United States Department of the Interior
Bureau of Land Management

Environmental Assessment
DOI-BLM-CO-N05-2016-0057

Piceance-East Douglas Herd Management Area

Duck Creek Fence Reconstruction and Corcoran Spring Redevelopment

July 2018

U.S. Department of the Interior
Bureau of Land Management
Northwest District
White River Field Office
220 East Market St
Meeker, CO 81641

TABLE OF CONTENTS

1. INTRODUCTION

1.1. Identifying Information

Project Title: Piceance-East Douglas Herd Management Area –
Duck Creek Fence Reconstruction and Corcoran Spring Redevelopment

Legal Description:
Duck Creek Fence Reconstruction: Township 1 South, Range 98 West, Sections 9 and 16

Corcoran Spring Redevelopment: Township 2 North, Range 97 West, Section 33

Applicant: Bureau of Land Management, White River Field Office

NEPA Document Number: DOI-BLM-CO-N05-2016-0057-EA

1.2. Background

During the 2012 and 2013 field seasons, Bureau of Land Management, White River Field Office (WRFO) staff started conducting field reconnaissance of the Piceance-East Douglas Herd Management Area (HMA) boundary fencing for functionality, as well as for verification of fence locations. Field work and aerial photography was used to update the HMA and grazing allotment boundary maps. During the summer of 2015, the preferred and alternative fence line locations for the section of fence near Duck Creek were tentatively field surveyed and located using Global Positioning System Coordinates (GPS) in order to identify special status plant species locations and the cultural resource conflicts in the area.

Of the 137 mile HMA perimeter, approximately 40 miles remain in need of reconnaissance work by WRFO staff during future field season(s). The completion of the remaining reconnaissance work is based on upcoming staff availability. The field reconnaissance also includes checking of any other fencing adjacent or within the HMA. There may be additional sections of the HMA requiring some form of fencing work (either repair or new construction) and any new sections of fencing will be analyzed under a separate document. The Duck Creek Fence was originally identified for improvement under a separate National Environmental Policy Act (NEPA) document DOI-BLM-CO-N05-2014-0035-EA along with four other sections of fence that needed to be constructed for the HMA boundary. It was determined that the Duck Creek section of fence required an in depth, separate analysis due to resource conflicts regarding cultural resources, and Dudley Bluffs bladderpod *(Physaria congesta*), a threatened and endangered (T&E) listed plant species.

This environmental assessment (EA) considers one distinct fence section in the Duck Creek Area for a proposed new fence line (Figure 1) and the Corcoran Spring redevelopment (Figure 2).

The Corcoran Spring development was originally constructed in the late 1970s for wild horses to use in the HMA (Range Improvement Project #200688). The spring development lacked maintenance and fell into disrepair over time. In 2012, due to drought conditions, Corcoran Spring was ultimately reduced to a "mud pit" by wild horses, livestock, and wildlife trampling the spring and depletion of the limited water supply. The WRFO trucked in water to supplement Corcoran Spring and placed the water into a water tank in the area. WRFO staff determined that the wild horses (and wildlife) in the area would not use the tank because it was an artificial watering system. In order for the wild horses, livestock, and wildlife to obtain water, the WRFO staff mimicked a spring by allowing the water to trickle out of the tank into an area that was dug by hand.

1.3. Purpose and Need for Action

The purpose of the proposed Duck Creek Fence Reconstruction is to improve the WRFO's ability to manage wild horses within the HMA as outlined in the 1997 Resource Management Plan (RMP) and to address resource concerns associated with wild horses gaining access to areas outside of the designated HMA boundary. The need for the proposed fence construction is that the Duck Creek section of the HMA boundary is not adequately fenced and wild horses can travel outside of the HMA because 1) an existing fence has been damaged or destroyed so that it is no longer functional, and 2) there are not effective topographic barriers to deter wild horses from leaving the HMA.

The purpose of the redevelopment of the Corcoran Spring is to help facilitate wild horses continuing to have access to, and use of, a perennial water source within the HMA. The need for the action is that in years when the spring flow is low, the area becomes a "mud pit" which reduces the water quality and could potentially damage the spring source.

1.4. Decision to be Made

Based on the analysis contained in this EA, the WRFO will decide whether or not to approve some or all of the proposed new fence section and the redevelopment of the Corcoran Spring and if so, under what terms and conditions. Under NEPA, the BLM must determine if there are any significant environmental impacts associated with the Proposed Action warranting further analysis in an Environmental Impact Statement (EIS). The Field Manager is the responsible officer who will decide one of the following:

- To approve the proposed new fence reconstruction in Duck Creek and redevelopment of the Corcoran Spring;
- To analyze the effects of the proposed projects in an EIS; or
- To deny one or both of the proposed projects.

1.5. Conformance with the Land Use Plan

The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (White River ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: 2-26

Decision Language: "Manage for a wild horse herd … on 190,130 acres within the Piceance - East Douglas Herd Management Area (HMA) so that a thriving ecological balance is maintained for all plant and animal species on that range."

2. PUBLIC INVOLVEMENT

2.1. Scoping

The BLM uses a scoping process (40 CFR 1500-1508) to identify potential significant issues in preparation for impact analysis. The principal goals of scoping are to identify issues, concerns, and potential impacts that require detailed analysis. Scoping is both an internal and external process. Scoping was the primary mechanism used by the WRFO to identify issues.

Internal scoping took place for the Duck Creek fence under DOI-BLM-CO-N05-2014-0035-EA and BLM staff identified concerns with cultural resources as well as the federally listed plant species *Physaria congesta* (Dudley Bluffs bladderpod) in association with fence reconstruction area. The initial scoping by resource staff identified that future survey work would need to be conducted for both cultural resources and special status plants. Because of those resource concerns the Duck Creek fence section was dropped from further consideration under that NEPA analysis.

Based on the previous internal scoping, the WRFO procured a cultural resource contractor in 2014 to conduct a cultural inventory survey of all the fence locations originally proposed under DOI-BLM-CO-N05-2014-0035-EA. The cultural inventory survey also included the Duck Creek fence, even though it was dropped from further consideration with the understanding that the Duck Creek fence section would be done under a separate NEPA analysis. In 2016, WRFO staff conducted a cultural resource survey to delineate the exact location of the fence and to identify mitigation measures associated with the project in regards to the cultural resources in the area. Internal scoping for the Corcoran Spring redevelopment and final alignment of the Duck Creek fence was initiated when the project was presented to the WRFO interdisciplinary team on October 6, 2015.

External scoping was conducted by posting this project on the WRFO's on-line National Environmental Policy Act (NEPA) register on January 19, 2016.

