and maintenance, drought and habitat alteration related to climate change also threaten this species (CNHP 2023). Given the species reliance on ecological refugia represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that species viability is at risk, Roan Cliffs blazingstar is retained on the sensitive species list in accordance with criteria 1b.

Bill's Neoparrya - *Neoparrya lithophila* (=*Aletes lithophilus*)

Consisting of approximately 30 occurrences in south central Colorado and adjacent New Mexico, approximately 50% of Bill's Neoparrya's (G3/S3) distribution occurs on lands managed by the BLM Royal Gorge and San Luis Valley Field Offices (CNHP 2022). Plants grow in substrates derived from volcanic and sedimentary parent material and are often found on steep rocky outcrops, rock crevices, or on shelves. The surrounding habitat is typically grassland or pinyon-juniper woodland. While many of the occurrences are naturally buffered to some degree by the inaccessibility of their habitat, livestock grazing, OHV-use, and competition from non-native invasive species have been cited as threats. Several occurrences benefit from some level of protection within the San Luis Hills/Flattop, Rio Grande, Trickle Mountain, and Elephant Rocks ACECs. Given its reliance on specialized habitats represented on BLM-administered Bill's Neoparrya is retained as a sensitive species in accordance with criteria 1b.

Flaming Gorge evening primrose - *Oenothera acutissima*

Flaming Gorge evening primrose (G2/S2) is endemic to the Dinosaur/Browns Park/Flaming Gorge region in northwest Colorado and adjacent Utah. Sixty-two percent of the species Colorado distribution occurs on lands administered by the BLM Little Snake Field Office (CNHP 2022). Plants are restricted to sandy, gravelly, and rocky soils in seasonally wet areas and along the margin of arroyos, in meadows, shallow "rock reefs", and mixed conifer forest and sagebrush scrub from 5,300 to over 9,000 ft. (Wagner 1981). The species and its habitat are threatened by trampling from livestock and hydrologic alteration including channelization and downcutting and the drying of wetlands associated with range improvements. One occurrence benefits from protections associated with its location in the West Cold Springs WSA. Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that the species viability is at risk, Flaming Gorge evening primrose is retained as a sensitive species in accordance with criteria 1a and 1b.

Tufted Cryptantha - *Oreocarya caespitosa* (*=Cryptantha caespitosa*)

Tufted Cryptantha's (G4/S2) distribution is centered in Wyoming with portions of its range extending into adjacent Colorado, Utah, and Idaho. Thirteen occurrences are known from northwestern Colorado where the majority are found on lands managed by the Little Snake and White River Field Offices. Two occurrences benefit from protections associated with the Irish Canyon ACEC. Threats to this species are not well defined. Given the species reliance on ecological refugia and specialized habitats represented on BLM-administered lands and the importance of the Colorado occurrences to the overall distribution of the species, tufted Cryptantha is retained as a sensitive species in accordance with criteria 1b.

Osterhout's Cryptantha - *Oreocarya osterhoutii* (*=Crypantha osterhoutii*)

Osterhout's Cryptantha (G2G3/S2) is endemic to the Colorado Plateau region found in Utah and Arizona in addition to Colorado. Known from nine occurrences in Colorado which are found in the canyon country of the Dolores River, Colorado National Monument, Ruby Canyon, and south of Debeque. Sixty-four percent of the known occurrences are located on lands administered by the BLM Grand Junction Field Office (CNHP 2022). Plants grow in dry, barren sites in soils derived from sandstone, often with sagebrush and juniper communities. Recreation is considered the primary threat to the species and its habitat based on its proximity to popular trail systems. Given the species rarity and its dependence on ecological refugia and specialized habitats represented on BLM-administered lands, Osterhout's Cryptantha is retained as a sensitive species in accordance with criteria 1b.

Gypsum Valley Cryptantha - *Oreocarya revealii*

Gypsum Valley Cryptantha (G2G3/S2S3) is endemic to southwestern Colorado in the Gypsum Valleys, Disappointment Valley, and Spring Creek Basin. While morphologically similar, *O. revealii* is genetically distinct from the more widely distributed *O. paradoxa* found in the Paradox Valley, south central Utah, four corners region, and the Uinta Basin (Bresowar and McGlaughlin 2015). In her second edition of the Colorado Flora, Ackerfield treats these species as synonymous given the lack of clear morphological traits distinguishing the two (Ackerfield 2022). The majority of the occurrences in Colorado are located on BLM lands managed by the Tres Rios Field Office (CNHP 2022). The species habitat consists of sparsely vegetated exposures of the gypsum rich Paradox Member of the Hermosa Creek Formation. Across its range, the species and its habitat are threatened by oil and gas development, mining, OHV-use, livestock grazing, and drought associated with climate change. Monitoring conducted by the BLM in Big Gypsum Valley has indicated a decrease in plant density between 2014 and 2023 – likely the result of regional drought. Given its decreasing numbers and reliance on specialized habitats represented on BLM-administered lands, Gypsum Valley Cryptantha is retained as a sensitive species in accordance with criteria 1a and 1b.

Rollins' Cryptantha - *Oreocarya rollinsii* (*=Cryptantha rollinsii*)

Rollins' Cryptantha (G3/S2) is found throughout the Uinta Basin in Utah and Colorado and near Green River, Wyoming. The species habitat consists of white oil shales of the Green River Formation and is often found with a suite of other regional endemic plants including Graham's beardtongue, Colorado feverfew, and ephedra buckwheat. Known from 18 occurrences in Colorado the vast majority are located on BLM lands managed by the White River Field Office (CNHP 2022). Given the petroleum resources present in

the formation on which it grows oil and gas development and oil shale mining pose a threat to the species across its range. Drought associated with climate change poses an additional threat. Given its reliance on ecological refugia and specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that the species viability is at risk, Rollins' Cryptantha is retained as a sensitive species in accordance with criteria 1b.

Bessey's locoweed - *Oxytropis besseyi var. obnapiformis*

Bessey's locoweed (G5T2T3/S2S3) is native to northwestern Colorado, Daggett County, Utah, and parts of the Wyoming Basin. In Colorado the species is known from twenty occurrences of which 90% are located on lands managed by the BLM Little Snake Field Office (CNHP 2022). Plants grow in pinyon-juniper woodland and sagebrush communities often on barrens in fine textured or sandy substrate. The species habitat is generally threatened by impacts associated with livestock grazing, competition from non-native invasive species, OHV-use, and drought associate with climate change. Several large areas of occupation are known which contain large numbers of plants though there are no management protocols specific to this species and it lacks protection afforded by special land designations (*e.g.*, ACEC). Additionally, there is no trend monitoring data for this species. Due to the species reliance on specialized habitats represented on BLM-administered lands, Bessey's locoweed is retained as a sensitive species in accordance with criteria 1b.

Few-flowered ragwort - *Packera pauciflora*

Few-flowered ragwort has been removed from the sensitive species list. It has been determined that this species does not occur in Colorado and that plants thought to belong to *P. pauciflora* were likely misidentified *P. debilis* (Ackerfield 2022). Given that few-flowered ragwort doesn't occur in Colorado it does not meet the criteria of a sensitive species under Manual 6840 and has been removed from the sensitive species list.

