United States
Department
of the Interior

Bureau of
Land Management

January 2004

ENVIRONMENTAL ASSESSMENT

The Desert Dace (*Eremichthys acros*) Protective Fence

NV-020-03-24

Winnemucca Field Office, Nevada BLM
Humboldt County, Nevada

Southwest view from a hot spring outflow located in Soldier Meadows, Photograph by Matthew Varner

The Desert Dace (*Eremichthys acros*)
Protective Fence Environmental Assessment
EA No. NV-020-03-24

BLM OFFICE: Winnemucca

PROPOSED ACTION: Construct approximately 10 miles of fence, which will encompass and exclude livestock and wild horse and burro grazing from the sensitive species habitats located within the Hot Springs Area of the Soldier Meadows Allotment (SMA).

INTRODUCTION

Purpose and Need

In the Soldier Meadows Multiple Use Management Environmental Assessment (EA No. NV-020-03-09), a fence project was proposed to protect the sensitive species, which include desert dace (federally listed threatened), basalt cinquefoil (federally listed candidate), and a species of springsnail (federally listed candidate) found within the hot spring complexes located within the Soldier Meadows Allotment. This project would also protect the federally designated critical habitat of desert dace found within the Soldier Meadows Allotment.

Relationship to Statutes, Regulations, or Other Plans

Sonoma-Gerlach Resource Management Plan

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action

The proposed action is to construct approximately 10 miles of fence within portions of T.40N., R.25E., Secs. 29 & 31 and T.40N., R.24E., Secs. 14, 22, 23, 24, 25, 26, & 27 (see Map 1). This fence would be constructed to antelope specifications and utilize topography, existing fencelines, and have a angular shape that would ease livestock, wild horse and burro, and wildlife movement around the project.

Funding sources for this project are solely derived from BLM.

Gates would be placed on or near all livestock/wild horse & burro trails to facilitate animal removal if animals enter the fenced area via a broken fence, etc.

Alternative 2

This alternative would utilize a similar design; however a large water gap would be created to facilitate livestock watering at the hot spring out flows. The fenceline would also be located immediately adjacent to the desert dace critical habitat to minimize its extent within designated wilderness.

Alternative 3 (No Action)

Under this alternative no fence would be constructed to protect the sensitive flora and fauna located within the hot springs area of the Soldier Meadows Allotment.

AFFECTED ENVIRONMENT

Photograph 1. Spring pool located within the proposed exclosure fence. (Courtesy Dr. Peter Rissler, USGS)

Water Resources

Water resources within the project area are described in the Soldier Meadows Multiple Use Management Environmental Assessment (EA No. NV-020-03-09), which is hereby incorporated by reference. Water Resources are described in Section 3.1, pages 20-25. This document can be obtained at the Winnemucca Field Office, BLM.

Aquatic Resources, including Threatened, Endangered, Candidate, and Sensitive AQUATIC Species

The aquatic resources found within the Hot Spring Area of the SMA are extremely unique. The aquatic environments found within this area each have a distinctive temperature regime, thereby providing habitat for unique species such as Hydrobiidae springsnails and the federally listed threatened desert dace (*Eremichthys acros)*.

Springsnails (Hydrobiidae)

Numerous spring systems exist within the Hot Springs Area of the SMA, which range from cold (near or below mean air temperature), thermal (5-10^{o} C above mean air temperature), or hot (more than 10^{o} C above mean air temperature) (see Sada et al. 2001). Within the SMA several springsnails, which are small (1-8 mm high) mollusks that require high quality water (Sada et al. 2001), have been identified as being unique to the area. The majority of these species are members of the genera *Prygulopsis*, with one species belonging to the *Fluminicola* genus. These genera prefer cool, flowing water and gravel substrate (Sada et al. 2001).

The "Recovery Plan for the Rare Species of Soldier Meadows" identified several spring systems, which were known to be occupied by springsnails (USFWS 1997). Additional information has increased the known number of springsnail species to nine and also the number of springs that are inhabited by springsnails within the SMA. Six of the nine unique species found within the SMA have been identified to genus/species (Table 4). Primary threats to springsnails, according to Sada et al. (2001), are habitat alteration via water diversions, excessive livestock grazing, nonnative macroinvertebrate establishment, and water depletion.

The riparian areas associated with the spring systems found on the SMA are generally dominated by herbaceous species, including sedges (*Carex* spp.) and rushes (*Juncus* spp.). Willows (*Salix* spp.) are also a common riparian species found on a few spring systems. The outflow streams of the cold,

thermal, and the lower downstream reaches of the hot springs are dominated by watercress (*Rorippa nasturtium-aquaticum*) with the sporadic occurrence of duckweed (*Spirodela* spp.), aquatic butter-cup (*Ranunculus* spp.), and cattail (*Typha* spp.). These outflow reaches also host a variety of macroinvertebrates, including ephemeropterans (mayflies), plecopterans (stoneflies), and trichopterans (caddisflies). The upper reaches of the hot springs are dominated by blue green algae (Cyanobacteria) and bacteria, along with the aquatic mites (*Partnuniella thermalis*) and other thermophilic species.

Photograph 2. The springsnail genera *Prygulopsis* (left) is the most common within the SMA, however one species of *Fluminicola* (right) does occur in the area.

Table 1. Hydrobiidae snails

Common Name	Scientific Name	Status
Northern Soldier Meadows pryg	*Prygulopsis militaris*	Proposed BLM Sensitive, USFWS Species of Concern
Southern Soldier Meadows pryg	*Prygulopsis umbilicata*	Proposed BLM Sensitive, USFWS Species of Concern
Elongate Mud Meadows pryg	*Prygulopsis notidicola*	Species
Squat Mud Meadows pryg	*Prygulopsis limaria*	Proposed BLM Sensitive, USFWS Species of Concern
Surprise Valley pryg	*Prygulopsis gibba*	USFWS Species of Concern
Western Lahontan pyrg	*Prygulopsis longiglans*	No Status
2 species found unique[1]	*Prygulopsis* spp.	No Status
1 species found unique[1]	*Fluminicola* spp.	No Status

Desert Dace (*Eremichthys acros*)

The only known habitats for the desert dace occur within the project area. The desert dace has been federally listed as Threatened since 1985 (Federal Register Volume 50, p. 50304,) and is the only member of the genus, *Eremichthys*. At the time of listing, critical habitat was also listed, that encompasses 50 feet on each side of designated thermal springs and their outflow streams (USFWS 1997). At least ten thermal outlets and the associated downstream channels support this unique, spring dwelling species.

Photograph 3. Desert dace (*Eremichthys acros*)

To date, there is little information regarding the species or its habitat requirements. The basic habitat requirements for the desert dace

1 *pers. comm.* Dr. Robert Hershler, Smithsonian Institute

were identified in the "Recovery Plan for the Rare Species of Soldier Meadows" (USFWS 1997). These data were derived from the characteristics of spring systems that were occupied by desert dace, although these data may not represent optimal conditions for the species. In addition to desert dace, three other native fish species occupy the lower portions of the thermal outlets. These species include: speckled dace (*Rhinichtys osculus*), tui chub (*Gila bicolor*), and Tahoe suckers (*Catostomus tahoensis*) (see photographs shown below, courtesy Dr. Peter Rissler, USGS).

Photograph 4. speckeled dace (*Rhinichtys osculus*)

Photograph 5. Tahoe sucker (*Catostomus tahoensis*)

Photograph 6. tui chub (Gila bicolor)

Photograph 7. goldfish (*Carassius auratus*)

Photograph 8. green sunfish (*Lepomis cyanellus*)

Research is currently being conducted by the United States Geological Survey (USGS) to determine the seasonal distribution and population levels of desert dace within each spring system. The research project is also determining the presence and distribution of non-native fish species within the spring complexes of the SMA, which were identified as a threat to the long term viability of the desert dace (USFWS 1997). These species include goldfish (*Carassius auratus*), green sunfish (*Lepomis cyanellus*), largemouth bass (*Micropterus salmoides*), and channel catfish (*Ictalurus punctatus*). According to Dr.Gary Scoppetone the species that presents the greatest threat to desert dace is the green sunfish, due primarily to its ability to adapt to habitat extremes and its aggressive predatory nature (see photographs shown above, courtesy Dr. Peter Rissler, USGS).