2.2. Public Comment

The EA and the unsigned Finding of No Significant Impact (FONSI) for the Duck Creek Fence Reconstruction and Corcoran Spring Redevelopment project (DOI-BLM-CO-N05-2016-0057-EA) were available for a 30-day public review and comment period beginning October 31, 2016 and ending December 15, 2016.

Comments were received from a few individuals, a wild horse organization, an energy related corporation, and Colorado Parks and Wildlife. Those comments can be found at Appendix B.

3. PROPOSED ACTION AND ALTERNATIVES

Introduction: All proposed fence locations are based on the following criteria: where fence construction and maintenance would be considered practical due to the landscape; grazing allotment delineations; minimizing impacts from fence construction mitigation on special status plant species; locations of cultural resources in the area; and how the fence aids in containing wild horse populations within the designated HMA boundary. The new proposed fence location is approximately 450 meters west of the historic fence location.

Fence construction and spring redevelopment would be accomplished by either a volunteer organization and/or a contracted fence building crew. The WRFO is planning to have the fence built and the spring redevelopment completed using volunteers in late fall of 2018, but work may be delayed until a future year if needed due to budget constraints.

3.1. Alternative A – Proposed Action

Duck Creek Fence Reconstruction: The WRFO would construct a fence in the Duck Creek area (Figure 1) for approximately 0.9 miles. The fence will be 4-strand barbed wire fence (Type D) construction (Figure 7) with the following barbed wire spacing in order to avoid crossing conflicts with big game: from the ground up 16, 6, 6, and 12 inches. T-posts would be a minimum 5 foot long and pounded into the ground with a hand post pounder at a depth of approximately 12 inches depending on soils in the area. Wooden posts will be 6 to 8 feet long and placed as deep as possible depending on the subsoil where each is placed. Wooden posts, T-posts, and gates will be aligned as specifically delineated by the WRFO specialists in order to mitigate impacts to cultural resources, special status plant species, and wildlife resources along the route of the proposed fence.

The equipment that will be used in the area will consist of general fence construction tools but will be limited to a gas-powered, two-man mounted auger in order to set wooden posts where necessary. Fencing materials will consist of general fencing materials: barbed wire on rolls,

wood posts, and 5.5 foot long metal t-posts. Materials will be brought in to the staging area using pick-up trucks/OHVs along designated routes. From there, materials will be hauled by foot or pack animals to the fence location. Some OHV use may be needed off-route and will be reclaimed after construction. OHV use off-route will be kept to the minimum amount possible. Hauling of materials will be done by foot or pack animal only along a designated route with pickup trucks and/or ATV/UTV type vehicles to a location delineated by the WRFO near the project area. Staging areas may be located as far away as ½ mile from the proposed fence project location. Vegetation clearing would be limited to the minimum amount necessary to accommodate fence construction. For pinyon and/or juniper trees only those approved by the archaeologist and wildlife biologist will be allowed to be limbed or cut down. The materials from those trees will be placed as approved by those specialists.

Due to wildlife concerns the proposed Duck Creek Fence will be constructed between the dates August 15 and November 30 of any year.

The old fence, which is not functional, will have the barbed wire removed. The old wooden cedar fence posts will remain in place either standing or on the ground. Removing the old barbed wire will reduce potential future impacts to wild horses, livestock, and wildlife from becoming tangled in any loose wire. The removal of the barbed wire will take place during the dormant period for the Dudley Bluffs bladderpod (*Physaria congesta*). Leaving the old wooden cedar fence posts in place will additionally reduce any potential impacts to the bladderpod from such efforts.

Corcoran Spring Redevelopment: Corcoran Spring will be redeveloped for use by wildlife, livestock, and wild horses as well as for protection of the spring source (Figure 2). The proposal includes buck and pole fencing around the spring source in order to protect the spring, cleaning out the spring box, removal of the old trough (unless it's decided to recycle this trough), installation of an in-ground water trough system (similar to the one shown in Figure 6), and an above-ground water trough. Any of the over-flow from the troughs will be piped back to the unnamed drainage to the west.

The exact location of the water troughs is yet to be determined but will be placed where the WRFO and Northwest Pipeline Corporation agree on the location(s). Figure 3 shows the approximate tank locations in order to accommodate the distance necessary from the oil/gas related pipeline in the area. The two-track road into the location would receive minimal periodic maintenance for those times when trucks and stock trailers may be used in the area for wild horse management purposes.

Due to wildlife concerns the proposed Corcoran Spring Redevelopment would be constructed between the dates of July 16 and November 30 of any year.

Design Features for Both the Duck Creek Fence and Corcoran Spring Redevelopment:

1. No new roads or ways would be constructed in order to build or maintain the new fence section or the spring redevelopment.

2. Any brush or woodland removed for fence construction or spring redevelopment will be lopped (cut into pieces less than 2 feet long) and spread in the disturbed areas to reduce rain splash erosion and potential entrainment of sediment during storm events. Limbed material shall be scattered across areas in such a way to avoid large concentrations of heavy fuels but to effectively deter vehicle use.

3. All fence construction and spring redevelopment activities would cease when soils or road surfaces become saturated to a depth of three inches.

4. Monitoring of the project areas will be completed every year for the first three years by the range staff or soil specialist following construction of the fence line and the spring redevelopment in order to protect public land health standards for soils. Erosion features such as rilling, gullying, piping and mass wasting on the surface disturbance or adjacent to the fence line or the spring redevelopment would be addressed immediately after observation by formulating a plan to assure successful soil stabilization with Best Management Practices (BMPs) to address erosion problems.

5. All channel crossings on perennial and intermittent streams for either the fence line construction or the spring redevelopment protective fence around the spring box would be constructed to allow the movement of debris during flood events. This could be accomplished by rebar panels or UV resistant PVC panels suspended on a cable that allows the panels to swing out during flood events and reduce impacts to the hydrology of the channel.

6. All equipment used for construction shall be cleaned before it comes to the WRFO and when it leaves the WRFO to minimize the potential spread of noxious and/or invasive weed species.

7. Monitoring of the project areas will be completed every year for three years following construction of the fence line and the spring redevelopment by the range staff or weed specialist to ensure no new weed establishment has occurred. If new weeds are found, appropriate treatment will be done to eradicate or minimize spread. After the initial three years of monitoring periodic checks of the project areas will be conducted in accordance with the WRFO's Integrated Weed Management plan.

Occupied habitat will be monitored for noxious and invasive weed species prior to and after the project. If noxious/invasive weeds are detected, they will be treated in conformance with the White River Field Office Integrated Weed Management Plan. If possible hand removal of weeds will be preferred, but herbicides may be applied in conformance with the buffers identified in Table 1. These distance were established during the consultation with FWS for the "Vegetation Treatment on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement."