Colorado feverfew - *Parthenium ligulatum* (*=Bolophyta ligulata*)

Colorado feverfew (G3/S1) is primarily known from the Uinta Basin in Utah and Colorado with a handful of records from Nevada. In Colorado the species occurs at Raven Ridge, Irish and Bull Canyon, and Browns Park. The CNHP reports 11 occurrences in Colorado the majority of which occur on lands managed by the Little Snake and White River Field Offices (CNHP 2022). A third of the known occurrences either haven't been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). The species occurs on barren shale knolls composed of oil shales of the Green River Formation predominately within sparse pinyon-juniper woodland. Across its distribution Colorado feverfew occurs with other regional endemic plants including Graham's beardtounge, Rollins' Cryptantha, tufted Cryptantha, ephedra buckwheat, and Yampa beardtongue. Oil and gas exploration and development and mining are the primary threats to the species across its range though the majority of sites in Colorado are located in areas that possess special management designations (Irish Canyon ACEC and Raven Ridge ACEC). Given the limited number of occurrences in Colorado and their importance to the overall representation of the species, and apparent declining population trends, Colorado feverfew is retained as a sensitive species in accordance with criteria 1a and 1b.

Aromatic Indian breadroot - *Pediomelum aromaticum*

Aromatic Indian breadroot (G3/S2) is an edaphic endemic that occurs on adobe hills in western Colorado. The species also occurs in southern Utah and adjacent Arizona. The majority of occurrences in Colorado are located on BLM lands in the Paradox Valley in the Uncompahgre and Tres Rios Field Offices (CNHP 2022). *Pediomelum aromaticum* is thought to have three varieties: vars. *aromaticum*, *tuhyi*, and *barnebyi,* however, these are not recognized in the Flora of Colorado (Ackerfield 2022). There are twelve documented occurrences in Colorado of which more than half haven't been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). Threats to the species and its habitat include OHV recreation, grazing, and climate change. Given the species rarity and its reliance on specialized habitats represented on BLM-administered lands, and evidence that such areas are threatened with alteration such that the viability of the species is at risk, and apparent population declines, aromatic Indian breadroot is retained as a sensitive species in accordance with criteria 1a and 1b.

White River beardtongue - *Penstemon albifluvis* (=*Penstemon scariosus var. albifluvis*)

Previously considered a variety of *Penstemon scariosus,* White River beardtongue (G4T1/S1) is now treated as a distinct species (Ackerfield 2022). This change in taxonomic treatment does not affect the overall range or rarity of the species. Endemic to the Uinta Basin in Colorado and Utah, White River beardtongue is closely associated with the oil shales of the Green River Formation. In Colorado, 83% of known locations occur on lands managed by the BLM's White River Field Office (CNHP 2022). Monitoring has indicated that the Colorado distribution contains higher densities of White River beardtongue plants on average than sites in Utah (excluding the Bookcliffs) and being higher in elevation (wetter and cooler) may provide refugia from climate change (Krening and Hornbeck 2023). Plants are typically associated with pinyon-juniper woodland and semi desert scrub and often occur on open shale slopes with a suite of other regional endemic plant species, including Graham's beardtongue, ephedra buckwheat, Rollin's Cryptantha, and Colorado feverfew. Surface disturbance associated with oil and gas exploration and development is a direct threat to the species and its habitat given the petroleum resources present in the formation the species requires. The potential of oil shale mining, though currently not occurring at a wide enough scale to have population or species level effects, poses an additional threat to the species and its habitat (FWS 2021). Livestock grazing and trailing, particularly of sheep, has also demonstrated the potential to cause direct mortality to individual plants and degrade its habitat. Range wide monitoring of the species by the Penstemon Conservation Team has indicated that exceptional drought conditions since 2020 have slightly reduced White River Penstemon densities (Krening and Hornbeck 2023). Given its reliance on ecological refugia and specialized habitats present on BLM-administered lands, and evidence that such areas are threatened with alteration such that the viability of the species is at risk, White River beardtongue is retained as a sensitive species in accordance with criteria 1a and 1b.

Degener's beardtongue - *Penstemon degeneri*

Degener's beardtongue (G2G3/S2S3) is endemic to central Colorado near Canon City. The species is found growing in open pinyon-juniper woodland and montane grassland in rocky soils with igneous bedrock. Fifty-seven percent of the known occurrences are located on lands managed by the BLM Royal Gorge Field Office (CNHP 2022). Several occurrences are afforded protection by the designation of the Phantom Canyon and Arkansas Canyonlands ACECs. The species and its habitat are threatened by both motorized

and non-motorized recreation, trampling from livestock, the encroachment of non-native invasive plant species, and climate change. Given the species reliance on ecological refugia present of BLM-administered lands, and evidence that such habitats are threatened with alteration such that the viability of the species is at risk, Degener's beardtongue is retained as a sensitive species in accordance with criteria 1b.

Gibben's beardtongue - *Penstemon gibbensii*

Gibben's beardtongue (G1G2/S1) was first recognized as a species when it was described in 1982 by Robert Dorn (Dorn 1982). This species occurs in south-central Wyoming, northwestern Colorado and adjacent Utah. In Colorado, Gibben's beardtongue is restricted to just 3 occurrences in Brown's Park and along Powder Wash, northwest of Craig. The species occurs on the sandy-clay slopes of the Browns Park Formation, surrounded by pinyon-juniper woodland, sagebrush, or greasewood saltbrush communities. Eighty-seven percent of occurrences in Colorado are located on BLM managed lands in the Little Snake Field Office (CNHP 2022). The Bureau of Land Management in Wyoming has been monitoring the species' trend in Cherokee Basin since 1985. Threats to the species include trampling, weed encroachment associated with off-road vehicles, habitat loss due to oil and gas development and drought. Prolonged drought appears to be responsible for the population declines across the Wyoming sites (Heidel 2021). Drought is predicted to affect the three Colorado populations in the same manner. Given its reliance on ecological refugia present on BLM-administered lands, and evidence that such areas are threatened with alteration such that the continued viability of the species is at rick, and declining population trends, Gibben's beardtongue is retained as a sensitive species in accordance with criteria 1a and 1b.