Vegetation, including Threatened, Endangered, Candidate, and Sensitive PLANT Species

Vegetation communities in the Soldier Meadows Hot Springs area were surveyed by Nachlinger (1991) during the 1990 growing season. She mapped three upland and four wetland plant communities in the area.

The three upland communities form a complex pattern on the landscape associated with soil texture, alkalinity and landscape position. Great Basin sagebrush scrub and Shadscale scrub communities occupy the alluvial fans and slopes, with sagebrush communities occupying the best-drained and least alkaline sites. These communities have sparse understories of native grasses and forbs. Nachlinger found these communities to be stable although native grasses were limited in diversity and abundance. Greasewood scrub communities provide a transition between the low-lying wetland communities and the upland Great Basin sagebrush scrub and Shadscale scrub communities. Great Basin wildrye and desert saltgrass are important species in this community.

Four wetland communities occupy about 10 percent of the project area. Alkali marsh communities are the lowest wetland communities. These sites occur where the water table is above the soil surface. Tules, cattails, grasses, sedges and other emergent marsh species dominate this site. Areas of alkali marsh where recreational use is concentrated were in poor condition. Livestock were observed to generally avoid these communities because of the soft soils. The alkali seep community is slightly higher in landscape position than the marsh community where the water table is at or just above the soil surface. In many cases this community borders the alkali marsh community. Wetland grasses, sedges, and rushes dominate the community. Alkali seeps are subject to disturbance by recreational use and grazing animals attempting the access the water sources that this community buffers. Alkali meadows occur where the water table is just below the soil surface. Water is less available and prevalent than in the alkali marsh and seep communities, but more available than in the adjacent greasewood scrub community. Grasses, rushes and sedges dominate the meadows. Introduced species were most common is this community and were indicators of past disturbances. Livestock grazing in the past was concentrated in this community. Great Basin riparian scrub communities occur in a few drainages with a high water table. Woody shrubs and small trees including willow and wild rose dominate these communities.

Basalt cinquefoil (*Potentilla basaltica*) is a herbaceous perennial plant that grows primarily in the Soldier Meadows area. It is currently listed by the USFWS as a candidate for listing as threatened under the Endangered Species Act (Federal Register Vol. 67, p. 40662). The plant grows from prostrate stems extending from a low basal rosette. Bright yellow flowers occur in loose clusters at the end of the stems. The species blooms from late spring and summer. The species is associated with moist saline/alkaline soils associated with alkali seeps and meadows. The species appears to favor sites with micro-relief in saturated soils to obtain root aeration. Surveys completed by Nachlinger in 1990 and repeated by FWS in 2002 indicate stable to increasing populations. Most potential habitat is occupied, except where vehicle

trails cross through small areas of otherwise suitable habitat. Current threats are associated with recreation use of occupied habitat and hoof shearing and soil displacement associated with grazing animals walking on saturated soils when attempting to access water sources. Basalt cinquefoil also exhibits the ability to colonize previously disturbed areas, including old livestock corrals and the raised rim of hoof prints in wet soils.

Livestock Grazing

Livestock grazing would not occur within the protective fence; however livestock trailing would be permitted in accordance with the Biological Opinion (USFWS 2003) and the forthcoming Final Multiple Use Decision for the Soldier Meadows Allotment.

Cultural

The Soldier Meadows area contains a complex array of cultural resources representing human occupation dating from perhaps 10,000 to 12,000 years ago to comparatively recent historic times. In addition to the considerable temporal span indicated by these resources, surveys conducted to date indicate a wide breadth of behaviors of both a transitory and semi permanent nature took place in the area, including the exploitation of floral and faunal resources associated with marshes and hot springs, lithic procurement and tool manufacture, trade and exchange, ranching, transportation, and emigration. While archaeologists have studied some aspects of these activities, others are not well understood.

The evaluation of known archaeological sites in the area indicates that many contain information that can aid in our understanding of these lesser-known aspects of past human behavior. For example, one extensive lithic and groundstone scatter, CrNV-02-208, contains a wide variety of cultural material that can be used to address research questions relating to plant processing technology, seasonality, and the spiritual importance of hot springs. In addition, the presence of cultural fill indicates that the site may contain additional data useful for addressing these and other topics of local and regional interest. Based on these attributes, the site is considered to be eligible for the National Register of Historic Places.

Historic Period resources including the Applegate-Lassen Trail and the Civil War-era Fort McGarry, both National Register properties, and the 1843-44 John C. Fremont Exploration Route are located in the vicinity. Further inventory will undoubtedly reveal the existence of many more properties of important research value. In most cases, these sites are the only sources of information available to archaeologists in their efforts to understand the past and are, thus, valuable non-renewable resources.

Native American Religious Concerns

The Soldier Meadows area lies within the traditional territory of Northern Paiute peoples. Ethnographic sources indicate that the area was used by the Aga'ipanadokado (fish lake eaters) or Moadokado (wild onion eaters) groups who inhabited the shores of Summit Lake (BLM 1998). Contemporary tribal groups have been consulted in the past with regard to proposals presented in the Soldier Meadows Activity Plan (BLM 1998). At that time, they could not provide information on the traditional use of the area and had no knowledge of Traditional Cultural Properties (TCP's) or sacred places.

They do, however, view Soldier Meadows as part of their ancestral territory and have expressed concern over potential impacts to cultural resources in the area.

Soils, Noxious Weeds, Recreation, Special Designations, and Visual Resource Management

The affected environment for these resources found within the SMA and the project area are described in the Soldier Meadows Multiple Use Management Environmental Assessment (EA No. NV-020-03-09), which is hereby incorporated by reference. The Soil Resources are described in Section 3.6, pages 49-50. The Noxious Weed Resources are described in Section 3.5, page 49. The Recreation Resources are described in Section 3.10, pages 56-57. The Special Designation Resources are described in Section 3.12, page 59. The Visual Resources are described in Section 3.13, page 60. This document can be obtained at the Winnemucca Field Office, BLM.

Wildlife, including Threatened, Endangered, Candidate, and Sensitive TERRESTRIAL Species

The Soldier Meadows Hot Springs Area occurs at the lowest edge of the sagebrush-steppe zone and the upper edge of the salt desert shrub zone. Many wildlife species commonly associated with the sagebrush steppe communities, including sage-grouse, are missing from the project area. Pronghorn antelope, which use both sagebrush and salt desert shrub communities occur in low densities in the area. Wildlife occurring in the area are primarily associated with the four-wetland communities. The relatively high density of wetland sites when compared to adjacent areas creates a diversity of wetland vegetation and surface water situations. This diversity creates yearlong opportunities for a variety of wetland obligates and additional habitat for migratory species dependant upon wetland meadow and marsh sites. The riparian scrub community also supports limited habitat for woody riparian dependant wildlife species associated with drainages.

Wild Horses and Burros

The proposed fence line would be located on lands outside designated Herd Management Areas (HMA), but would be within approximately one mile of three different HMAs - the Warm Springs Canyon HMA (NV-226) directly to the west, the Calico Mountains HMA (NV-222) to the southwest, and the Black Rock Range West (NV-227) directly to the east. Although the hot springs area falls outside HMA boundaries (Map 3), wild horses and burros are known to frequent this area.

Geographical Information System (GIS) records indicate 310 horses, 24 horse foals, and 136 burros, 10 burro foals have been observed within a one mile radius of the hot springs area (WFO, November 1970 through September 2001). Many of these animals may have been traveling through the area between HMAs. Wild horses and burros may utilize this area more in the winter as snow and cold temperatures force them down off the mountains. Burros are known to populate the gentle slopes between Fly Canyon and Chukar Gulch in the Warm Springs Canyon HMA year round.

Wilderness

The proposed action would affect the extreme northern portion of the High Rock Lake

Wilderness Area. The Wilderness was designated by the Black Rock Desert High Rock Canyon Emigrant Trails Act of 2000. A detailed description of the Wilderness can be found in the Nevada Statewide Wilderness Report, 1991.