Table 1. Herbicide Buffer Distances from Terrestrial Special Status Plant Species [1]

Active Ingredient	Buffer Width	Method(s) to Which Applied
2,4-D	0.5 mile	All
Bromacil	1,200 feet	All
Chlorsulfuron	1,200 feet	Ground
	1,500 feet	Aerial
Clopyralid	900 feet	Ground, typical rate
	0.5 mile	Ground, maximum rate; aerial
Dicamba	1,050 feet	Ground
Diflufenzopyr	100 feet	Low boom, typical rate
	500 feet	Low boom, maximum rate; high boom
	900 feet	Aerial
Diquat	900 feet	Ground, typical rate
	1,000 feet	Ground, maximum rate
	1,200 feet	Aerial
Diuron	1,100 feet	All
Fluridone	0.5 mile	All
Glyphosate	50 feet	Ground, typical rate
	300 feet	Ground, maximum rate; aerial
Hexazinone	300 feet	Ground, typical rate
	900 feet	Ground, maximum rate
Imazapic	25 feet	Ground, typical or maximum rates
	300 feet	Aerial, typical rate
	900 feet	Aerial, maximum rate
Imazapyr	900 feet	Ground or aerial, typical rate
	0.5 mile	Ground or aerial, maximum rate
Metsulfuron Methyl	900 feet	Ground or aerial, typical rate
	0.5 mile	Ground or aerial, maximum rate
Overdrive®	100 feet	Low boom, typical rate
	900 feet	Low boom, maximum rate; high boom
Picloram	0.5 mile	All
Sulfometuron Methyl	1,500 feet	All

Table 1. Herbicide Buffer Distances from Terrestrial Special Status Plant Species [1]

Active Ingredient	Buffer Width	Method(s) to Which Applied
Tebuthiuron	25 feet	Low boom, typical rate
	50 feet	Low boom, maximum rate; high boom, typical rate
	900 feet	High boom, maximum rate
Triclopyr	300 feet	Ground, typical rate
	500 feet	Aerial, typical rate
	0.5 mile	Ground or aerial, maximum rate

[1] Source: BLM 2007a

8. The proposed fence and spring redevelopment would not coincide with mid or late winter occupation of winter ranges by big game (December 1 to April 30).

9. The BLM Project Lead and/or Contractor is responsible for informing all persons who are associated with the project that they will be subject to prosecution for knowingly disturbing archaeological sites or for collecting artifacts.

10. If any archaeological materials are discovered as a result of operations under this authorization, activity in the vicinity of the discovery will cease, and the WRFO Archaeologist will be notified immediately. Work may not resume at that location until approved by the Authorized Official (AO). The Contractor will make every effort to protect the site from further impacts including looting, erosion, or other human or natural damage until BLM determines a treatment approach, and the treatment is completed. Unless previously determined in treatment plans or agreements, BLM will evaluate the cultural resources and, in consultation with the State Historic Preservation Office (SHPO), select the appropriate mitigation option within 48 hours of the discovery. The Contractor, under guidance of the BLM, will implement the mitigation in a timely manner. The process will be fully documented in reports, site forms, maps, drawings, and photographs. The BLM will forward documentation to the SHPO for review and concurrence.

11. Pursuant to 43 CFR 10.4(g), the Project Lead and/or Contractor must notify the AO, by telephone and written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), the Contractor must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

12. The Project Lead and/or Contractor is responsible for informing all persons who are associated with the project operation that they will be subject to prosecution for disturbing or

collecting vertebrate or other scientifically important fossils, collecting large amounts of petrified wood (over 25lbs./day, up to 250lbs./year), or collecting fossils for commercial purposes on public lands.

13. If any paleontological resources are discovered as a result of operations under this authorization, the Project Lead and/or Contractor or any of his agents must stop work immediately at that site, immediately contact the BLM Paleontology Coordinator, and make every effort to protect the site from further impacts, including looting, erosion, or other human or natural damage. Work may not resume at that location until approved by the AO. The BLM or designated paleontologist will evaluate the discovery and take action to protect or remove the resource within 10 working days. Within 10 days, the Project Lead and/or Contractor will be allowed to continue construction through the site, or will be given the choice of either (a) following the Paleontology Coordinator's instructions for stabilizing the fossil resource in place and avoiding further disturbance to the fossil resource, or (b) following the Paleontology Coordinator's instructions for mitigating impacts to the fossil resource prior to continuing construction through the project area.

Design Features for the Duck Creek Fence Reconstruction:

1. Fence maintenance responsibilities will be designated through a Cooperative Range Improvement Agreement because the new fence section fills a gap where fence is no longer functional and increases the grazing permittee's ability to use a grazing allotment or pasture and/or to facilitate regulating their livestock in a given pasture. For maintenance activities, this fence section will be identified as accessed by foot or horseback due to the cultural resources and special status plant species associated with the fence. Modification to this agreement could be made if a volunteer organization were available and willing to enter into a maintenance agreement.

2. The fence line will be flagged prior to construction by BLM staff to ensure cultural, special status plant species, and wildlife resources are avoided and not adversely impacted by the proposed fence construction. Due to an active Cooper's hawk nest (fence line route survey 6/16/2016), the nest tree will be identified/marked prior to fence installation. Removal and/or modification to the nest tree will not be permitted. Wildlife staff will be present during fence layout to ensure nest stand characteristics remain intact (as much as possible) within 50-70 meters of the nest tree.

3. Gates would be added as necessary along the fence line. The exact placement of the fence will be delineated (marked) prior to construction. Considerations given during marking of the fence line location will include the cultural resources, special status plants, raptor nesting, and the ability to avoid old growth pinyon/juniper trees and/or small rock outcroppings.

4. The WRFO will remove the old wire associated with the old fence route during the dormant time period associated with the Dudley Bluffs bladderpod *(Physaria congesta*) population in the area, however, the cedar fence posts will be left in place either as they stand or as they have fallen.

5. Signs along the fence will be posted identifying the HMA boundary as well as signs requesting gates be closed (i.e., signs with "Wild Horse Area - Please Close Gate" (see Figure 5). All identified gates with posted signage on the HMA boundary will be kept closed. When posted gates are found open by BLM personnel they will be instructed to close them.

6. Trees that have been approved to be removed for fence construction and are of proper size for fence posts could be used in the fence construction for that section of fence.

7. OHV use will be allowed on a specific route to allow project materials to be delivered to the fence project with this route being reclaimed and signed as such at the end of the project so that no future use will occur. The WRFO will try and conduct a major portion of the fence construction using foot, horse, or other non-motorized types of transportation for this construction activity.