Graham's beardtongue - *Penstemon grahamii*

Graham's beardtongue (G2G3/S1) is an oil shale obligate endemic to the Uinta Basin in Colorado and Utah. The species occurs in extreme western Colorado at Raven Ridge and the canyon rims above the White River and Park Canyon. Ninety-eight percent of the species' Colorado distribution occurs on BLM lands managed by the White River Field Office (CNHP 2022). Plants occur in low densities on exposed and sparsely vegetated slopes of Green River oil shale among pinyon-juniper. Graham's beardtongue is a member of a suite of regional endemic plants including White River beardtongue, Rollin's Cryptantha, Colorado feverfew, and ephedra buckwheat. Despite apparent security in Utah and the presence of a significant amount of suitable habitat, the species persistence in Colorado is precarious and may be limited to several hundred individuals. Extensive surveys have failed to result in the documentation of additional occurrences east of the Colorado-Utah line. Surface disturbance associated with oil and gas exploration and development is a direct threat to the species given the petroleum resources present in the formation the species requires. The potential of oil shale mining, though currently not occurring at a wide enough scale to have population or species level effects, poses an additional threat to the species and its habitat (FWS 2021). Livestock grazing and trailing, particularly of sheep, has also demonstrated the potential to cause direct mortality to individual plants and degrade its habitat. A single long-term monitoring site in Colorado dating to 2005 has demonstrated a significant decline attributed to impacts from livestock (Krening and Hornbeck 2023). Given its reliance on ecological refugia and specialized habitats present on BLM-administered lands, and evidence that such areas are threatened with alteration such that the viability of the species is at risk, and declining population trends, Graham's beardtongue is retained as a sensitive species in accordance with criteria 1a and 1b.

Harrington's beardtongue - *Penstemon harringtonii*

A Colorado endemic known from the upper Colorado River basin, 56% of the known Harrington's beardtongue (G3/S3) occurrences are located on BLM managed lands in the Colorado River Valley and Kremmling Field Offices (CNHP 2022). Though limited in its distribution, Harrington's beardtongue is relatively abundant across its range. The species is found in upland sagebrush and less commonly pinon-juniper communities from 6,200-9,400 ft. in elevation. Several land uses have the potential to negatively impact Harrington's beardtongue and its habitat including oil and gas exploration and development, livestock grazing, and recreation. Range wide monitoring by the BLM demonstrated significant declines on plant density from 2019-2020 resulting from drought (BLM 2021). Given its reliance on habitats represented on BLM-administered lands and evidence that such areas are threatened with alteration such that the species continued viability is at risk, and observed population declines, Harrington's beardtongue is retained on the list in accordance with criteria 1a and 1b.

Bright Penstemon - *Penstemon luculentus* (*=Penstemon fremontii var. glabrescens*)

Bright Penstemon (G3G4T2/S2) is included as a new addition to the sensitive species list. Previously circumscribed as *Penstemon fremontii var. glabrescens,* the species is endemic to Colorado's Piceance Basin and is closely tied to Green River Formation oil shales from 5,800 to 8,500 ft in elevation. Approximately 70% of known occurrences are located on lands administered by the BLM White River Field Office (CNHP 2022). There are two herbarium records of *P. fremontii var. glabrescens* from the Roan Creek drainage in the Grand Junction Field Office. Despite apparently occurring on appropriate substrate, the CNHP doesn't maintain any record of these occurrences nor are there any additional reliable references to the species occurring outside of the Piceance Creek drainage. Bright Penstemon is found on dry slopes of exposed oil shale and fragments of overlying sedimentary parent material (Johnson et al., 2016). The dominant plant community is pinyon juniper shrubland and the species cooccurs in places with the federally threatened Dudley Bluffs twinpod (*Physaria obcordata*). Oil and gas development, possible oil shale mining, livestock grazing, and OHV use are the primary threats to the species and its habitat across its range (Johnson et al. 2016; CNHP 2022). No trend monitoring exists for this species at this time, though active monitoring of the two listed *Physaria* species that occur in Piceance Creek have demonstrated range wide climate related declines over the past 5-7 years (BLM 2022). Given its reliance on specialized habitats represented on BLM-administered lands and evidence that such areas are threatened with alteration such that the species continued viability is at risk, bright Penstemon is designated a sensitive species in accordance with criteria 1b.

Neese's Blue Mountain beardtongue - *Penstemon scariosus var. cyanomontanus*

Neese's Blue Mountain beardtongue (G4T2/S2) is a new addition to the sensitive species list. This species is endemic to the Uinta Basin in Uintah County, Utah and in Moffat County, Colorado. It is limited to unique habitats consisting primarily of sandstone crevices in sagebrush-grassland and pinyon-juniper communities. This penstemon prefers mostly sunny areas with limited competition from other perennial grasses. Element occurrences documented on BLM-administered public lands in the Little Snake Field Office account for approximately 50% of the known range and at least 30% of known suitable habitat (CNHP 2022). Current population estimates by the Colorado Natural Heritage Program indicate that there are less than 3,000 plants in Colorado. While trend monitoring data is not available on BLM lands at this time, Colorado's 2015 State Wildlife Action Plan listed the population trend as stable. Anthropogenic

alteration and habitat shifting have the potential to impact the continued viability of this species in NW Colorado. Given its reliance on specialized habitats represented on BLM-administered lands and evidence that such areas are threatened with alteration such that the species continued viability is at risk, Neese's Blue Mountain beardtongue is designated a sensitive species in accordance with criteria 1b.

Yampa beardtongue - *Penstemon yampaensis*

A regional endemic to northwest Colorado and adjacent Wyoming and Utah, Yampa beardtongue (G2G3/S2S3) grows on dry hills and ridges either in rocky, gravelly soils or steep eroded deposition fans. It is found growing in sparsely vegetated open patches in areas dominated by sagebrush but can also be found pinyon-juniper communities. Associated vegetation includes *Arenaria hookeri, Stenotus acaulis, Oxytropis sericea, Physaria* species, and *Phlox hoodii* (Simpson 2022). In Colorado 80% of known occurrences are found on lands administered by the BLM Little Snake Field Office (CNHP 2022). Recent genetic structure analysis resolved three distinct genetic groups within *P. yampaensis*. The geographic range for this species is about 2,700 square kilometers, including populations in eastern Daggett County, Utah, northeast of Dinosaur National Monument, Colorado and the eastern edge of the Uinta Mountains (Simpson 2022). Threats to the Yampa beardtongue include drought and the construction and maintenance of transmission lines. Given its reliance on habitats represented on BLM lands and the threats to these habitats Yampa beardtongue is retained on the list in accordance with criteria 1b.

North Park Phacelia - *Phacelia formosula*

North Park Phacelia (G2/S2) is endemic to Colorado with the majority of occurrences found on gravelly, sparsely vegetated exposures of Coalmont Formation in North Park (Jackson County). Smaller occurrences are found in the Laramie River Valley (Larimer County) on Niobrara shale. Recent molecular evidence suggests that *P. gina-glenneae,* which occurs only at Troublesome Creek (Grand County), be subsumed into *P. formosula* (Naibauer and McGlaughlin 2022). Though, the current accepted taxonomy considers *P. gina-glenneae* to be separate from *P. formosula* until formally published (CNHP 2022a). Fifty-six percent of known North Park Phacelia occurrences are located on lands administered by the BLM Kremmling Field Office making the BLM an important contributor to the conservation of the species overall (CNHP 2022b). Range-wide trend monitoring has demonstrated that, consistent with its dominant biennial life cycle, populations exhibit dramatic fluctuations in abundance/density from year-to-year. Over eleven years of monitoring the species has been largely stable across its North Park distribution (BLM 2022). Though there are several occurrences which haven't been observed in twenty or more years or contain fewer plants than were previously documented. Climate change, motorized recreation, incompatible livestock grazing, competition from invasive plant species, and road and powerline maintenance all pose a threat to the species and its habitat. North Park Phacelia was recommended for delisting by the FWS in 2021 and will be added to the sensitive species list in accordance with criteria 2 contingent on its delisting from the federal list of threatened and endangered species.