The Wilderness contains the northern portion of the Calico Mountains a typical north – south trending Great Basin mountain range. Elevations in the wilderness range from 4,000 to 7,000 feet. Sagebrush is the dominant vegetation type, with saltbush and greasewood occurring at the lower elevations. Several canyons also contain willows, cottonwoods, aspens and other riparian species. The Wilderness was named for the usually dry High Rock Lake in the northwestern part of the Wilderness. The lake occasionally fills with waters flowing from High Rock and Little High Rock Canyons. A portion of the Applegate-Lassen Emigrant Trail crosses through the northern portion of the Wilderness. Box and Fly Canyons cut through the Wilderness and provide good opportunities for hiking. Box Canyon is located along the proposed National Desert Trail corridor. Fly Canyon contains large "potholes" that are seasonally filled with water. Deer and chukar hunting are popular in the area. Rock hounding (using non-motorized tools) is also popular in the area.

The Wilderness Act of 1964 mandates that wilderness areas be administered for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness, and to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness. The Wilderness Act also mandates that wilderness areas be managed in such a manner as to maintain or enhance the values of naturalness, opportunities for solitude, opportunities for primitive or unconfined recreation, and any special features found in the areas. Several special features were specifically mentioned for the High Rock Lake Wilderness in the BRHR NCA Act of 2000. They include; wagon ruts, historic inscriptions, prehistoric and historic Native American sites, large natural potholes, threatened fish and sensitive plants, and a largely untouched emigrant trail viewshed.

ENVIRONMENTAL CONSEQUENCES

Critical Elements

The following critical elements of the human environment are not present or, if present, are not affected by the proposed action and alternatives.

Critical Elements	Present	Affected		Critical Elements	Present	Affected	
		Yes	No			Yes	No
Air Quality	**X**		**X**	**Nat. Amer. Rel. Concerns**	**X**		**X**
ACEC's	**X**	**X**		**T & E Species**	**X**	**X**	
Cultural Resources	**X**	**X**		**Wastes, Hazardous/Solid**			**X**
Environmental Justice			**X**	**Water Quality**	**X**	**X**	
Farmlands, Prime/Unique			**X**	**Wetlands/Riparian Zones**	**X**	**X**	
Floodplains			**X**	**Wild & Scenic Rivers**			**X**
Invasive, Nonnative Species	**X**	**X**		**Wilderness**	**X**	**X**	
Migratory Birds	**X**	**X**					

Impacts of the Proposed Action

Water Resources

The proposed fencing project would alter the hydrology and geomorphology of the site. Many of these spring sources have been historically altered to facilitate their use for irrigation. In the absence of disturbance it is likely that these irrigation channels would fill in with vegetation and trap sediment and organic material, up to the point where the site evolves in to a wet meadow. Eventually, the amount of habitat available for desert dace would be reduced.

Aquatic Resources, including Threatened, Endangered, Candidate, and Sensitive AQUATIC Species

The proposed action would eliminate potential livestock and wild horse and burro impacts to the encompassed spring systems, which would potentially benefit desert dace and also the springsnails (Hydrobiidae) inhabiting those systems.

Current information is unclear as to the optimum habitat conditions required by desert dace or the species of Hydrobiidae snails found in the area. The outflow channels occupied by desert dace have been modified to facilitate livestock watering and irrigation. These unnatural conditions coupled with the proposed exclusion of livestock and wild ungulates may result in reduced habitat availability for the desert dace and springsnails within the smaller, low outflow springs. This impact is due primarily to the expanse of vegetation into the channel, which would capture sediment and organic debris resulting in the evolution of the springs to a marsh-like state with effectively no flowing water. This evolution would eliminate or reduce the available habitat for the desert dace and spring system invertebrate community (see USFWS 1994). However, from a historical perspective, one can rationalize that desert dace and the spring biota within the fence would achieve a natural balance in the absence of ungulate grazing if the channels were returned to natural conditions. This theory is based on the relative absence of wild and domestic ungulates in the ecosystem, in which desert dace and the springsnails evolved.

This potential impact to the smaller spring systems would be mitigated by restoring the spring pool and outflow to natural conditions. This effort would not only improve native fauna habitat, but it would likely reduce exotic fish habitat within the system.

Soils

Direct impacts of the proposed alternative would include soil disturbance, which may increase erosion. However, reduced utilization of the vegetation resources within the fence would be achieved lessening soil and water erosion. Improved ecological condition would increase productivity, litter, soil fertility, infiltration and nutrient cycling. Therefore, long term beneficial impacts to the soil resources are anticipated from the proposed action.

Vegetation, including Threatened, Endangered, Candidate, and Sensitive PLANT Species

Implementation of the proposed action alternative would eliminate grazing by livestock and wild horses and burros. The current grazing occurs almost entirely within

the dormant season of all plant species except those in the immediate thermal zone of the hot springs. Therefore there would be no direct change in the composition of the vegetation communities due to decreased of grazing. Elimination of dormant season grazing would increase the standing crop resulting in increased litter, which could indirectly improve seedling establishment and allow for earlier growth of plants by providing retention of soil moisture and providing standing dry materials.

Alkali seep and meadow communities would have the greatest change in standing crop because livestock and horses were observed to favor these sites. Decreased pocking and plant shearing associated with hooves in saturated soils would locally increase the vigor of individual plants in these two communities.

Basalt cinquefoil plants would also see decreased hoof action on established plants because the species is associated with alkali seep and meadow sites. There would be no change in standing crop of the species because it is not known to be palatable to livestock or horses. Increased standing crop of tall grasses, sedges and rushes adjacent to existing basalt cinquefoil populations could locally decrease the vigor of the species due to competition for light and other resources with the taller species. Decreased disturbance associated with reduced hoof action in wet soils could also reduce the formation of micro-relief that basalt cinquefoil appears to colonize.

Livestock Grazing

Elimination of livestock grazing within the project area would directly impact the grazing operation, due primarily to the loss of livestock watering sources.

This impact would be mitigated through the development of watering sources outside of the project area.

Indirect impacts to livestock grazing are limited to the loss of AUMs within the exclosure.

Cultural

The construction of the proposed fence has the potential to adversely impact cultural values. Cultural resources situated along the route of the fence could be impacted by vehicular traffic associated with construction and, secondarily, by cattle that tend to form trails along established fence line routes. While the impacts associated with construction would likely be minor, those associated with the repeated trailing by livestock can be severe, including the dispersal and destruction of artifacts and the eradication of subsurface and/or datable cultural deposits.

In order to analyze the consequences of this action in more detail, a Class I records review of the area was conducted. The review indicated that parts of the proposed fence were routed through or near segments of the Applegate-Lassen Trail and three other properties of National Register quality.

The proximity of these sites to the proposed fence and the high cultural resource potential indicated from the review supported the implementation of a Class III cultural resource inventory of the entire proposed fence line (CR-2878 (P)). The results of the inventory confirmed that the parts of the fence line are routed through the boundary of one previous

recorded site (CrNV-02-208). However, the results of the investigation indicate that these areas of the site are peripheral to the primary concentrations of surface material and loci of subsurface potential. Thus, the proposed action will not affect the qualities that contribute to the significance of this property.

Another segment of the proposed fence is near two other National Register eligible sites (CrNV-22-5930, 5935), though it will be constructed along and within an existing two-track road outside of the respective boundaries of these properties. Efforts to identify the location of the Applegate-Lassen Trail at potential points of intersection with the proposed fence line were unsuccessful; the areas of concern were inundated at the time of the inventory.

Four previously undocumented sites (CrNV-22-7681, 7682, 7683, 7684) were also identified during the survey. With the exception of CrNV-22-7682, these sites are extensive scatters of cultural material containing localized areas of significant surface and subsurface research potential. On this basis, the BLM considers these resources eligible for the National Register of Historic Places under Criterion D. As proposed, however, the fence line will intersect low density areas of these sites lacking significant research potential.