8. Fence installation will occur outside the woodland raptor reproductive period. Fence installation will not be permitted from February 1 – August 15 or until fledging and dispersal of young.

The following design features for the Duck Creek Fence were committed to by the WRFO during Section 7 consultation with the United State Fish and Wildlife Service (FWS) for threatened plants:

9. The WRFO will have a qualified monitor on-site during all fence construction within the plant species' occupied habitat to ensure all conservation measures are adhered to.

10. All fence construction will be completed by hand in areas of occupied habitat. No mechanical equipment will be used or staged within occupied habitat. Equipment will either be staged at the water gap or on an old existing two-track 0.5 miles west of the fence. Access will also take place off of Rio Blanco County Road 91 where the proposed fence will meet the existing fence (Figure 1).

11. A corridor will be flagged 10 feet on each side of the fence line where all contractors or volunteers will remain while work is completed on the fence to prevent excess disturbance to plants within occupied habitat. All plants within this corridor will be marked or capped in an effort to minimize impacts to individual plants by staff/contractors/volunteers.

12. Prior to construction, all workers/volunteers will be educated on the identification of the Dudley Bluffs bladderpod as well as all the conservation measures in the EA to ensure all stipulations are adhered to.

13. No fence construction will take place on the plant species' occupied habitat if soils are saturated to prevent excess soil and plant disturbance from erosion or deposition.

14. Prior to fence construction, monitoring plots will be established and read in the area to determine number and condition of plants in the project area through the consultation with USFWS. Monitoring by the range staff continue for three years following fence construction to determine impacts to plants from fence construction. Plots will be established in a way to provide enough statistical power to detect change in plant numbers and condition in the project area. Results of the plots will be provided to FWS upon completion of the project.

15. If possible, only metal t-posts will be used where the fence bisects the plant population to minimize disturbance from digging post holes to set wooden posts. If unavoidable, only the minimum amount of wood posts will be used to reduce impacts to the plant species' in occupied habitat.

Design Features for Corcoran Spring Redevelopment:

1. Since the reconstructed spring source will increase the grazing permittee's ability to use a Rocky Ridge pasture and/or facilitate regulating their livestock in this pasture, the spring redevelopment maintenance responsibilities will be designated through a Cooperative Range Improvement Agreement. Modification to this agreement could be made if a volunteer organization were available and willing to enter into a maintenance agreement.

2. For spring redevelopment, the project would be accomplished by either a volunteer organization and/or a contracted construction crew using equipment such as a backhoe or skid-steer type mounted backhoe in order to clean the concrete trough and set the water tanks (in ground and above ground). Hauling of materials may be done by OHV equipment or hand packed from the existing two-track road approximately 250 feet to the redevelopment location. The hillside includes a steep slope, and pickup trucks will be used to haul materials to the location on the existing two-track road. Vegetation clearing would be minimal and only as necessary for the proposed flat location to accommodate future use of the area for wild horse management.

3. The BLM will effectively coordinate with the existing Right-of-Way (ROW) holders prior to construction activity. The exact layout of the redevelopment was designed through coordinated efforts with the ROW holder whose pipeline crosses the area (Northwest Pipeline Corporation/Williams). The layout meets their request that the

project be completed outside of the 50 foot ROW (25 feet on each side of the pipeline/center).

4. A buck and pole fence enclosure will be placed around the spring box after it is cleaned out and the pipeline(s) placed to feed water to the in-ground trough (Figure 6) and the above-ground trough. The in-ground trough will be left without fence protection; the above-ground trough will have a constructed buck and pole type fence which will not allow animals to get into the trough but allow full access to the water in the trough. Both troughs will have wildlife and bird ramps for escape of animals that may fall into the trough to reduce the risk of wildlife drowning.

5. When wild horse management is authorized, temporary metal corral panels may be used at the location. In general, a few panels may be added every few days until a trap feature is built for use in bait/water trapping at the location and may be taken down when not in use.

6. In order to improve animal distribution on the public lands, no salt blocks and/or mineral supplements will be placed (either permanent or temporary) within ¼ mile of the Corcoran Spring watering facility unless stipulated through a written agreement or decision (43 CFR 4130.3-2(c)).

7. Spring redevelopment would occur outside of the core nesting period for migratory birds (i.e., May 15 to July 15).

8. To inhibit hyporheic flow the incorporation of erosion fabric covered by cobble against the upstream face of the check dam structures (Figure 9). Prior to installing the wooden check structures some recontouring of the stream channel will be completed to reestablish the average thalweg slope (Figure 10).

   The WRFO will not be able to install a wooden check dam structure at the first recommended location because of the concrete spring box at that location (at 106 ft). BLM plans on lining the stream channel with erosion fabric covered by cobble against the upstream face of the spring box location to assist in preventing future erosion concerns. At the second location (at 268 ft), the WRFO will be able to install the wooden check structure as recommended. For the third location (at 357 ft), the WRFO will need to work closely with Northwest Pipeline Corporation (NWP) to install the recommended structure because the proposed check dam location is within the 50 feet of the center line of the active pipeline. If the check dam structure cannot be installed at this location WRFO will consider the placement of the erosion fabric covered by cobbles. The exact location would be determined through consultation with NWP.

The following design features for the Corcoran Spring were committed to by the WRFO during Section 7 consultation with the United States Fish and Wildlife Service (FWS) for threatened plants:

9. The BLM will have a qualified monitor on-site during the project to ensure all conservation measures are followed.

10. A route will be flagged from the two-track road down the pipeline ROW to the spring to avoid plants to the maximum extent possible. It is anticipated that 8-10 plants will be directly impacted along the access route. Qualified BLM personnel or a qualified contractor will transplant any plants that can't be avoided on the pipeline ROW into suitable habitat away from the access route.

11. Plants that are transplanted will be tagged and monitored for three years following the project to determine survival, and future reproduction. An annual monitoring report will be submitted to FWS showing results of the monitoring.

12. Prior to construction, all workers/volunteers will be educated on identifying Dudley Bluffs twinpod as well as all the conservation measures in this EA to ensure all stipulations are adhered to.

3.2. Alternative B – No Action Alternative

The WRFO would continue to manage wild horses within the HMA boundary; however the proposed fence section in Duck Creek area would not be constructed. Without construction of this section of perimeter fencing wild horses will continue to gain access to lands outside of the HMA boundary.

Under the No Action Alternative, the Corcoran Spring redevelopment will not be completed. The spring will continue to provide water to the area but will further degrade from over-use by wild horses, wildlife, and livestock. In years of reduced spring flow a mud pit forms which risks animal health by dehydration, creates a potential for animals being trapped in the mud, and reduces water quality.