Gina's Phacelia – *Phacelia gina-glenneae*

Gina's Phacelia (G1Q/S1) is included as a new addition to the sensitive species list. An annual first described in 2013, since the last revision to this list, the species is only found at Troublesome Creek, occurring entirely on land managed by the BLM Kremmling Field Office (Atwood and Welsh 2013). Recent molecular evidence suggests that *P. gina-glenneae* is part of *P. formosula,* though the currently accepted

taxonomy considers it to be a distinct species (Naibauer and McGlaughlin 2022; CNHP 2022; Ackerfield 2022). Plants tend to occur in small patches on relatively steep, sparsely vegetated exposures of Troublesome Creek Formation shales. The entire known distribution of this species occurs in the Troublesome Creek ACEC. Despite benefiting from special land designations utility corridor and road maintenance pose a threat to the species and its habitat. Given the species rarity and dependence on habitats represented on BLM-administered lands, Gina's Phacelia is designated a sensitive species in accordance with criteria 1b.

Piceance bladderpod - *Physaria parviflora* (*=Lesquerella parviflora*)

Piceance bladderpod (G2G3/S2S3) is endemic to Colorado's Piceance Basin. Approximately 50% of the species known distribution is located on lands managed by the BLM White River, Grand Junction, and Colorado River Valley Field Offices (CNHP 2023). Plants grow on ledges and outcrops of Green River Formation oil shale in pinyon-juniper woodland from 6,100 to 9,000 ft in elevation. Just over fifty percent of known occurrences either haven't been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). Many are ranked poor to fair viability. Threats to the species and its habitat include surface disturbance associated with oil and gas exploration and development and oil shale mining given the petroleum resources present in the formation on which it grows. OHV and non-motorized recreation have been documented as impacts at several sites as well as competition from non-native invasive plants species (CNHP 2022). Drought associated with climate change has the potential to negatively impact the species as well. Monitoring of two listed *Physaria* species in the Piceance Basin has indicated range-wide drought related declines over the past five to seven years (BLM 2022). Given its reliance on specialized habitats represented on BLM-administered lands and evidence that such areas are threatened with alteration such that the species continued viability is at risk, Piceance bladderpod is retained as a sensitive species in accordance with criteria 1b.

Pagosa bladderpod - *Physaria pruinosa* (*=Lesquerella pruinosa*)

Pagosa bladderpod has been removed from the sensitive species list. Less than one half of one percent of the species distribution in Colorado is located on BLM managed lands (CNHP 2023) limiting the agency's ability to meaningfully affect the conservation of the species overall. The majority of the species occurs on US Forest Service and privately owned lands. Given the limited amount of habitat managed by the BLM Pagosa bladderpod does not meet the criteria of a sensitive species in accordance with Manual 6840.

Cushion bladderpod - *Physaria pulvinata*

Cushion bladderpod has been removed from the sensitive species list. Approximately 1% of the species distribution in Colorado is located on lands managed by the BLM (CNHP 2022) – thereby limiting the agency's ability to affect the conservation of the species overall. The vast majority of known occurrences are still viable and occur in areas of minimal landscape disturbance (Handwerk and Smith 2023). Given the small proportion of habitat managed by the BLM and the apparent viability of the species it does not meet the criteria of a sensitive species in accordance with Manual 6840.

Rollins' twinpod - *Physaria rollinsii*

Rollins' twinpod (G2/S2) is a new addition to the sensitive species list. A Colorado endemic restricted to the Gunnison Basin, approximately 50% of known occurrences are located on lands managed by the BLM

Gunnison Field Office (CNHP 2022). Plants grow in granitic talus, limestone chiprock, steep slopes, and clay banks in sagebrush parks from 7,300-9,300 ft. Nearly 75% of the known occurrences either haven't been observed in twenty years or more or are lacking detailed population information (Handwerk and Smith 2023). Threats to the species aren't well defined but plants may be susceptible to the negative impacts of climate change (Handwerk et al. 2015). Given the species limited range, dependence on habitats managed by the BLM, and apparently diminishing numbers Rollins' twinpod is designated a sensitive species in accordance with criteria 1a and 1b.

Uncompahgre bladderpod – *Physaria vicina* (*=Lesquerella vicina*)

Uncompahgre bladderpod (G2G3/S2S3) was first described in 1997. The species is endemic to Colorado's Uncompahgre Valley near Montrose. Sixty-five percent of known occurrences are located on lands managed by the BLM Uncompahgre and Colorado River Valley Field Offices (CNHP 2022) of which the majority either haven't been observed in twenty or more years or are lacking detailed population information (Handwerk and Smith 2023). Plants occupy badlands of Mancos Formation shales at the transition from pinyon-juniper woodland to salt desert vegetation communities. It has also been observed in sandy soils among sagebrush. Threats to the species and its habitat include tramping from livestock, various recreational activities, competition from non-native invasive species, and powerline construction and maintenance. Given the species rarity and its reliance on habitats represented on BLM managed lands, and evidence that such areas are threatened with alteration such that the species continued viability is at risk, Uncompahgre bladderpod is retained on the list in accordance with criteria 1b.

Dawson's hookless cactus - *Sclerocactus dawsonii* (*=Sclerocactus glaucus*)

Previously considered part of Colorado hookless cactus, the recently described Dawsons hookless cactus is endemic to a small area in the vicinity of Debeque, Colorado in the Grand Junction and Colorado River Valley Field Offices (Ackerfield 2022). The species occurs on gentle slopes of Wasatch Formation often at the toe of slopes, in stoney outwashes, and along the margins of drainages. Plants are often found growing in unique sheltered microhabitats under the canopy of shadscale and sagebrush or in areas where the soil surface is anchored by surface cobbles. Intact biological soil crusts are ubiquitous at occupied sites that lack surface cobbles, suggesting that the species is particularly sensitive to surface disturbing activities including as a result of ranging livestock. OHV use, encroachment of non-native invasive plants, and oil and gas exploration and development pose a threat across the majority of the range of the species as well. The BLM Grand Junction and Colorado River Valley Field Offices retain management responsibility for the majority of known occurrences (CNHP 2021). The largest concentrations of cactus benefit from protections associated with special land designations within the Pyramid Rock, South Shale Ridge, and Atwell Gulch ACECs. Comprehensive surveys conducted by the BLM from 2021-2023 noted the lack of plants at many locations which previously supported them outside of designated ACECs – particularly at the eastern end of the species distribution (Krening et al. in prep). Given its narrow endemicity, ongoing threats to the species and its habitat, and its reliance on habitat represented on BLM managed lands Dawson's hookless cactus is designated a sensitive species in accordance with criteria 1a and 1b.

