Biological Evaluation
For
Special Status Plants on BLM Lands in the Red Rock-Lima Watershed
(Red Rock-Lima Watershed Environmental Assessment)
MT-050-07-69

Prepared by
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None of the plants currently listed as endangered or threatened under the Endangered Species Act are found on BLM lands in the Dillon Field Office. However, Ute Ladies' Tresses is listed as threatened in Montana and is found on private and state lands in Beaverhead, Madison, Gallatin, and Jefferson counties. Fifty sensitive plant species inhabit BLM lands administered by the Dillon Field Office. Thirty-six of those species are known to occur within the greater affected area for which cumulative effects will be considered for the Red Rock-Lima Watershed Environmental Assessment. BLM lands within the RRLW currently provide habitat for at least twenty-six sensitive plant species. The potential effects that the various alternatives may have on these species are summarized in the following table. A detailed discussion of predicted effects and potential impacts to special status plant species and their habitat is provided in the attached "Supplemental Information on Special Status Plants on BLM Lands in the Red Rock-Lima Watershed".

Definitions of Abbreviations used in the Table.

NI - No Impact

BI - Beneficial Impact

MIIH - May Impact individuals or habitat, but will not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species.

*** WIFV** - Will Impact Individuals or habitat with a consequence that the action may contribute to a trend toward federal listing or cause a loss of viability to the population or species.

***** Consultation with the U.S. Fish and Wildlife Service will be initiated if an alternative is selected that may contribute to a loss of viability to a population of species reviewed in this evaluation.

Biological Evaluation Summary for Special Status Plants

Project name: _Red Rock-Lima Watershed E.A_ _ NEPA Document Number: _MT-050-07-69

Common Name *Genus species*	Does the species occur within the Red Rock Watershed?	Is the species or its habitat found in the greater affected area?	Are irreversible or irretrievable resources involved?	What effect could this proposal have?*			
				Alt. A	Alt. B	Alt. C	Alt. D
Ute Ladies' Tresses *Spiranthes dilivialis*	NO	NO	--	--	--	--	--
Cusick's Horse-mint *Agastache cusickii*	YES	YES	NO	NI			
Western snakeroot *Ageratina occidentalis*	NO	YES	NO	NI			
California Amaranth *Amaranthus californicus*	NO	YES	NO	NI			
Sitka Columbine *Aquilegia formosa*	YES	YES	NO	NI			
Sapphire Rockcress *Arabis fecunda*	NO	NO	--	--	--	--	--
Painted Milkvetch *Astragalus ceramicus var. apus*	NO	NO	--	--	--	--	--
Lesser Rushy Milkvetch *Astragalus convallarius var. convallarius = A. junciformis*	YES	YES	NO	NI			
Bitterroot Milkvetch *Astragalus scaphoides*	YES	YES	NO	MIIH	MIIH	MIIH	MIIH
Railhead Milkvetch *Astragalus terminalis*	YES	YES	NO	MIIH	MIIH	MIIH	MIIH
Large-leafed Balsamroot *Balsamorhiza macrophylla*	NO	NO	--	--	--	--	--
Low Northern –Rockcress *Braya humilis*	NO	YES	NO	NI			
Idaho Sedge *Carex idahoa*	YES	YES	NO	MIIH	MIIH	MIIH	MIIH
Fendler Cat's-eye *Cryptantha fendleri*	NO	NO	--	--	--	--	--
Beavertip Draba *Draba globosa*	NO	NO	--	--	--	--	--
Wind River Draba *Draba ventosa*	NO	NO	--	--	--	--	--
Idaho Fleabane *Erigeron asperugineus*	YES	YES	NO	NI			
Linearleaf Fleabane *Erigeron linearis*	YES	YES	NO	NI			
Buff Fleabane *Erigeron parryi*	YES	YES	NO	NI			
Mat Buckwheat *Eriogonum caespitosum*	YES	YES	NO	NI			
Railroad Canyon Wild Buckwheat *Eriogonum soliceps*	YES	YES	NO	NI			
Many-flowered Viguirea *Heliomeris multiflora var. multiflora*	NO	NO	--	--	--	--	--
Prostrate Hutchensia *Hutchinsia procumbens*	NO	YES	NO	NI			