3.3. Alternatives Considered but Not Carried Forward for Detailed Analysis

HMA Boundary: The WRFO considered constructing this section of fence exactly along the designated HMA boundary. However, this alternative was not carried forward for detailed analysis because the designated boundary line was not the best place to build and maintain a fence when topography and impacts to other protected resources were evaluated.

The BLM also considered constructing a continuous fence along the entire perimeter of the HMA boundary. This alternative was not carried forward for detailed analysis due to the expense of such an undertaking and because it would not be necessary to construct a fence where there are effective topographic barriers. Attempting to construct a fence across some of those topographic barriers would result in additional impacts to other resources.

The BLM considered modifying the designated HMA boundary to match the location of the new fence sections. This alternative was also not carried forward because, as discussed above, the BLM has yet to complete the field reconnaissance of approximately 40 miles of the 137 mile perimeter.

Other Fence Line Alternatives Considered but Not Carried Forward for Analysis:
A second alternative was considered to construct a new fence for approximately 0.97 miles that would be located where the historic non-functional fence is located (Figure 1, blue line). However, this fence is located in the middle of a large, known population of Dudley Bluffs bladderpod and would result in adverse effects to the special status plants due to the surface disturbance associated with removal of the old fence and construction of the new fence.

A third alternative was also considered which involved constructing a new fence for approximately 1.3 miles adjacent to County Road 91 (Stake Springs). Approximately 95 percent of the fence construction was located on private lands owned by TC Landco, previously owned by Shell Exploration (Figure 1, purple line). The BLM has consulted with TC Landco's local representative and found that there is no support for constructing a fence along this portion of their private property at this time.

A fourth and final alternative was considered to repair an existing fence for approximately 1.7 miles on the east side of the Yellow Creek drainage which parallels County Road 91 (Stake Springs). This fence would have tied into the northern fence located in Township 1 South, Range 98 West, Section 10 and the southern fence located in Township 1 South, Range 98 West, Section 21 (Figure 1, orange line). On each end of this fence there would be cattle guards that would require maintenance. The WRFO would need to conduct a survey for Dudley Bluffs bladderpod plant populations along the existing fence where repairs may be necessary. In addition, the northern end of the fence may require an additional section of new fence to be constructed on private property in the Yellow Creek drainage bottom. During the summer months the drainage dries out, which could allow wild horses to gain access outside of the HMA. In 2014, WRFO consulted with the land owner, Shell Exploration, but they did not support repair of this fence or construction of an additional shorter section of fence on their property. In 2015 Shell Exploration sold the private property in this area and the WRFO determined that consultation with the new private property owner at this time is unnecessary because WRFO was able to come up with a proposed fence line route alternative and was able to conduct resource surveys and consultation in the new area.

4. ISSUES

The Council on Environmental Quality (CEQ) regulations state that NEPA documents "must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail" (40 CFR 1500.1(b)). While many issues may arise during scoping, not all of the issues raised warrant analysis in an environmental assessment (EA). Issues will be analyzed if: 1) an analysis of the issue is necessary to make a reasoned choice between alternatives, or 2) if the issue is associated with a significant direct, indirect, or cumulative impact, or where analysis is necessary to determine the significance of the impacts. The following sections list the resources considered and the determination as to whether they require additional analysis.

4.1. Issues Analyzed

The following issues were identified during internal scoping as potential issues of concern for the Proposed Action. These issues will be addressed in this EA.

- **Vegetation**: Both projects will require vegetation manipulation in the vicinity of the proposed projects but will be designed to be kept at the minimum amount possible.

- **Invasive, Non-Native Species**: During the surveys conducted in 2015 and 2016 no notable invasive, non-native species were detected within 100 meters of the project areas. Disturbance to vegetation communities will provide an opportunity for new invasive, non-native species populations to establish or expand as a result of the proposed action. The BLM will continue to monitoring the project areas and treat invasive, non-native species that may be found in the area for three years after the construction has been completed to limit the spread of invasive, non-native species.

- **Livestock Grazing:** Both proposed projects will occur on the Yellow Creek Allotment (06030); the Duck Creek section of the fence is located in the Barcus - Pinto Gulch pasture and the Corcoran Spring Redevelopment is located in the Rocky Ridge pasture. A very small portion of the grazing pastures will be impacted as a result of these projects. Cattle and wild horses will no longer be able to gain access to areas outside of the allotment/HMA boundary in the location of the proposed Duck Creek Fence. However, fences (refer to #DOI-BLM-CO-N05-2014-0035-EA) and waters are developed on the north side of Rocky Ridge and there is potential for a livestock rotation into those areas that was not previously realized. Installation of both proposed projects will aid in livestock management and help keep the livestock within the allotment pastures as provided under the grazing schedule/rotation.

- **Wild Horses:** The proposed projects will be beneficial to the wild horses and the wild horse program because the fence will aid in keeping wild horses within the HMA. The spring redevelopment will provide needed perennial, clean water sources for wild horses located on the Rocky Ridge portion of the HMA.

- **Wetlands and Riparian Zones**: The fence will aid in keeping wild horses within the HMA and the spring redevelopment will provide needed perennial, clean water sources for wild horses located on the Rocky Ridge portion of the HMA. Design features of the fence and spring improvements will keep impacts to a minimum and improve functionality of the existing spring.

- **Migratory Birds:** Direct habitat loss associated with the proposed projects would be minimal and not expected to result in a substantial impact to migratory birds. Construction activities associated with fence installation (noise, human activity) have the potential to indirectly influence migratory bird nesting activities.

- **Terrestrial Wildlife**: Fence installation and construction activities have the potential to influence big game and nongame species. Fence crossings can pose an impediment to big game, particularly to young animals or when animals are in a weakened state. Noise and human activity may lead to displacement or avoidance of otherwise functional habitats during the construction period and may disrupt nesting activities of woodland raptors.

- **Special Status Plant Species**: There are no special status plant species in the vicinity of the proposed Corcoran Spring development. The proposed alignment of the Duck Creek fence will bisect occupied habitat for the threatened and endangered Dudley Bluffs bladderpod.

- **Areas of Critical Environmental Concern (ACEC):** The proposed new fence section in Duck Creek is within the Duck Creek ACEC, which is designated for the management of Dudley Bluffs bladderpod. The past and present proposed fence is located in occupied habitat mixed with private land ownership in the area. The Corcoran Spring redevelopment is not located within any ACECs.

- **Realty Authorizations:** There are no rights-of-way within the project area for the proposed Duck Creek Fence. An existing ROW is adjacent to the proposed Corcoran Spring redevelopment, and would require design and redevelopment coordination with the pipeline ROW holder (Northwest Pipeline Corporation/Williams).