Colorado hookless cactus - *Sclerocactus glaucus*

Colorado hookless cactus (G2G3/S2S3) is endemic to western Colorado, found in the Uncompahgre and Grand Junction Field Offices. Plants occupy the bluffs and plateaus above the Gunnison River and its

tributary canyons between Delta and Grand Junction growing in soils derived from sedimentary parent material and throughout the clay barrens derived from Mancos Shale Formation along the toe of the Grand Mesa and in the North Fruita Desert. Much of Colorado hookless cactus range is subject to sheep grazing and negative impacts associated with concentrated use have been observed. OHV use, oil and gas development and encroachment by non-native invasive plants species affect portions of the range as well. Plants benefit from several areas possessing special management designation including in the Dominguez-Escalante NCA, Gunnison Gorge NCA, and Adobe Badlands WSA. Monitoring by the BLM and Denver Botanic Gardens has demonstrated that range wide the species trend is largely stable (DePrenger-Levin and Krening 2022) and that there are significantly more plants than previously thought (Krening et al. 2021). Colorado hookless cactus has been proposed for delisting by the US Fish and Wildlife Service. The species will be added to the sensitive species list in accordance with criteria 2 pending its delisting from the federal list of threatened and endangered species.

Pale blue-eyed grass - *Sisyrinchium pallidum*

Pale blue-eyed grass (G3/S3) is a regional endemic of southeastern Wyoming and northcentral Colorado. It is found in moist meadows, fens, and along streams in plant communities dominated by graminoids and forbs including *Pedicularis crenulata*, *Dodecatheon pulchellum* and *Primula incana*. Hydrologic alteration resulting from water diversion is the primary threat to the species and its habitat. Additionally, peat mining at High Creek Fen remains a threat. The majority of occurrences are on private lands, with occurrences on public lands managed by the BLM remaining a high priority (CNHP 2022). Given the importance of habitats managed by the BLM to its long-term persistence pale blue-eyed grass is retained as a sensitive species in accordance with criteria 1b.

Sun-loving meadow rue - *Thalictrum heliophilum*

Sun-loving meadow rue (G2/S2) is endemic to northwestern Colorado found growing in open sunny sites on sparsely vegetated, barren, dry shale talus slopes, usually on the Parachute Creek Member of the Green River Shale Formation. Associated vegetation includes rabbitbrush, snowberry, *Astragalus lutosus*, *Mentzelia rhizomata* and *Festuca dasyclada*. The primary threat to this species is oil and gas development and potential oil shale mining given the petroleum resources present in the formation on which the species occurs (Panjabi and Anderson 2007). Other threats are invasive plant encroachment, grazing and browsing by ungulates, and climate change. Several occurrences are present in the East Douglas Creek and South Cathedral Bluffs ACECs, managed by the BLM, however, the sun-loving meadow rue has no regulatory protections. Twenty-six percent of the occurrences are found on public lands managed by the BLM in the White River Field Office, with 70% found on private lands (CNHP 2022). Given the species rarity and the importance of BLM managed habitats to function as a refugia for the species the sun-loving meadow rue is retained as a sensitive species in accordance with criteria 1b.

Hairy Easter daisy - *Townsendia strigosa*

Hairy Easter Daisy (G4/S1S2) is known from six occurrences in northwest Colorado which occur entirely on lands managed by the BLM Grand Junction and Little Snake Field Offices (CNHP 2022). Habitats for this biennial species are pinyon-juniper, desert scrub and other open places with shales, sands, and clays. Threats are thought to include livestock grazing, competition from invasive species, recreation, energy development and long-term drought. Given the species rarity in the state and its reliance on habitats

represented on BLM managed lands hairy Easter daisy is retained as a sensitive species in accordance with criteria 1b.

Rolland's bullrush - *Trichophorum pumilum* (=*Scirpus pumilus*)

Rolland's leafless bullrush (G5/S2) has been removed from the sensitive species list. Plants have a circumboreal distribution found in bogs and fens. In Colorado this species occurs in South Park on mossy hummocks in very rich fens from 9,300 – 11,000 ft. Hydrologic alteration and impacts from ranging livestock pose threats to this species and its fragile wetland habitat. However, refined mapping of known occurrences of this species by the Colorado Natural Heritage Program has demonstrated that none of the documented occurrences are found on public lands managed by the BLM (CNHP 2021). Therefore, Rolland's bullrush has been removed from the sensitive species list.

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Colorado buckwheat -

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Sun-loving meadow rue

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Appendix 1: BLM Sensitive Species

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Mammals										
Pygmy rabbit	*Brachylagus idahoensis* (=*Sylivalagus idahoensis*)	G4/S1; SWAP Tier 2	LS							
Townsend's big-eared bat	*Corynorhinus townsendii pallescens*	G3T3T4/S2; FS; SWAP Tier 1; SC	WR		TR, UN	CANM, GGNCA	SLV, RG	BC	CRV, GJ	DENCA, MCNCA
Gunnison's prairie dog	*Cynomys gunnisoni*	G3?/S5; FS; SWAP Tier 1			GU, TR, UN		SLV, RG	BC		
White-tailed prairie dog	*Cynomys leucurus*	G4/S4; FS; SWAP Tier 1	K, LS, WR		UN	GGNCA			GJ	DENCA
Black-tailed prairie dog	*Cynomys ludovicianus*	G4/S3; FS; SWAP Tier 2; SC					RG			
Spotted bat	*Euderma maculatum*	G4/S2; FS; SWAP Tier 1	LS, WR		TR, UN	CANM, GGNCA	SLV		CRV, GJ	DENCA
Hoary bat	*Lasiurus cinereus*	G3G4/S3S4B; FS; SWAP Tier 2	LS, WR, K		TR, UN, GU		RG, SLV		GJ, CRV	
North American river otter	*Lontra canadensis*	G5/S3; FS; SWAP Tier 2; ST	LS, WR, K		TR, UN, GU	DENCA, GGNCA	RG, SLV		GJ, CRV	DENCA
California Myotis	*Myotis californicus*	G5/S3	LS, WR		TR, UN				GJ, CRV	

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Western small-footed Myotis	*Myotis ciliolabrum*	G5/S4	LS, WR, K		TR, UN, GU		RG, SLV		GJ, CRV	
Long-eared Myotis	*Myotis evotis*	G5/S4	LS, WR, K		TR, UN, GU		RG, SLV		GJ, CRV	
Little brown Myotis	*Myotis lucifigus*	G3G4/S4	LS, WR, K		TR, UN, GU		RG, SLV		GJ, CRV	
Fringed Myotis	*Myotis thysanodes*	G4/S3; FS; SWAP Tier 1	K, WR		TR, UN	CANM, DENCA, GGNCA	RG, SLV	BC	GJ, CRV	DENCA
Yuma Myotis	*Myotis yumanensis*	G5/S3	LS, WR		TR, UN		RG, SLV		GJ, CRV	
Rocky Mountain bighorn sheep	*Ovis canadensis canadensis*	G4T4/S4; FS; SWAP Tier 2	K, LS		UN, GU, TR	GGNCA	SLV, RG	BC	GJ, CRV	
Desert bighorn sheep	*Ovis canadensis nelsoni*	G4T4; FS; SWAP Tier 2			UN, TR				GJ	DENCA, MCNCA
Kit fox	*Vulpes macrotis*	G4/S1; FS; SWAP Tier 2; SE			UN	GGNCA			GJ	DENCA, MCNCA
Swift fox	*Vulpes velox*	G3/S3; FS; SWAP Tier 2; SC					SLV, RG			
Birds										
Northern goshawk	*Accipiter gentilis*	G5/S3B; FS; SWAP Tier 2	K, LS, WR		GN, TR, UN		RG, SLV	BC	CRV, GJ	
Sagebrush sparrow	*Artemisiospiza nevadensis*	G5/S3B; FS; SWAP Tier 2	WR, LS, K		GN, TR, UN					