Based upon these findings, the BLM concludes that the proposed action will have *no adverse effect* on significant cultural properties. On the contrary, the proposed action will have beneficial consequences for cultural resources in the area. As proposed, the fence will exclude livestock from the high research potential areas of CrNV-02-208, CrNV-22-7681, 7683, and 7684, protecting them potential trampling. As such, the proposed action affords the rare opportunity to provide long-term protection to cultural resources in the context of separate resource management objectives.

Native American Religious Concerns

A solicitation letter has been forwarded to the Summit Lake Tribal Council inviting them to express any concerns they may have about places of traditional and religious importance in the vicinity of the proposed action. If such places are present in the area, the BLM will ensure that measures are taken to avoid or reduce adverse impacts associated the proposed action in consultation with tribal officials and the Nevada State Historic Preservation Office (SHPO).

Noxious Weeds

Direct impacts of fence construction activities would be the removal of existing vegetation, leaving disturbed areas prone to the establishment of noxious weeds. The degree of establishment would be dependent on any available noxious weed seed source, such as vehicles used to build the fence. Based on the limited amount of disturbance and the ability for existing vegetation to heal, fence building would pose a low risk for spreading noxious weeds. Therefore, minimal direct impacts are anticipated from the proposed action.

Wildlife, including Threatened, Endangered, Candidate, and Sensitive TERRESTRIAL Species

Construction of the fence would decrease the ability of pronghorn antelope to access the area. This impact would be reduced through

the use of fence specifications designed to facilitate movement through the fence (BLM Handbook H1641). Fencing would slightly increase the risk of collisions of other wildlife passing through the area, particularly during low light conditions. Presence of the fence would increase perching opportunities for birds, particularly birds of prey.

Changes in vegetation as a result of the exclusion of livestock and wild horses and burros would yield an increase in the standing, residual vegetation and litter on the soil surface. This would indirectly benefit non-game wildlife species, particularly wetland obligates and seasonal migrants by increasing residual cover and increasing vertical structure of vegetation. This change would occur primarily on the alkali seep and meadow vegetation communities, which represent less than 10 percent of the project area.

Recreation

No direct impact to recreational users would occur under the proposed action. Indirect impacts would be beneficial or adverse depending on the user. The indirect impacts stem from the reduced interactions between recreation users and livestock grazing hot springs as a result of the proposed fencing.

Special Designations

Impacts to the ACEC are described in the Soldier Meadows Multiple Use Management Environmental Assessment (EA No. NV-020-03-09). This document can be obtained at the Winnemucca Field Office, BLM.

Visual Resource Management

Constructing new fences to protect sensitive habitat in the SMA, if unmitigated, would likely directly impact the visual resources of the area. Fence lines, cattle guards, gates and other human improvements would detract from the primitive environment that was intended for protection by the establishment of the NCA and designation of the WSA. Although new fences would detract from the primitive landscape, if the Standards for Rangeland Health are achieved, there would be the potential for improved resource conditions at springs and riparian areas, including popular recreation sites, and possibly at the landscape level, all of which would indirectly benefit visual resources.

To mitigate the potential adverse impacts to visual resources, the following measures could be employed:

1. Strategic placement of fences to minimize visual intrusions
2. Using temporary fences (i.e. drop-down fences)
3. Selecting fencing materials that blend with the natural setting

Wild Horses and Burros

The proposed Desert Dace fence would be adjacent to, but entirely outside of the surrounding HMAs. Although wild horses and burros presently make use of the springs that would be within the exclosure, there are numerous other spring sources from which they could water. Therefore, direct and indirect adverse impacts from the proposed action would be minimal.

Wilderness

Naturalness- Under this alternative approximately .75 miles of fence line would be constructed within the Wilderness. Although the construction of the fence line will be a form of permanent human presence

in the area and will impact the viewshed and the appearance of naturalness in a small portion of the Wilderness, the fence would also reduce or eliminate potential impacts associated with livestock grazing within the exclosure. By eliminating grazing in the Desert Dace habitat the naturalness of the area inside the exclosure will be enhanced and the populations of Desert Dace and Basalt Cinquefoil will be less impacted by grazing.

Construction of the fence would also create an area in the Wilderness that is not subjected to livestock or wild horse grazing and will serve as a means to quantitatively measure the difference in vegetation between the grazed and ungrazed portions of the Wilderness.

Opportunities for Solitude/Primitive or Unconfined Recreation- The proposed project would have an impact on the opportunities for solitude and primitive recreation in a small portion of the Wilderness. The fence line would be visible for long distances due to the flat terrain in this portion of the Wilderness and the sight of the fence could have an impact on visitor's sense of being in a remote area that is free of human intrusions. This impact would be minimized by using materials that would blend in with the surrounding terrain and by using existing topography to screen the fence from view. The impacts to these wilderness values would be minimal because the proposed fence would be constructed on a very small portion of the Wilderness; and the area around the proposed fence is not heavily used by wilderness visitors.

Special Features- Several special features associated with this Wilderness would be impacted by the proposed action. The "largely untouched emigrant trail viewshed" would be impacted by the proposed fence. Currently the only visible human impacts in the area are several buildings located on private and public lands and several vehicle routes that provide access to the area. The fence would introduce another human structure into the viewshed.

The special features of threatened fish (Desert Dace) and sensitive plants (Basalt Cinquefoil) would be enhanced by constructing the fence and excluding potential grazing impacts in their habitats.

Impacts of Alternative 2

Water Resources

This alternative would result in impacts to the spring outflow within the water gap. These impacts would include decreased water clarity (e.g. increased turbidity levels) and water removal from the system. Vegetation removal would also negatively affect the ability of the outflow to maintain stable temperatures, due to the exposure of the surface water to solar radiation. Overall, the direct and indirect impacts would be negative on the quality of the water resources.

Aquatic Resources, including Threatened, Endangered, Candidate, and Sensitive AQUATIC Species

This alternative would involve the creation of a water gap for livestock to access a portion of a thermal outlet. Although it is not federally designated critical habitat, this area does provide habitat for desert dace. This

area would be impacted by livestock watering via trampling, vegetative removal, and water removal, all of which could impact the desert dace populations occupying the irrigation ditch. The action would likely prove to be beneficial to the ecosystem and populations involved; however reduced desert dace population numbers would likely occur.

This alternative would also place the fence along side critical habitat, which could contribute to increased fence breaks caused by livestock and wild horses and burros trying to access water. The potential for fence breaks to occur is highly likely and could have adverse impacts on the federally designated critical habitat.

Alternative 1

Cultural

As presented above, this alternative will have no adverse effect on significant cultural resources along those fence line sections that are the same as those described under the proposed action. Portions of CrNV-02-208, CrNV-22-7681, 7683, and 7684 will be protected from the detrimental effects of cattle grazing. However, this alternative proposes to include a water gap that will facilitate livestock watering at hot springs within the interior of CrNV-02-208, a National Register quality property. These locations contain the some of the highest research potential within the site area. The aggregation of cattle at these springs will likely result in repeated, intensive trampling, resulting in the destruction of significant surface and subsurface research potential. Thus, this alternative is likely to have an *adverse effect* on cultural resource values.

Native American Religious Concerns

As indicated under the proposed action, the Summit Lake Tribal Council has been asked for assistance in the identification of places of traditional and religious importance in the Soldier Meadows area. If concerns are expressed, the BLM will take these into consideration in consultation with tribal officials and the Nevada SHPO.

Soils, Noxious Weeds, Wildlife, including Threatened, Endangered, Candidate, and Sensitive TERRESTRIAL Species, Recreation, Visual Resource Management

Impacts to these resources would be the same or similar to those discussed for the proposed action.

Vegetation, including Threatened, Endangered, Candidate, and Sensitive PLANT Species

Although the area to be fenced would be slightly smaller than that described in the proposed action, the impacts would be essentially the same as discussed for the proposed action. The wetland communities, including all basalt cinquefoil populations, would be within the fenced area. Wetland communities outside the fence would be limited to the single water gap associated with the old irrigation ditch. Wetland vegetation in the water gap would receive dormant season use by livestock and wild horses, but concentrated trampling would reduce vegetative cover within the water gap.