4.2. Issues Considered but not Analyzed

- **Soil Resources**: Both projects will require soil disturbance in the vicinity of the proposed projects but will be designed to keep disturbance at a minimum.

- **Native American Religious Concerns**: The WRFO is located within a larger area identified by the Ute Tribes as part of their ancestral homeland. Contemporary Native American groups such as the Ute Tribes of the Uinta and Ouray Bands (Northern Ute), Southern Ute, and Ute Mountain Ute Tribes maintain cultural ties to the land and resources within the WRFO.

Cultural resources are locations of past or current human activity, occupation, or use and include prehistoric or historic archaeological sites, buildings, structures, objects, districts, or other places. Cultural resources can also be natural features including native plants localities that are considered important to a culture, subculture, or community. Traditional Cultural Properties (TCPs) located throughout the WRFO, are places associated with the traditional lifeways, cultural practices or beliefs of a living community. These sites are rooted in the community's history and are important in maintaining cultural identity. Locations of TCPs are often not known to the BLM, but may still be present in or near the project area. Should recommended inventories or future consultations with Tribal authorities reveal the existence of such sensitive properties, appropriate mitigation and/or protection measures may be undertaken.

- **Cultural Resources**: The Corcoran Spring project area was previously surveyed for cultural resources by the WRFO archaeologist on August 17, 2012; no cultural resources were identified within the project area. The Duck Creek Fence was surveyed for cultural resources by the WRFO archaeologist on March 28, 2016. The results of the inventory identified two new archaeological sites; 5RB 8614, an eligible open camp, and 5RB 8615, an isolated occurrence. Additionally, the Duck Creek Fence project will not repair the old historic fence, 5RB 8086.1, a non-supporting linear feature (i.e., not eligible). Given the design features in place to protect cultural resources, there will be no adverse effects to historic properties as a result of the Proposed Action.

- **Paleontological Resources**: Both the Corcoran Spring and Duck Creek Fence were surveyed for paleontological resources. There are no paleontological concerns with the Proposed Action.

- **Air Quality**: The equipment that would be used for the fence construction and spring redevelopment would result in emissions of engine exhaust and local, short-term (a few days at each location) dust production. No quantifiable change in air quality would occur with the Proposed Action.

- **Geology and Minerals**: Construction of a fence and redevelopment of a spring would not have any substantial change to the geologic or mineral resources within the Project Area.

- **Social and Economic Conditions**: There would not be any substantial changes to local social or economic conditions.

- **Environmental Justice**: According to the most recent Census Bureau statistics (2010) and guidelines provided in WO-IM-2002-164, there are no minority or low income populations within the WRFO.

- **Prime and Unique Farmlands**: There are no prime and unique farmlands within the project area.

- **Visual Resources**: The construction of the new section of fence in Duck Creek area and the redevelopment of the Corcoran Spring is consistent with the Visual Resource Management Class III objective of partially retaining the existing character of the landscape and would not change the Visual Resource Inventory Class III and IV ratings for these areas.

- **Recreation:** The construction of the new section of fence in Duck Creek area and the redevelopment of the Corcoran Spring would result in negligible changes to existing recreational experiences and opportunities within the WRFO.

- **Forestry and Woodland Products:** The proposal to reconstruct a fence section in Duck Creek and the redevelopment of the Corcoran Spring will remove approximately 20 pinyon-juniper trees at each location. Trees will be removed after being approved for removal by either cultural staff due to proximity to cultural resources and/or wildlife staff due to proximity to Cooper's nest in the area. This minimal removal of trees would not have an overall impact on forestry management in these areas.

- **Access and Transportation:** The construction of the new section of fence in Duck Creek area and the redevelopment of the Corcoran Spring would not have an impact on the BLM Travel and Transportation network and would not change existing access to public lands.

- **Wilderness**: There are no designated Wilderness areas or Wilderness Study Areas located near the Proposed Action.

- **Lands with Wilderness Characteristics**: Neither the proposed fence nor the spring redevelopment are located within identified lands with wilderness characteristics.

- **Surface and Ground Water Quality**: The proposed spring development (Alternative A) should result in an overall improvement in the quantity and quality of water from Corcoran Spring. By fencing the spring source, riparian vegetation should reestablish resulting in an improved near-surface water table, reduced water temperature, and a reduction in sediment available for transport during runoff events. Under the No Action Alternative (Alternative B), the continued degradation of the quantity and quality of water from Corcoran Spring would be expected and possibly, the spring would eventually dry up.

  The proposed fence installation does not cross any perennial streams. As such, no impacts to surface or surface water quantity and quality would be expected from either Alternative A or B.

- **Floodplains, Hydrology, and Water Rights**: None of the proposed projects are located within a floodplain. Given the fence would be constructed by hand and the spring

development is located outside the ephemeral channel, no impacts to hillslope or channel hydrology would be expected. Currently, based on a search of the Colorado Water Conservancy Board/Division of Water Resources database, no water rights currently exist for the Corcoran Spring. If Alternative A is completed, the BLM would file for water rights for this development to ensure the continued availability of this water source for the beneficial use by wildlife.

- **Wild and Scenic Rivers**: There are no Wild and Scenic Rivers within the WRFO.

- **Scenic Byways**: There are no Scenic Byways within the project area.

- **Fire Management**: The construction of a fence and/or spring redevelopment would not have any substantial impacts on the Fire Management Plan and how it is implemented within the WRFO.

- **Hazardous or Solid Wastes**: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in these projects. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be in de minimis quantities and would be stored, used, disposed, and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be removed from the project area and recycled or disposed of at an approved disposal location.

- **Special Status Animal Species**: There are no threatened or endangered animal species that are known to inhabit or derive important use from the project areas. BLM sensitive species that may be found in the project areas are limited to Brewer's sparrow. Impacts to this species would be similar to those discussed for other migratory bird species below in Section 5.9, however, Brewer's sparrow are generally considered a sagebrush obligate, and because the project areas are largely dominated by pinyon-juniper woodlands, it is unlikely this species would be substantially impacted by the Proposed Action.

- **Aquatic Wildlife:** The Proposed Action would not be expected to have any conceivable influence on aquatic wildlife. Corcoran Spring is not known to provide habitat for higher order aquatic wildlife species.

5. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

5.1. General Setting

The project areas are located within the HMA boundary. The Duck Creek Fence is located near the junction of Duck Creek and Yellow Creek in the Yellow Creek Allotment, and the Corcoran

Spring is roughly located on the western 1/3 of the Rocky Ridge Pasture on a north facing slope also in the Yellow Creek Allotment.