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Burrowing owl	*Athene cunicularia*	G4/S4B; FS; SWAP Tier 1; ST	WR, LS		GN, TR, UN					
Golden eagle	*Aquila chrysaetos*	G5/S3S4B,S4N; SWAP Tier 1	K, LS, WR		GN, TR, UN	CANM, DENCA, GGNCA	RG, SLV	BC	CRV, GJ	DENCA, MCNCA
Ferruginous hawk	*Buteo regalis*	G4/S3B,S4N; FS; SWAP Tier 2; SC	K, LS, WR		TR, UN	CANM, DENCA, GGNCA	RG, SLV	BC	CRV, GJ	DENCA, MCNCA
Greater sage-grouse	*Centrocercus urophasianus*	G3G4/S4; FS; SWAP Tier 1; SC	K, LS, WR						CRV, GJ	
Mountain plover	*Charadrius montanus*	G3/S2B; FS; SWAP Tier 1; SC	K, LS				RG, SLV			MCNCA
Western snowy plover (breeding only)	*Charadrius nivosus nivosus*	G3T3/S1B; SWAP Tier 2; SC					RG, SLV			
Black swift	*Cypseloides niger*	G4/S3B; FS; SWAP Tier 2			GN		SLV		CRV	
Prairie falcon	*Falco mexicanus*	G5/S4B,S4N; SWAP Tier 2	K, LS, WR		GN, TR, UN	CANM, DENCA, GGNCA	RG, SLV	BC	CRV, GJ	DENCA, MCNCA
American peregrine falcon	*Falco peregrinus anatum*	G4T4/S2B; FS; SWAP Tier 2; SC	K, LS, WR		GN, TR, UN	CANM, DENCA, GGNCA	RG, SLV	BC	CRV, GJ	DENCA, MCNCA
Pinyon jay	*Gymnorhinus cyanocephalus*	G3/S3; SWAP Tier 2	WR		TR, UN					

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Bald eagle	*Haliaeetus leucocephalus*	G5/S3B,S3N; FS; SWAP Tier 2; SC	K, LS, WR		GN, TR, UN	CANM, DENCA, GGNCA	RG, SLV	BC	CRV, GJ	DENCA, MCNCA
Loggerhead shrike	*Lanius ludovicianus*	G4/S3S4B; FS; SWAP Tier 2	WR, LS		TR		RG, SLV		GJ	
Brown-capped rosy-finch	*Leucosticte australis*	G4/S3B,S4N; SWAP Tier 1	K, WR		GN, UN, TR		RG, SLV		CRV, GJ	DENCA, MCNCA
Lewis's woodpecker	*Melanerpes lewis*	G4/S4; FS; SWAP Tier 2			GN, TR, UN	DENCA	RG, SLV	BC	CRV, GJ	DENCA
Long-billed curlew (breeding only)	*Numenius americanus*	G5/S2B; FS; SWAP Tier 2; SC	K				RG, SLV		GJ	
American white pelican (breeding only)	*Pelecanus erythrorhynchos*	G4/S1B; SWAP Tier 2	K				RG, SLV			
White-faced ibis (breeding only)	*Plegadis chihi*	G5/S2B; SWAP Tier 2			GN		RG, SLV			
Broad-tailed hummingbird	*Selasaphorus platycercus*	G5/S5	K, LS, WR		GN, TR, UN	CANM, DENCA, GGNCA	RG, SLV	BC	CRV, GJ	DENCA, MCNCA
Brewer's sparrow	*Spizella breweri*	G5/S4B; FS; SWAP Tier 2	K, LS, WR		GN, TR, UN	GGNCA	RG, SLV	BC	CRV, GJ	DENCA, MCNCA
Columbian sharp-tailed grouse	*Tympanuchus phasianellus columbianus*	G4T3/S2; FS; SWAP Tier 1; SC	K, LS, WR		TR				CRV	

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Gray vireo	*Vireo vicinior*	G5/S2B; SWAP Tier 2	LS, WR		TR, UN	CANM, DENCA, GGNCA			GJ	DENCA, MCNCA
Fishes										
Bluehead sucker	*Catostomus discobolus*	G4/S4; FS; SWAP Tier 1	LS, WR, K		UN, TR	CANM, DENCA, GGNCA			CRV, GJ	DENCA, MCNCA
Flannelmouth sucker	*Catostomus latipinnis*	G3G4/S3; FS; SWAP Teir 1	LS, WR, K		UN, TR	CANM, DENCA, GGNCA			CRV, GJ	DENCA, MCNCA
Mountain sucker	*Catostomus platyrhynchus*	G5/S2?; FS; SWAP Tier 1; SC	LS, WR						CRV	
Rio Grande sucker	*Catostomus plebeius*	G3G4/S1; FS; SWAP Tier 1; SE					SLV			
Arkansas darter	*Etheostoma cragini*	G3G4/S2; SWAP Tier 1; ST					RG			
Rio Grande chub	*Gila pandora*	G3/S1?; FS; SWAP Tier 1; SC					SLV			
Roundtail chub	*Gila robusta*	G3/S2; FS; SWAP Tier 1; SC	LS, WR, K		UN, TR	CANM, DENCA, GGNCA			CRV, GJ	DENCA, MCNCA
Colorado River cutthroat trout (Includes Blue, Green, and Red Lineages)	*Oncorhynchus clarkii pleuriticus*	G5T3/S3; FS; SWAP Tier 1; SC	LS, WR, K		GN, TR, UN	DENCA			CRV, GJ	DENCA
Rio Grande cutthroat trout	*Oncorhynchus clarkii virginalis*	G5T3/S3; FS; SWAP Tier 1; SC					SLV			