Livestock Grazing

Impacts to the livestock grazing operation described in the proposed action would be mitigated under this alterbative. However the potential for livestock to become trapped in

the water gap and compromise the protective fence is high under this alternative.

Wild Horses and Burros

Impacts would be similar to those discussed for the proposed action, except that wild horses and burros may become trapped in the water gap area. Trapped animals could be injured from running through fence or become stressed from being confined within the water gap.

Wilderness

Naturalness- Under this alternative approximately .25 miles of fence line would be constructed within the Wilderness. Although the construction of the fence line will be a form of permanent human presence in the area and will impact the viewshed and the appearance of naturalness in a small portion of the Wilderness, the fence would also reduce or eliminate impacts associated with livestock grazing within the exclosure. By eliminating grazing in the critical habitat the naturalness of the area inside the exclosure will be enhanced and the populations of Desert Dace and Basalt Cinquefoil will be less impacted by grazing. Because the fence line constructed under this alternative would be shorter than Alternative 1 the impacts to the viewshed and the appearance of naturalness would be reduced under this alternative.

The amount of wilderness inside the exlcosure would be reduced under this alternative and more of the Wilderness would continue to be grazed. This would reduce the value of the information that could be gathered by comparing the grazed and ungrazed portions of the Wilderness.

Opportunities for Solitude/Primitive or Unconfined Recreation - Same as Alternative 1, but the impacts would be reduced because a shorter fence line would be constructed inside the Wilderness.

Special Features- Same as Alternative 1, but the impacts to the emigrant trail viewshed would be reduced.

The benefits to the special features of threatened fish and sensitive plants may be reduced under this alternative because the likelihood of wild horses or livestock breaking through the fence to access the water would be increased by constructing the fence in closer proximity to the hot springs.

Impacts of Alternative 3 (No Action)

Water Resources, Soils, Livestock Grazing, Noxious Weeds, Recreation, Visual Resource Management, and Wild Horses and Burros

Current conditions would continue under this alternative.

Aquatic Resources, including Threatened, Endangered, Candidate, and Sensitive AQUATIC Species

Under this alternative the fences would not be constructed to protect the sensitve species, which reside in the thermal outlets of the project area. Continued impacts from livestock grazing would occur, which could be beneficial or detrimental to the desert dace. However, the springsnail populations,

which are sensitive to trampling and vegetation removal, would be negatively impacted under this alternative.

Vegetation, including Threatened, Endangered, Candidate, and Sensitive PLANT Species

Under this alternative no fencing would be constructed. Fall/winter grazing by livestock, limited by existing stubble height restrictions, would maintain current vegetation conditions, including those for basalt cinquefoil. Standing crop, litter levels and existing levels of hoof action primarily in the alkali seep and meadow communities would be unchanged. Populations of basalt cinquefoil would likely remain stable. Opportunities for creation of hoof action associated with the potential for basalt cinquefoil colonization would remain.

Wildlife, including Threatened, Endangered, Candidate, and Sensitive TERRESTRIAL Species

Current conditions would remain. Antelope would not be impacted by new fences. No additional wildlife perches would be created. Vegetation structure and standing crop used by resident and migrant species would remain somewhat less than potential in the alkali seep and meadow communities.

Wilderness

Naturalness- The appearance of naturalness and the viewshed would not be impacted under this alternative. The entire Wilderness would continue to be grazed and potential impacts associated with that grazing would continue.

Opportunities for Solitude/Primitive or Unconfined Recreation- No impacts would occur to the current conditions.

Special Features- The emigrant trail viewshed would not be impacted under this alternative. Impacts that are currently occurring to the Desert Dace and Basalt Cinquefoil habitat from livestock and wild horse grazing would continue.

Cultural

The no action alternative will have no effect on cultural resource values.

Native American Religious Concerns

The no action alternative will have no effect on places of traditional or religious importance to Native American groups. Under this alternative, no solicitation or consultation with local tribal officials will be undertaken.

Mitigation Measures

- To mitigate impacts to wilderness resources the fence posts would be entirely green.
- To mitigate impacts to livestock and wild horses and burros gates would be placed along trails and at select locations to facilitate livestock trailing and/or wild and domestic ungulate removal from the exclosure.
- To mitigate impacts to livestock and wild horses and burros alternative waters would be pursued as soon as practical outside of the exclosure fence for both livestock and wild horses and burros
- To mitigate impacts to Visual Resources the fence would be strategically placed using topography to obstruct the view of the fence from high use areas.
- To mitigate impacts to wilderness green

T-posts would be used and construction within wilderness would be done by foot or from horseback.

Cumulative Impacts

The Council of Environmental Equality (CEQ) regulations implementing NEPA defines cumulative impacts as: "…[T]he impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such actions." Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

Cumulative Assessment Area

The assessment area would be the same as described in the Soldier Meadows Multiple Use Management Environmental Assessment (EA No. NV-020-03-09), which is hereby incorporated by reference. The Cumulative Assessment Area is described in Section 4.16, page 115. This document can be obtained at the Winnemucca Field Office, BLM.

Past, Present, and Reasonably Foreseeable Future Actions.

Cumulative impacts are described in the Soldier Meadows Multiple Use Management Environmental Assessment (EA No. NV-020-03-09) which is hereby incorporated by reference. The Cumulative Analysis can be found in Section 4.16, pages 115-127. In summary the cumulative impacts to Visual Resources, Wilderness, Water Resources, Wild Horse and Burros, and Livestock are minimal. The proposed fence encloses less than 1% of the SMA and a much smaller portion of the assessment area. The cumulative impacts to desert dace and the spring system community would be moderate based on reduced habitat for the aquatic species; however a natural balance would be achieved in the long term. Future activities to restore the channel morphology of the springs would moderately impact the system. This beneficial impact would enhance the habitat for the native flora and fauna of the spring.

Persons/Agencies Consulted

Mark Maley, Fish and Wildlife Biologist (USFWS)
John Estill, Soldier Meadows Allotment Permittee

BLM Staff Specialists

Craig Drake, Hydrologist
Mike Zielinski, Soil Scientist
Matthew Varner, Fishery Biologist
Ron Pearson, Rangeland Management Specialist
Roger Farschon, Ecologist
Mark Ennes, Archaeologist
Brian Murdock, Wilderness
Charles Neill, Weed Specialist
Glenna Eckel, Wild Horse and Burro Specialist

Interested Public List

NDOW Fallon
Sierra Club
Western Watershed Project
Committee for Idaho High Desert
Humboldt County Commissioners
NDOW
USFWS
USDA NRCS
Friends of Nevada Wilderness
Wild Horse Organized Assistance
Nevada Commission for the Preservation of Wild Horses
International Society for the Protection of Mustangs and Burros
Schroeder & Lezamiz
Law Offices LLP
Intermountain Range Consultants
NRDC
State of Nevada Dept. of Agriculture