The proposed new Duck Creek Fence section does not follow the previously delineated HMA boundary but is located as close as possible to the boundary where the fence will be effective and result in the least impacts to the other resources (i.e., special status plant species, wildlife and cultural resources).

The project area does not include fencing located within the interior of the designated HMA boundary. The perimeter of the designated boundary is estimated at 137 miles and is located approximately 20 miles west and south of Meeker, Colorado within the BLM's Northwest District of Colorado. The HMA encompasses approximately 190,130 acres of federal, state, and private lands. The analysis area is located within portions of or adjacent to the Yellow Creek Allotment.

5.2. Cumulative Impacts Analysis

5.2.1. Analysis Areas

The geographic extent of cumulative impacts varies by the type of resource and impact. The timeframes, or temporal boundaries, for those impacts may also vary by resource. Different spatial and temporal cumulative impact analysis areas (CIAAs) have been developed and are listed with their total acreage in the table below:

Table 2. Cumulative Impact Analysis Areas by Resource

Resource	CIAA	Total CIAA Acreage	Temporal Boundary
Vegetation; Invasive, Non-Native Species; Livestock Grazing; Wild Horses; Wetlands and Riparian Zones; Special Status Plant Species; Areas of Critical Environmental Concern; and Realty Authorizations	HMA and adjacent areas subject to the Duck Creek fence construction and Corcoran Spring redevelopment of the spring.	190,130 acres for the HMA which includes 1.21 acres for the fence project, and approximately 3.7 acres for the Corcoran Spring redevelopment project.	During the construction of the fence and the redevelopment of the spring and post reclamation of vegetation.
Migratory Birds and Terrestrial Wildlife	Duck Creek fence and Corcoran Spring redevelopment project and areas adjacent to the two sites.	1.21 acres for the fence project and approximately 3.7 acres for the Corcoran Spring redevelopment project. Approximately 130 acres (0.25 miles) from Corcoran Spring site, and 184 acres associated with the Duck Creek fence.	During construction time frames and throughout the life of the project.

5.2.2. Past, Present, and Reasonably Foreseeable Future Actions

Cumulative effects are defined in the CEQ regulations (40 CFR 1508.7) as "...the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

The Yellow Creek Allotment is located within the Piceance-East Douglas Herd Management Area (HMA) which the BLM manages for a herd of 135 to 235 wild horses. The estimate number of wild horses within the HMA is approximately 485 after foaling in 2018 or approximately 48 percent over the Appropriate Management Level (AML).

Oil and Gas Development

Cumulative impacts from oil and gas development within the WRFO were disclosed in the 1996 White River Resource Area Proposed RMP and Final EIS. A Reasonably Foreseeable Development (RFD) scenario compiled for the 1996 EIS estimated that oil and gas development would occur primarily south of Rangely, would consist of approximately 1,100 single well pads, and would result in an estimated surface disturbance of 11,000 acres (10 acres per pad including associated infrastructure).

The BLM estimated actual development since the 1997 RMP in 2011. From July 1, 1997 until August 19, 2011, there were 1,132 Federal wells drilled (including Federal wells drilled from fee pads). During that same time period, there were 261 plugged and abandoned wells and 375 abandoned wells. The BLM estimated surface disturbance associated with oil and gas development to be 9,165 acres and reclamation to be 783 acres (assumed 3 acres per plugged and abandoned location).

In August 2015 the BLM published the Record of Decision (ROD) for the Oil and Gas Development RMP Amendment/EIS which considered changes in the location, type, and level of oil and gas development within the resource area. In 2007, the BLM published a Reasonable Foreseeable Development (RFD) document. Based the most recent RFD scenario, it is assumed that the majority (95 percent) of oil and gas development would occur within the Mesaverde Play Area (MPA; Piceance Basin) and consist of multi-well pads. The preferred alternative was selected in the RMPA/EIS which considered drilling up to 15,042 wells from 1,800 well pads with an associated surface disturbance of 21,600 acres. An estimated 12 acres per pad would be disturbed initially (including areas needed for associated infrastructure) however that would be reduced to 5 acres per pad following interim reclamation. Further, it was assumed there would be up to 1,295 miles of roads and 925 miles of utility lines (pipelines and power lines) developed to support this activity.

As of March 2014, the Colorado Oil and Gas Conservation Commission database indicated there were a total (i.e., including those drilled prior to the 1997 RMP) of 2,562 producing wells, 320 shut-in wells, and 84 wells where drilling has begun but are not yet in production. These numbers were a reflection of what could be found within the entire Field Office boundary.

As of March 2016, the Colorado Oil and Gas Conservation Commission database indicated that within the MPA in the Piceance Basin that there were a total (i.e., including those drilled prior to the 1997 RMP) of 1,227 producing wells, 52 shut-in wells, and 51 wells where drilling is being conducted in some form but are not yet in production. Both of these projects are located within the MPA, where it was assumed that full-field development would require two to three pads per section.

Other past, present, and reasonably foreseeable actions in the analysis area include: grazing by livestock, wild horses and wildlife; and construction and/or maintenance associated with range improvement projects; energy development and/or maintenance of energy related facilities, vegetation treatments; and both wildfires and prescribed burns. Generally, recreation use is characterized by dispersed camping, off road vehicle use, wild horse and wildlife viewing, as well as big game hunting activities.

5.3. Vegetation

5.3.1. Affected Environment

The proposed new fence section and the Corcoran Spring cross a variety of ecological sites. Each ecological site is a unique, identifiable, and repeatable patch of vegetation and soil on a landscape. On rangelands, ecological sites form the basic classification unit for categorization of plant communities and their associated soils. Table 3 outlines the ecological sites that are present in the project area, along with their general community appearance and species that are located in the area.