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Reptiles										
Colorado checkered whiptail	*Aspidoscelis neotesselata*	G3/S2; SWAP Tier 1					RG			
Midget faded rattlesnake	*Crotalus oreganus concolor*	G5T4/S3?; SWAP Tier 2; SC	LS, WR		UN, TR	CANM, DENCA, GGNCA			CRV, GJ	DENCA, MCNCA
Long-nose leopard lizard	*Gambelia wislizenii*	G5/S1; SWAP Tier 2; SC			UN, TR	CANM			GJ	DENCA, MCNCA
Californina kingsnake	*Lampropeltis californiae*	G5/S1; SWAP Tier 2; SC			TR	CANM?				
Speckled kingsnake	*Lampropeltis holbrooki*	G5/S1; SWAP Tier 2; SC					RG			
Mesa Verde nightsnake	*Hypsiglena chlorophaea loreala*	G5TRN/S2; SWAP Tier 2			UN, TR	CANM			GJ	
Desert spiny lizard	*Sceloporus magister*	G5/S2; SWAP Tier 2			TR	CANM				
Massasauga	*Sistrurus tergeminus*	G3G4/S2; FS; SWAP Tier 1; SC					RG			
Amphibians										
Boreal toad (Southern Rocky Mtn. population)	*Anaxyrus boreas boreas pop. 1*	G4T1/S1; FS; SWAP Tier 1; SE	K, LS, WR		GN, TR		RG, SLV			BC
Canyon treefrog	*Dryophytes arenicolor* (=*Hyla arenicolor*)	G5/S2; SWAP Tier 2			UN, TR	DENCA, GGNCA			GJ	DENCA, MCNCA

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			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Plains leopard frog	*Lithobates blairi*	G5/S3; FS; SWAP Tier 2; SC					RG			
Northern leopard frog	*Lithobates pipiens*	G5/S3; FS; SWAP Tier 1; SC	K, LS, WR		GN, UN, TR	CANM, DENCA, GGNCA	RG, SLV	BC	CRV, GJ	DENCA, MCNCA
Invertebrates										
Silverspot butterfly	*Argynnis nokomis nokomis* (=*Speyeria nokomis nokomis*)	G3T1/T1; FS; SWAP Tier 2			UN, TR				GJ	
Western bumblebee	*Bombus occidentalis*	G3/S3S4; SWAP Tier 2	K, LS, WR?		GN, UN, TR?				CRV, GJ?	
American bumblebee	*Bombus pensylvanicus*	G3G4/S2S3; SWAP Tier 2					RG?			
Suckley's cuckoo bumblebee	*Bombus suckleyi*	G2G3/S2; SWAP Tier 2	K, LS, WR?		GN, UN, TR?		RG, SLV?		CRV, GJ?	
Monarch butterfly	*Danaus plexippus*	G4/S5; SWAP Tier 2	K, LS, WR?		GN, UN, TR?		RG, SLV?		CRV, GJ?	
Plants										
Uinta Basin Gilia	*Aliciella stenothyrsa* (=*Gilia stenothyrsa*)	G3/S2	WR						GJ	
Jones' bluestar	*Amsonia jonesii*	G4/S2			TR				GJ	MCNCA

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			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Rock tansy	*Artemisia capitata* (=*Sphaeromeria capitata*)	G4/S1	LS							
Gunnison milkvetch	*Astragalus anisus*	G3/S3; SWAP Tier 2			GN					
Debeque milkvetch	*Astragalus debequaeus*	G2/S2; SWAP Tier 2			UN				CRV, GJ	
Rimrock milkvetch	*Astragalus desperatus var. neeseae* (=*Astragalus equisolensis*)	G5T2?/S2; SWAP Tier 2							GJ	
Debris milkvetch	*Astragalus detritalis*	G3/S2S3	LS, WR							
Duchesne milkvetch	*Astragalus duchesnensis*	G3/S2	LS, WR							
Skiff milkvetch	*Astragalus microcymbus*	G1G2/S1S2; SWAP Tier 1			GN					
Ferron's milkvetch	*Astragalus musiniensis*	G3/S1							GJ	MCNCA
Naturita milkvetch	*Astragalus naturitensis*	G3/S3; SWAP Tier 2			UN, TR	DENCA			CRV, GJ	DENCA
Fisher milkvetch	*Astragalus piscator*	G3/S1; SWAP Tier 2							GJ	
San Rafael milkvetch	*Astragalus rafaelensis*	G3/S3; SWAP Tier 2			UN	DENCA			GJ	DENCA

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Ripley's milkvetch	*Astragalus ripleyi*	G3/S2; FS					SLV			
Sandstone milkvetch	*Astragalus sesquiflorus*	G3G4/S1			UN					
Duchesne springparsley	*Aulospermum duchesnensis* (=*Cymopterus duchesnensis*)	G3/S2	LS							
Grand Junction Chylismia	*Chylismia eastwoodiae* (=*Camissonia eastwoodiae)*	G3/S2; SWAP Tier 2			UN				GJ	MCNCA
Slender spiderflower	*Cleomella multicaulis* (=*Cleome multicaulis*)	G2G3/S2S3; SWAP Tier 2					SLV			
Heil's tansy mustard	*Descurainia kenheilii*	G2/S2; SWAP Tier 1			GN		SLV			
Kachina fleabane	*Erigeron kachinensis*	G3/S1; SWAP Tier 2			UN, TR				GJ	
Single-stem buckwheat	*Eriogonum acaule*	G3/S1	LS							
Brandegee's buckwheat	*Eriogonum brandegeei*	G2/S2; SWAP Tier 1; FS					RG			
Grand buckwheat	*Eriogonum contortum*	G3/S2							GJ	MCNCA

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Ephedra buckwheat	*Eriogonum ephedroides*	G3/S2	WR							
Woodside buckwheat	*Eriogonum tumulosum*	G3Q/S2S3	LS							
Clay hill buckwheat	*Eriogonum viridulum*	G4/S1	LS							
Tufted Frasera	*Frasera paniculata*	G4/S1							GJ	MCNCA
Cathedral Bluff dwarf gentian	*Gentianella tortuosa*	G3?/S1	WR							
Lone Mesa snakeweed	*Gutierrezia elegans*	G1/S1; SWAP Tier 1; FS			TR					
Colorado desert-parsley	*Lomatium concinnum*	G2G3/S2S3; SWAP Tier 2			UN	GGNCA				
Canyonlands Lomatium	*Lomatium latilobum* (=*Aletes latilobus*)	G2/S2; SWAP Tier 1							GJ	MCNCA
Paradox Lupine	*Lupinus crassus*	G2/S2; SWAP Tier 2			UN					
Dolores River skeletonplant	*Lygodesmia grandiflora var. doloresensis*	G5?T1T2/S1S2; SWAP Tier 1							GJ	MCNCA
Golden blazingstar	*Mentzelia chrysantha* (=*Nuttallia chrysantha*)	G2/S2; SWAP Tier 2					RG			

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Royal Gorge blazingstar	*Mentzelia densa* (=*Nuttalia densa*)	G2G3/S2S3; SWAP Tier 2					RG			
Paradox Valley blazingstar	*Mentzelia paradoxensis*	G2/S2; SWAP Tier 2			TR, UN					
Roan Cliffs blazingstar	*Mentzelia rhizomata*	G2G3/S2S3; SWAP Tier 2							CRV, GJ	
Bill's Neoparrya	*Neoparrya lithophila* (=*Aletes lithophilus*)	G3/S3; FS					RG, SLV			
Flaming Gorge evening primrose	*Oenothera acutissima*	G2/S2; SWAP Tier 2	LS							
Tufted Cryptantha	*Oreocarya caespitosa* (=*Cryptantha caespitosa*)	G4/S2	LS, WR							
Osterhout's Cryptantha	*Oreocarya osterhoutii* (=*Crypantha osterhoutii*)	G2G3/S2; SWAP Tier 2							GJ	MCNCA
Gypsum Valley Cryptantha	*Oreocarya revealii*	G2G3/S2S3; SWAP Tier 2			TR					
Rollins' Cryptantha	*Oreocarya rollinsii* (=*Cryptantha rollinsii*)	G3/S2	WR							