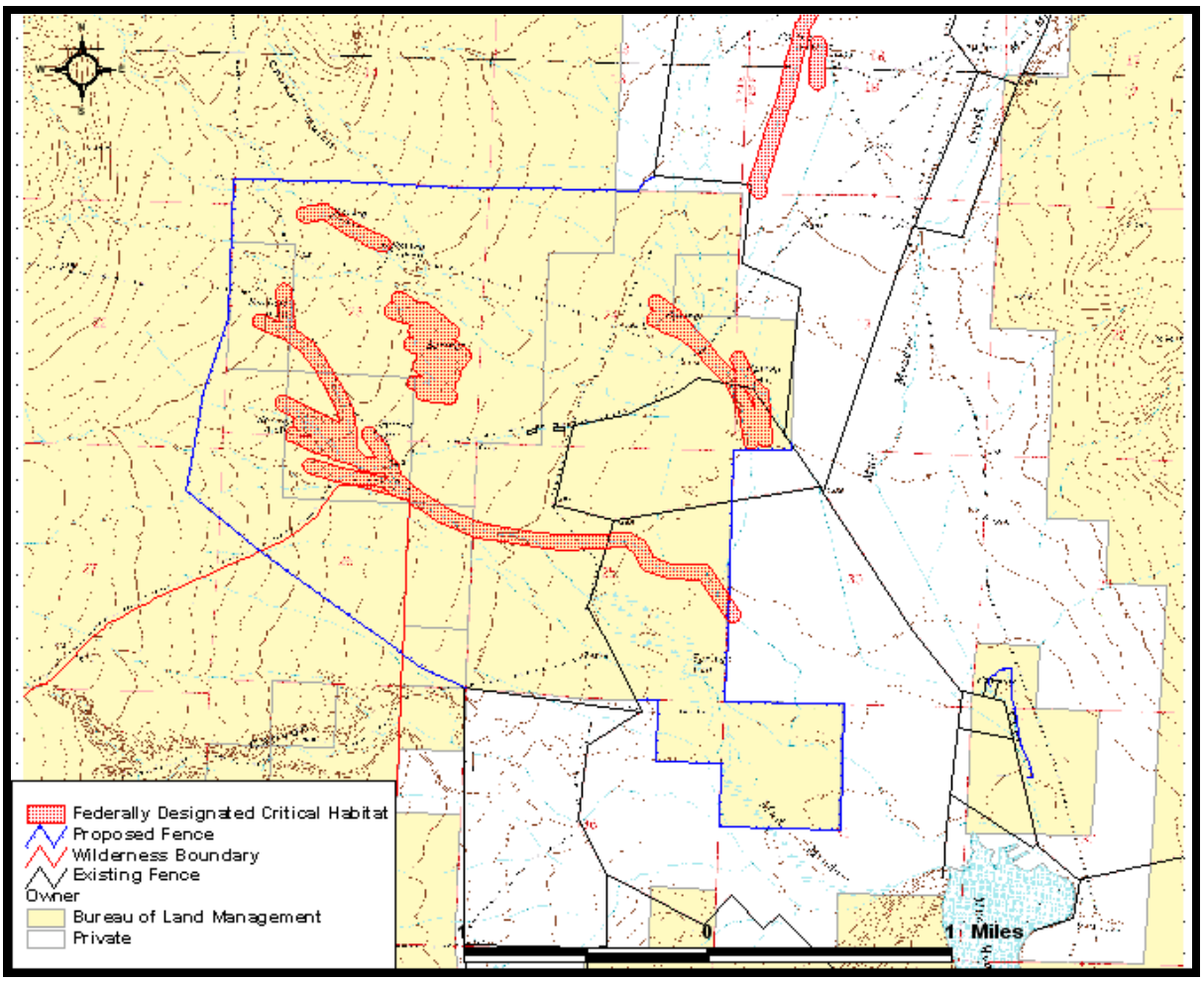
Literature Cited

Nachlinger, Jan, 1991. Ecological Survey of Soldier Meadows, Humboldt County, Nevada. Unpublished file report prepared for Winnemucca BLM. The Nature Conservancy, Nevada Public Lands Program, Reno, NV.

U.S. Fish and Wildlife Service. 1994. Public/Agency Review Draft pf the Railroad Valley Springfish, *Crenichthys nevadae*, Recovery Plan, Oregon. 56 pp.

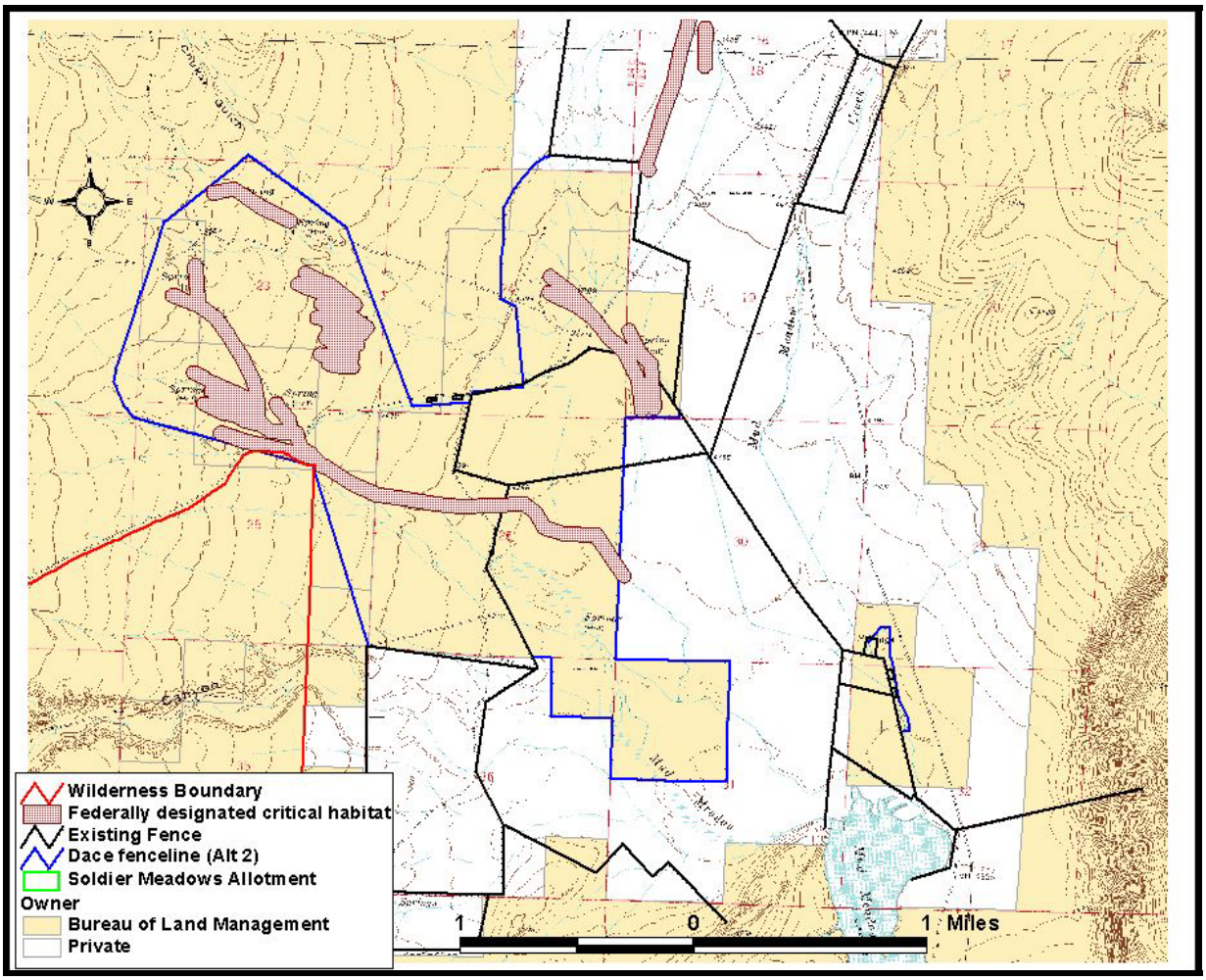
APPENDIX 1

Map 1. Alternative 1 - Proposed Action



APPENDIX 2

Map 2. Alternative 2



APPENDIX 3

Minimum Requirement/Tool Worksheets

Step 1- Determining the Minimum Requirement (a two-part process)

Part A. Minimum Requirement Key to making determinations on wilderness management proposals

(This flow chart will help you assess whether the project is the minimum required action for the administration of the area as wilderness. Answering these questions will determine ***if*** this proposed action really is the ***minimum required*** action in wilderness.)