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				Alt. A	Alt. B	Alt. C	Alt. D
Ballhead Ipomopsis *Ipomopsis congesta ssp. crebrifolia*	YES	YES	NO	NI			
Simple Bog Sedge *Kobresia simpliciuscula*	NO	YES	NO	NI			
Green Molly *Bassia americana*	YES	YES	NO	NI			
Beautiful Bladderpod *Lesquerella pulchella*	YES	YES	NO	NI			
Sand Wildrye *Leymus flavescens*	NO	NO	--	--	--	--	--
Taper-tip Desert-parsley *Lomatium attenuatum*	YES	YES	NO	NI			
Marsh Felwort *Lomatogonium rotatum*	NO	YES	NO	NI			
Soft Blazingstar *Mentzelia montana*	NO	YES	NO	NI			
Tapered-root Indian Potato *Orogenia fusiformis*	NO	NO	--	--	--	--	--
Meadow Lousewort *Pedicularis crenulata*	YES	YES	NO	NI			
Lemhi Beardtongue *Penstemon lemhiensis*	YES	YES	NO	MIIH	MIIH	MIIH	MIIH
Whipple's Beardtongue *Penstemon whippleanus*	NO	NO	--	--	--	--	--
Hoary Phacelia *Phacelia incana*	YES	YES	NO	NI			
Slender-branched Popcorn Flower *Plagiobothrys leptocladus*	NO	YES	NO	NI			
Alkali Primrose *Primula alcalina*	YES	YES	NO	MIIH	MIIH	MIIH	MIIH
Mealy Primrose *Primula incana*	YES	YES	NO	MIIH	MIIH	MIIH	MIIH
James Stitchwort *Pseudostellaria jamesiana*	NO	NO	--	--	--	--	--
Lemmon's Alkaligrass *Puccinellia lemmonii*	NO	YES	NO	NI			
White-stemmed Globe-mallow *Sphaeralcea munroana*	YES	YES	NO	NI			
Silver Chicken Sage *Sphaeromeria argentea*	YES	YES	NO	NI			
Spiny Skeletonweed *Pleiacanthus spinosus*	NO	NO	--	--	--	--	--
Rocky Mountain Dandelion *Taraxacum eriophorum*	YES	YES	NO	MIIH	MIIH	MIIH	MIIH
Alpine Meadowrue *Thalictrum alpinum*	YES	YES	NO	MIIH	MIIH	MIIH	MIIH
Northwestern Thelypody *Thelypodium paniculatum*	NO	NO	--	--	--	--	--
Slender Thelypody *Thelypodium sagittatum*	NO	YES	NO	NI			
Meadow Pennycress *Thlaspi parviflorum*	YES	YES	NO	NI			

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Cushion Townsendia *Townsendia condensata*	YES	YES	NO	NI			
Showy Townsendia *Townsendia florifera*	NO	NO	--	--	--	--	--
Long Sheath Waterweed *Elodea bifoliata = E. longivaginata*	NO	NO	--	--	--	--	--

* The livestock management and project proposals aren't consistent across alternatives. For example, the grazing management proposed for the Cedar Creek allotment under Alternative B provides rest or deferment 2 years out of 3 while the grazing management proposed for the Phalarope West allotment prescribes annual grazing from October through April. For the purposes of this biological evaluation, if a proposed grazing treatment (numbers, duration, time of year, frequency of rest) project or vegetative treatment within a given alternative is likely to adversely affect a sensitive plant or its habitat, then that effect is reflected in the table

Supplemental Information on Special Status Plants on BLM Lands in the Red Rock-Lima Watershed

The Dillon Resource Management Plan provides guidance that requires project sites in high probability habitats to be surveyed for sensitive plants prior to any ground disturbing activities. This reduces the possibility that sensitive plant species would be accidentally or inadvertently impacted by BLM activities.

No impacts from any of the four alternatives considered in the EA are anticipated on the ten plant species that are known only from the greater affected area. They either occupy habitats not normally frequented by cattle or are located far enough away from the project area that the livestock management, range improvement projects or vegetation treatments proposed on the Red Rock allotments will be of little or no consequence.

Of the twenty-six special status plant species found in the project area, fourteen (ballhead ipomopsis, beautiful bladderpod, hoary phacelia, linearleaf fleabane, cushion townsendia, railroad canyon wild buckwheat, buff fleabane, Cusick's horse-mint, silver chicken sage, Idaho fleabane, mat buckwheat, taper-tip desert-parsley, meadow pennycress, white-stemmed globe-mallow) aren't likely to be impacted by any of the alternatives. Most of these species aren't considered palatable and their habitats typically receive light to moderate grazing use. Generally, these plants occupy dissimilar habitats than those proposed for fuels and healthy forest treatments. The risk of any management proposals impacting these fourteen species is relatively low; however indiscriminate or random placement of livestock supplements could cause trampling of individual plants or populations.