Common Name	Scientific Name	Designation of other agencies: NatureServe global and state rank: G_/S_; Forest Service Sensitive: FS; Colorado Parks and Wildlife: SWAP Tier_ & State Listed S_	Occurrence in BLM Districts/Field Office/NLCS Units							
			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Bessey's Locoweed	*Oxytropis besseyi var. obnapiformis*	G5T2T3/S2S3	LS, WR							
Colorado feverfew	*Parthenium ligulatum* (=*Bolophyta ligulata*)	G3/S1	LS, WR							
Aromatic Indian breadroot	*Pediomelum aromaticum*	G3/S2			TR, UN				GJ	MCNCA
White River beardtongue	*Penstemon albifluvis* (=*Penstemon scariosus var. albifluvis*)	G4T1/S1; SWAP Tier 1	WR							
Degener's beardtongue	*Penstemon degeneri*	G2G3/S2S3; SWAP Tier 2; FS					RG			
Gibben's beardtongue	*Penstemon gibbensii*	G1G2/S1; SWAP Tier 1	LS							
Graham's beardtongue	*Penstemon grahamii*	G2G3/S1; SWAP Tier 2	WR							
Harrington's beardtongue	*Penstemon harringtonii*	G3/S3; FS	K						CRV	
Bright Penstemon	*Penstemon luculentus* (=*Penstemon fremontii var. glabrescens*)	G3G4T2/S2; SWAP Tier 2	WR							

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			Northwest Dist.		Southwest Dist.		Rocky Mtn. Dist.		Upper CO River Dist.	
			FO	NLCS	FO	NLCS	FO	NLCS	FO	NLCS
Neese's Blue Mountain beardtongue	*Penstemon scariosus var. cyanomontanus*	G4T2/S2; SWAP Tier 2	LS							
Yampa beardtongue	*Penstemon yampaensis*	G2G3/S2S3; SWAP Tier 2	LS, WR							
North Park Phacelia	*Phacelia formosula*	G2/S2; SWAP Tier 1	K							
Gina's Phacelia	*Phacelia gina-glenneae*	G1Q/S1; SWAP Tier 1	K							
Piceance bladderpod	*Physaria parviflora*	G2G3/S2S3; SWAP Tier 2	WR						GJ	
Rollins' twinpod	*Physaria rollinsii*	G2/S2; SWAP Tier 1			GN					
Uncompahgre bladderpod	*Physaria vicina* (=*Lesquerella vicina*)	G2G3/S2S3; SWAP Tier 2			UN	DENCA, GGNCA			CRV	
Dawson's hookless cactus	*Sclerocactus dawsonii* (=*Sclerocactus glaucus*)	N/A							CRV, GJ	
Colorado hookless cactus	*Sclerocactus glaucus*	G2G3/S2S3; SWAP Tier 1			UN	DENCA, GGNCA			GJ	DENCA
Pale blue-eyed grass	*Sisyrinchium pallidum*	G3/S3	K				RG, SLV			
Sun-loving meadow rue	*Thalictrum heliophilum*	G2/S2; SWAP Tier 2	WR						CRV, GJ	
Hairy Easter daisy	*Townsendia strigosa*	G4/S1S2	LS						GJ	

Field Offices:

CRV = Colorado River Field Office
GJ = Grand Junction
GN = Gunnison
K = Kremmling
LS = Little Snake
RG = Royal Gorge
SLV = San Luis Valley
TR = Tres Rios
UN = Uncompahgre
WR = White River

NLCS Units:

BC = Browns Canyon National Monument
CANM = Canyon of the Ancients National Monument
DENCA = Dominguez-Escalante National Conservation Area
GGNCA = Gunnison Gorge National Conservation Area
MCNCA = McInnis Canyons National Conservation Area

Appendix 2: Other Special Status Species

Common Name	Scientific Name	FWS Designation
Mammals		
Gray wolf	*Canis lupus*	Endangered
North American wolverine	*Gulo gulo luscus*	Proposed
Canada Lynx	*Lynx canadensis*	Threatened
Black-footed ferret	*Mustela nigripes*	Endangered
Tricolored bat	*Perimyotis subflavus*	Proposed
New Mexico meadow jumping mouse	*Zapus hudsonius luteus*	Endangered
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	Threatened
Birds		
Red knot	*Calidris canutus rufa*	Threatened
Gunnison sage-grouse	*Centrocercus minimus*	Threatened
Piping plover	*Charadrius melodus*	Threatened
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered
Whooping crane	*Grus americana*	Endangered
Eastern black rail	*Laterallus jamaicensis* ssp. *Jamaicensis*	Threatened
Mexican spotted owl	*Strix occidentalis lucida*	Threatened

Fishes		
Humpback chub	*Gila cypha*	Threatened
Bonytail	*Gila elegans*	Endangered
Greenback cutthroat trout	*Oncorhynchus clarkii stomias*	Threatened
Colorado pikeminnow	*Ptychocheilus lucius*	Endangered
Razorback sucker	*Xyrauchen texanus*	Endangered
Invertebrates		
Uncompahgre fritillary butterfly	*Boloria acrocnema*	Endangered
Pawnee montane skipper	*Hesperia leonardus montana*	Threatened
Plants		
Mancos milkvetch	*Astragalus humillimus*	Endangered
Osterhout milkvetch	*Astragalus osterhoutii*	Endangered
Navajo sedge	*Carex specuicola*	Threatened
Clay-loving wild buckwheat	*Eriogonum pelinophilum*	Endangered
Mosquito Range mustard	*Eutrema penlandii*	Threatened
Pagosa skyrocket	*Ipomopsis polyantha*	Endangered
Knowlton's cactus	*Pediocactus knowltonii*	Endangered
Parachute beardtongue	*Penstemon debilis*	Threatened
Penland beardtongue	*Penstemon penlandii*	Endangered

North Park Phacelia	*Phacelia formosula*	Endangered
DeBeque Phacelia	*Phacelia submutica*	Threatened
Dudley Bluffs baldderpod	*Physaria congesta*	Threatened
Dudley Bluffs twinpod	*Physaria obcordata*	Threatened
Western prairie fringed orchid	*Platanthera praeclara*	Threatened
Colorado hookless cactus	*Sclerocactus glaucus*	Threatened- Proposed to delist
Mesa Verde cactus	*Sclerocactus mesa-verdae*	Threatened
Ute ladies'-tresses	*Spiranthes diluvialis*	Threatened

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