Guiding Questions	Answers and explanations
1. Is this an emergency? (i.e. a situation that involves an inescapable urgency and temporary need for speed beyond that available by primitive means, such as fire suppression, health and safety of people, law enforcement efforts involving serious crime or fugitive pursuit, retrieval of the deceased or an immediate aircraft accident investigation) If Yes> Document the rationale for line officer approval using the minimum tool form and proceed with action. If No> Go to question 2	**No**
2. Does the project or activity conflict with the stated management goals, objectives and desired future conditions of applicable legislation, policy and management plans? If Yes> Do not proceed with the proposed project or activity. If No> Go to question 3	**No**
3. Are there any less intrusive actions that	**No**, the only way to effectively remove

should be tried first? (i.e. signing, visitor education, or information) If yes> Implement other actions using the appropriate process. If No> Go to question 4	grazing from the critical habitat is to build an exclosure fence.
4. Can this project or activity be accomplished outside of wilderness and still achieve its objectives?(such as some group events) If Yes> Proceed with action outside of wilderness using the appropriate process. If No> Go to question 5	**No**, portions of Desert Dace critical habitat are located inside the High Rock Lake Wilderness. To effectively preclude grazing from the habitat the fence will need to be build partially within the wilderness.
5. Is this project or activity subject to valid existing rights? (such as mining claims or right of way easements) If Yes> Proceed to Minimum Tool Analysis If No> Go to question 6	**No**
6. Are their special provisions in legislation (the Wilderness Act or Black Rock Act) that allows this project or activity? If Yes> the proposed project or activity should be considered but is not necessarily required just because it is mentioned in legislation. Go to part B If No> Go to Part B	**No**

Part B- Determining the Minimum Requirement

Responsive Questions for Minimum Requirement Analysis: Explain your answer in the response column.

If your responses indicate potential adverse affects to wilderness character, evaluate whether or not you should proceed with the proposal. If you decide to proceed, begin developing plans to mitigate impacts, and complete a Minimum Tool Analysis. Some of the following questions may not apply to every project.

Effects on Wilderness Character	**Responses**
1. How does this project/activity benefit the wilderness as a whole as opposed to one resource?	The main purpose of the project is to protect the Threatened Desert Dace from impacts associated with wild horse and livestock grazing. The Desert Dace are considered to be one of the special features associated with this wilderness. The project will also create a small ungrazed portion of the wilderness which will enhance the naturalness of that area and will allow BLM to monitor and compare the grazed and ungrazed portions of the Wilderness.
2. If this project/activity were not completed, what would be the beneficial and detrimental effects to the wilderness resources?	Impacts associated with grazing would continue to occur to the Desert Dace habitat, which would impact one of the special features of the Wilderness.
3. How would the project or activity help ensure that the wilderness provides outstanding opportunities for solitude or a primitive and unconfined type of recreation? (e.g. does the project/activity contribute to the people's sense that they are in a remote place with opportunities for self-discovery, adventure, quietness, connection with nature, freedom, etc.)	The proposed project would not ensure opportunities for solitude or primitive recreation. The fence line would be visible for long distances due to the flat terrain in this portion of the Wilderness. The sight of the fence could have an impact on visitors sense of being in a remote area, this impact would be minimized by using materials that would blend in with the surrounding terrain. The impact would be minimal because the proposed fence would be constructed on a very small portion of the entire Wilderness, also, the area around the proposed fence is not heavily used by wilderness visitors.
4. How would the project/activity help ensure that human presence is kept to a minimum and that the area is affected primarily by the forces of nature rather than being manipulated by humans?	The construction of the fence line is a human manipulation that will be a form of permanent human presence in the area. However, the fence would reduce impacts associated with livestock grazing which is another form of

	human manipulation. The naturalness of the area inside the exclosure will be enhanced and will become less manipulated by human management by constructing the fence.
Management Situation **5**. What does your management plan, policy, and legislation say to support proceeding with this project?	Currently no Wilderness Management Plan has been prepared for the Wilderness. The Fish and Wildlife Service included the construction of the fence as a stipulation in their Biological Opinion on the Soldiers Meadow Multiple Use Decision.
6. How did you consider wilderness values over convenience, comfort, political, economic or commercial values while evaluating this project/activity?	The values that were the priority in considering the proposal were the protection of the habitats of the Desert Dace and Basalt Cinquefoil. The Desert Dace and Basalt Cinquefoil are Special Features of the High Rock Lake Wilderness.
7. **Should We Proceed?**	**Yes** Go to step 2 (Minimum Tool Analysis)

Step 2 - Determining the Minimum Tool (the MimimumTool Analysis)

These questions will assist you in determining the appropriate tool(s) to accomplish the project or proposed activity with the least impact to the wilderness resource.
Describe the alternatives. Be specific and provide detail.
-What is proposed?
-Why is it being proposed in this manner?
-Who is the proponent?
-When will the project take place?
-Where will the project take place?
-How will it be accomplished? (What methods and techniques)

Alt#1 Between .25 and .75 miles of fencing would be constructed in side the Wilderness. To effectively eliminate grazing within the critical habitat of the Desert Dace portions of the exclosure fence will need to be	Alt#2 Same as Alt#1, but the materials would be hauled in using four wheelers, and crews would access the site with motorized vehicles.

constructed inside the Wilderness. BLM and Fish and Wildlife Service are the proponents. Construction of the fence would occur in the early winter of 2003. See map for location of proposed fence line. Fencing materials will be hauled into the site by foot or horseback. All fencing crews would access the site by non-motorized/mechanized transport. Only non-motorized hand tools would be used for construction of the fence.	

Utilize the following criteria to assess each alternative (a brief statement should suffice)

Biophysical effects

-Describe the environmental resource issues that would be affected by the proposed action.
-Describe any effects this action will have on protecting natural conditions within the regional landscape, (i.e. non-native insects and disease, or noxious weed control)
-Include both biological and physical effects.

Alt#1 Although the construction of the fence line will be a form of permanent human presence in the area and will impact the viewshed, the fence would reduce or eliminate impacts associated with livestock grazing within the exclosure. The naturalness of the area inside the exclosure will be enhanced and the populations of Desert Dace and Basalt Cinquefoil will be less impacted by grazing.	Alt#2 Same as Alt#1 , but the use of motorized vehicles to access the Wilderness would increase the chance of introducing invasive plants to the area, increase soil compaction along the fence line, and would increase the amount of illegal motorized trespass in the area.

Social/recreation/experiential effects

-Describe how the wilderness experience may be affected by the proposed action
-Include effects on recreation use and wilderness character
-Consider the proposed effect the proposal may have on the public and their opportunity for discovery, surprise and self-discovery

Alt#1 The proposed project would have an impact on opportunities for solitude and primitive	Alt#2 Same as Alt #1, but because the vehicles that would be used to access the site would

recreation. The fence line would be visible for long distances due to the flat terrain in this portion of the Wilderness. The sight of the fence could have an impact on visitors sense of being in a remote area, this impact would be minimized by using materials that would blend in with the surrounding terrain. The impact would be minimal because the proposed fence would be constructed on a very small portion of the entire Wilderness, also, the area around the proposed fence is not heavily used by wilderness visitors. Opportunities and primitive recreation would also be temporarily be impacted during the construction of the fence line.	be able to be seen and heard for longer distances they would have more of an impact on opportunities for solitude and primitive recreation.

Societal/political effects

-Describe any political considerations, such as MOUs, agency agreements, local positions that may be affected by the proposed action.

-Describe relationship of method to applicable laws

Alt#1 The U.S. Fish and Wildlife Service included the construction of the fence line as a stipulation the Soldiers Meadow Multiple Use Decision.	Alt#2 Same as Alt #1

Health and safety concerns

-Describe and consider any health and safety concerns associated with the proposed action. Consider the types of tools used, training, certifications and other administrative needs to ensure a safe work environment for employees. Also consider the effect the proposal may have on the health and safety of the public.