Season long grazing strategies would be compatible with maintaining the species discussed above, but would provide no protection for palatable rare plants. Green molly is highly palatable but the one documented occurrence in the RRLW occurs on private land that is outside allotment boundaries and won't be directly affected by BLM actions. Lemhi beardtongue is most susceptible to browsing during

flowering (Elzinga 1997), while Bitterroot and railhead milkvetch are most vulnerable to grazing as they mature, between May 15 and July 15 (MNHP 2008). Alternatives that limit livestock grazing during these periods would minimize soil compaction and damage to reproductive plants. Rest rotation grazing strategies would provide cyclic opportunities for seed production and seedling establishment of Lemhi beardtongue, Bitterroot milkvetch and railhead milkvetch which should allow enough recruitment to maintain stable populations.

Sitka Columbine inhabits moist soil of open coniferous or aspen forests and could potentially be affected by proposed actions especially in areas slated for fuels and/or forest health treatments. Habitat for this species could possibly be maintained by treatments that create a more open canopy. However in a study of regeneration following wildfire a similar species Red columbine (*Aquilegia canadensis*) was thought to be top–killed by fire. It was highly abundant on a nonburned site, and abundant on the corresponding burned site suggesting that it survives fire, but doesn't necessarily increase or decrease in abundance following disturbance (Sullivan 1992).

Six of the sensitive plant species found in the project area occupy riparian and wetland habitats which would be affected by proposed actions. Alpine meadowrue, alkali primrose and mealy primrose are most likely to occur in riparian and wetland habitats in the southern portion of the RRLW. Idaho sedge, Rocky Mountain dandelion and meadow lousewort could be found in representative habitat throughout the RRLW. Alkali primrose is only known from one historic occurrence record within the watershed and the one population of meadow lousewort is on private lands that are outside BLM grazing allotments. While individuals of these two species may not be directly affected by any of the alternatives, habitat that could support these species could be affected by all alternatives.

Many wet meadows in the RRLW are drying out and are being invaded by upland plant species such as pussy-toes and common yarrow. None of the alternatives propose to limit utilization on these meadows, but if sedges are present, maintaining a 4" residual stubble height is recommended. This criterion alone would do little to reduce competition between obligate and facultative wetland species and facultative and facultative upland species. Alternatives that increase the frequency of rest or shorten the duration of grazing on these habitats would reduce the opportunity for soil compaction and may contribute to increased vigor and production of native graminoids, including Idaho sedge.

Streambanks, wetlands and meadows that support non-sedge plant communities aren't provided any protection or "guideline" to limit trampling. Hall and Bryant (1995) used various stubble heights of the most palatable species to predict when unacceptable impacts-heavy use or trampling, or both-are about to occur. They found that as stubble height approaches 3 inches for the most palatable species, such as Kentucky bluegrass, cattle preference would change and unacceptable grazing use would begin. Past monitoring of use of Kentucky bluegrass, sedge stubble heights and streambank trampling on various BLM and Forest stream reaches in Beaverhead and Madison counties has demonstrated that streambank trampling often exceeded 35% and Kentucky bluegrass was grazed down to 2 inches or less when sedge heights were greater than 4 inches. This level of use and trampling could de-stabilize localized hydrology and water tables, and could create conditions unfavorable to the conservation of the six species associated with riparian and wet meadow habitats.

Of all the presently known range management strategies (except eliminating grazing from the allotment), fencing the riparian zone along streams provides the maximum protection and the best

chance for rehabilitation in the shortest period of time (Platts, 1984). In moist meadow habitats without grazing Kauffman (1983) observed succession towards more mesic/hydric plant communities. In exclosures exotic grasses, such as meadow timothy, and forbs more attuned to drier environments decreased and were being replaced by native sedges and forbs more attuned to wetter environments (Kauffman 1983). Alternatives that propose to fence low gradient stream reaches and wet meadows would protect habitat that could support Idaho sedge, Rocky Mountain dandelion, alpine meadowrue, alkali primrose, mealy primrose and meadow lousewort.

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