Alt#1 There are no health and safety concerns associated with the project.	Alt#2 Same As Alt #1

Economic and timing considerations

-Describe the costs and timing associated with implementing each alternative

-Assess the urgency and potential cumulative effect from this proposal and similar actions

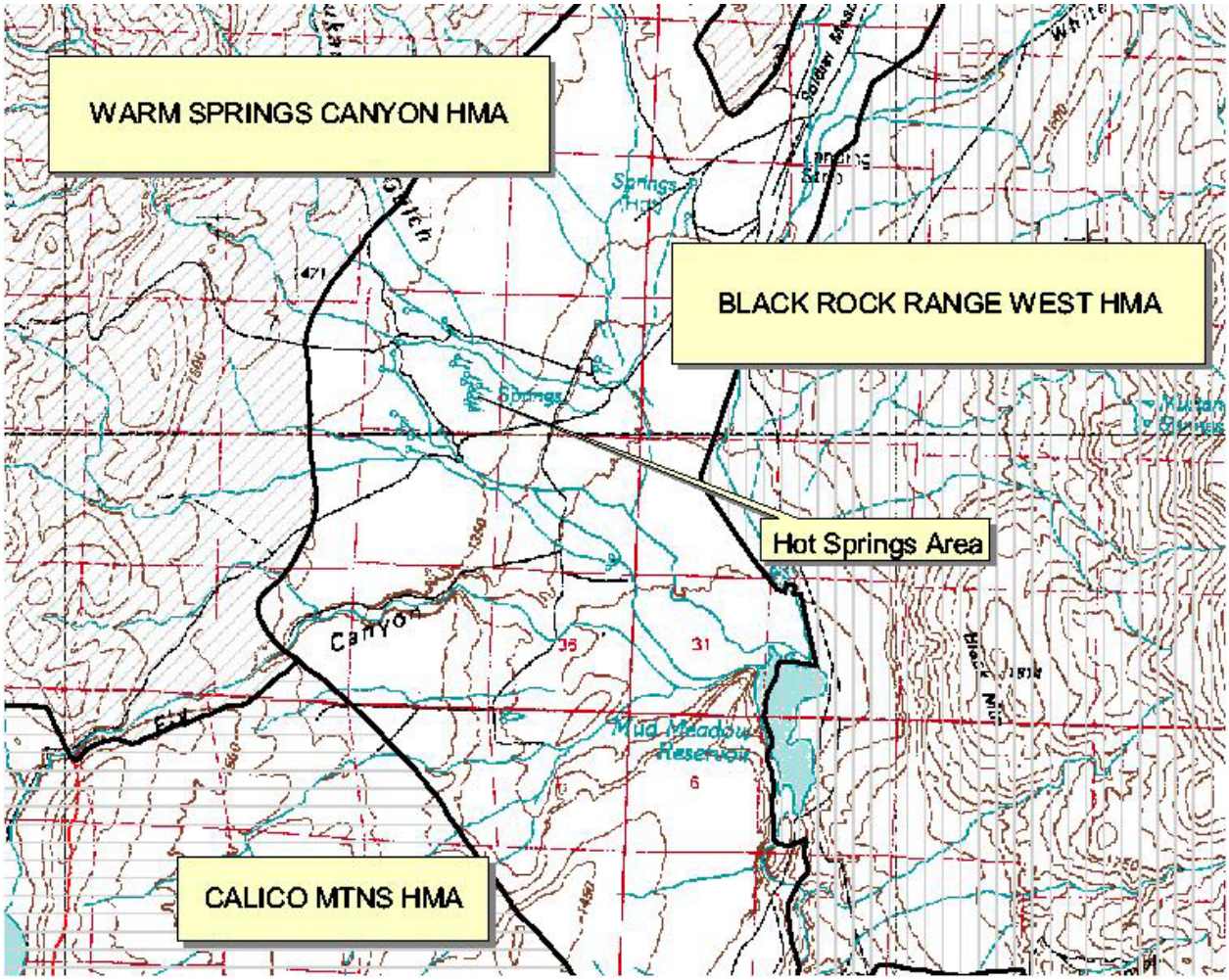
Alt#1 The project would occur sometime in early winter of 03. There is some urgency associated with the project due to the fact that the permitee will not be able to graze in the portion of the allotment around the proposed exclosure until the fence is built.	Alt#2 Using vehicles to access the site would reduce the amount of time it took to construct the wilderness portion of the fence.

Formulate a preferred alternative from the above alternatives and describe in detail below
Alternative 1 is considered to be the minimum tool for accomplishing the project. All materials for the wilderness portion of the fence will be hauled to the site on foot or horseback. The work crews will access the wilderness by foot or horseback only. Only non-motorized hand tools would be used for construction of the fence.

Further refine the alternative to minimize impacts to wilderness
-*What will be the specific operating requirements?* See above
-*What are the maintenance requirements?* All access for maintenance will be by foot or horseback and will only use non-motorized handtools.
-*What standards and designs will apply?* The fence line would be constructed using antelope specifications to allow them to move more freely through the area. The fence line will also utilize existing topography in the area to hide the fence from visitors. The wilderness portion of the fence will be constructed using green metal T-posts (without the white tops) to reduce the visual impact.
-*Develop and describe any mitigation measures that apply?* Construction of the fence will be scheduled to avoid high visitor use times to reduce any impacts to primitive recreation in the area.
-*What provisions have been made for monitoring and feedback to strengthen future efforts and/or prevent the need for recurring future actions?* The fence line will be regularly monitored to avoid having to conduct emergency repairs if it becomes broken.

APPENDIX 4

Map 3. HMA Locations



Decision Record (DR)/ Finding of No Significant Impact (FONSI)

Desert Dace Protective Fence Environmental Assessment
EA No. NV-020-03-24

The Bureau of Land Management (BLM) has conducted an environmental assessment (EA No. NV-020-03-24) for a proposal to construct approximately 10 miles of fence around the hot springs area of Soldier Meadows to protect special status species. The fence would be located within portions of T.40N., R.25E., Secs. 29 & 31 and T.40N., R.24E., Secs. 14, 22, 23, 24, 25, 26, & 27.

I have reviewed Environmental Assessment (EA) NV-020-03-24, dated _____. After consideration of the environmental effects as described in the EA, I have determined that alternative 1, will not significantly affect the quality of the human environment and that an Environmental Impact Statement (EIS) is not required to be prepared.

I have determined the proposed action is in conformance with the approved Sonoma-Gerlach Management Framework Plans and is consistent with the plans and policies of neighboring local, county, state, tribal and federal agencies and governments. This finding and conclusion is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and the intensity of impacts described in the EA.

Context: The Hot Spring Complexes located within the Soldier Meadow Allotment provide the sole habitat for the Desert Dace, a threatened species of minnow. The area is less than 3200 acres in size.

Intensity:
1) *Impacts that may be both beneficial and adverse*.
The environmental assessment has considered both beneficial and adverse impacts of the fence alternatives. All of the alternatives with the exception of alternative 3 would benefit Desert Dace. Adverse impacts to the vegetation and soils immediately adjacent to the fence would be minimal and mitigated through the protection of the vegetation and soils located within the exclosure.

2) *The degree to which the proposed action affects public health or safety.*
The implementation of alternative 1 would not affect public health or safety.

3) *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*
The project area includes federally designated critical habitat for Desert Dace, a federally listed Threatened species. The analysis did not identify any significant impacts to Desert Dace, historic or cultural resources, prime farmlands, wetlands, wild and ecologically critical areas.

4) *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*
The fence construction is not highly controversial and is employed to meet species recovery plan objectives and recommendations by the US Fish and Wildlife Service - Reno, Nevada.

5) *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*
There are no known effects that would result from implementation of Alternative 1, identified in the EA which are considered uncertain or involve unique or unknown risks.

6) *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*
Implementation of Alternative 1 does not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration. Any future actions proposed for the hot spring area of the Soldier Meadows Allotment would be evaluated for compliance with the National Environmental Policy Act.

7) *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*
No significant cumulative impacts have been identified in the EA. Past, present, and reasonably foreseeable future action on-going in the cumulative impact assessment area would not result in cumulatively significant impacts.

8) *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP or may cause loss or destruction of significant scientific, cultural, or historical resources.*
The proposed action will not cause the loss or destruction of significant scientific, cultural or historical resources.

9) *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA of 1973.*
The EA has identified that no significant or adverse impacts would result to endangered, threatened, candidate, or sensitive species within the project area. Alternative 1 has undergone consultation and coordination with the USFWS and has been determined the activities will not likely adversely affect these species or desert dace critical habitat; instead this action was determined to be beneficial to the sensitive species within the project area.

10) *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*
The proposed action will not violate or threaten to violate any Federal, State, or local law or requirement imposed for the protection of the environment and shall be in accordance with the acquired permits from both the State and Federal Government.

_____ _____

Les W. Boni, Assistant Field Manager
Non-renewable Resource Division **Date**