Table 3. Soil Types/Ecological Sites within the Duck Creek fence section and the Corcoran Spring

Soil Types	Ecological Site or Woodland Type	Project	Plant Community Appearance	Predominant Plant Species in the Plant Community
Abor Clay Loam, 5-30% Slopes	Clayey Foothills	Corcoran Spring	Grass/Open Shrub Shrubland	Western wheatgrass, mutton grass, Indian rice grass, squirreltail, June grass, Wyoming big sagebrush, black sagebrush
Moyerson Stony Clay Loam, 15-65% Slopes	Clayey Slopes	Corcoran Spring	Grassland	Salina wildrye, mutton grass, western wheatgrass, June grass, squirreltail, shadscale
Torriorthents-Rock Outcrop, complex, 15-90% Slopes	Stony Foothills	Duck Creek Fence	Grass/Open Shrub Shrubland	Beardless bluebunch wheatgrass, western wheatgrass, needle-and-thread, June grass, Indian rice grass, fringed sage, Wyoming big sagebrush, black sage, serviceberry, pinyon and juniper
Rentsac Channery loam, 5-50% slopes and Redcreed-Rentsac complex, 5-30% Slopes	Pinyon/Juniper	Duck Creek Fence	Pinyon/Juniper Woodlands	Pinyon pine, Utah juniper, mountain mahogany, bitterbrush, serviceberry, Wyoming big sagebrush, beardless bluebunch wheatgrass, western wheatgrass, June grass, Indian rice grass, mutton grass

5.3.2. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

Primary impacts to vegetation for the new section of fence and the redevelopment of the spring would include the hand removal of brush and trees for fence alignment and spring trough location as well as trampling of vegetation by foot traffic during fence construction/spring redevelopment. Vegetation clearing would be limited to an area just wide enough for fence construction and spring redevelopment. No permanent clearing would be done along the fence to allow for any potential Off Highway Vehicle (OHV) use. Disturbance to herbaceous vegetation would be considered short-term during construction, and mortality is expected to be minimal.

Cumulative Impacts

Construction of the new section of fence or the potential for animal trailing along the fence or to the spring is not expected to have any cumulative impacts to vegetation in the project areas due to the existing trail systems that are located in the project areas. Past and present land uses such as livestock grazing, oil and gas development, and dispersed recreation have resulted in impacts to vegetation in these areas, but additional cumulative impacts from this project are not expected to occur.

5.3.3. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

The No Action Alternative would result in no disturbance to vegetation in the project areas, and nothing would change from the current management in regards to wild horses and livestock being able to access areas outside of the HMA boundary and/or grazing allotment boundary.

Cumulative Impacts

No cumulative impacts to vegetation will occur as a result of the No Action Alternative.

5.4. Invasive, Non-Native Species

5.4.1. Affected Environment

The state of Colorado has noxious weed species classified into three categories: List A, List B, and List C. List A species are targeted for eradication in Colorado. List B are those plant species which management plans have been developed to limit the spread of these species. List C are those plant species which management plans have been developed to aid in management for the jurisdictions that choose to manage them.

There are no List A weeds known to exist in the vicinity of the proposed fence or spring redevelopment. There are several List B species known to occur within the general vicinity of the proposed project areas but none are known to occur specifically in the project areas. Table 4 outlines List B species located in the general vicinity of the proposed projects.

Table 4. Colorado List B Species Known in the General Vicinity of the Projects

Project	Weed Species Present in the General Area
Corcoran Spring	Hoary cress, Houndstongue, Leafy Spurge, Spotted Knapweed, Diffuse Knapweed
Duck Creek	Houndstongue, Canada Thistle, Spotted Knapweed

The List C species, cheatgrass, is scattered throughout in small isolated patches in or adjacent to the proposed project areas along with common mullein and other early seral annual invasive species.

5.4.2. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

Disturbance of vegetation associated with fence construction and spring redevelopment will provide the opportunity for invasive and noxious weeds to establish on the project areas. Use of ATVs, skid-steers and other equipment could carry weed seeds and propagate from other areas onto the project area. Disturbance to vegetation is expected to be minimal (see Vegetation Section) so opportunity for weeds to establish and proliferate on the project areas is minimal.

The annual/noxious weed downy brome (cheatgrass) is present in areas adjacent to the Duck Creek fence and the Corcoran Spring in general in small isolated patches with those specific areas not meeting public land health standards. There is a chance for the spread/proliferation of cheatgrass in the project areas due to the disturbances of herbaceous cover but it is expected to be limited.

Cumulative Impacts

Construction of this fence section and the redevelopment of the spring are not expected to have any cumulative impacts to invasive, non-native species. Most likely no new trailing (by either wild horses and/or livestock) would occur along the fence or to and from the spring due the presence of the existing trail systems associated with the area (especially at the water crossing on Duck Creek). Past and present land uses such as livestock grazing, oil and gas development, and dispersed recreation have all contributed to establishment and proliferation of noxious and/or invasive weeds in the project areas. The proposed project is not anticipated to add additional cumulative impacts to the current situation with the design features provided.

5.4.3. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

The No Action Alternative will result in no vegetation or soil disturbance and result in no change from the current situation in regards to invasive, non-native weed species in the project areas.

Cumulative Impacts

There will be no cumulative impacts to invasive, non-native weed species in the project areas from the No Action Alternative.

5.5. Livestock Grazing

5.5.1. Affected Environment

The proposed Corcoran Spring redevelopment and Duck Creek fence are located within the Yellow Creek (06030) Allotment (Figure 4). The Yellow Creek Allotment is an 83,392 acre grazing allotment located in the Piceance Basin. Table 5outlines the current grazing schedule of the Yellow Creek Allotment. The Corcoran Spring project is located in the Rocky Ridge pasture and the Duck Creek fence is located within the Barcus-Pinto Gulch pasture. At this time, no projects are proposed in the Box Elder pasture of the Yellow Creek Allotment.

Table 5. Grazing Schedule of for the Yellow Creek Allotment

ALLOTMENT			LIVESTOCK		GRAZING PERIOD		% Public Land	Type Use	AUMs
Name	Number	Pasture	Number	Type	Begin	End			
Yellow Creek	06030	Rocky Ridge	100	Cattle	4/15	5/15	100	Active	102
		Barcus-Pinto Gulch	240	Cattle	5/1	5/15	100	Active	118
		Barcus-Pinto Gulch	340	Cattle	5/16	6/30	100	Active	514
		Box Elder	414	Cattle	7/1	10/15	100	Active	451
		Barcus-Pinto Gulch	340	Cattle	10/16	12/30	100	Active	850
		Rocky Ridge	120	Cattle	1/1	1/31	100	Active	122

5.5.2. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

No direct impacts to grazing would occur from development of the Corcoran Spring on grazing management. Indirect impacts from spring redevelopment would include improving grazing distribution in the Rocky Ridge pasture. Currently the Rocky Ridge pasture has few reliable water sources and the grazing permittee depends on snow and spring moisture to distribute livestock around the area. Redevelopment of the spring would aid in improving the available water as well as the livestock distribution in the pasture.

The Duck Creek fence would result in no direct impacts to livestock during construction. However, construction of the fence would eliminate the ability of livestock to use approximately 184 acres of BLM lands within the Yellow Creek Allotment. Excluding livestock from 184 acres of BLM land could account for a slight reduction in Animal Unit Months (AUMs) on the Yellow Creek Allotment, however, this determination will be made during the grazing permit renewal

process which is currently unscheduled at this time. An AUM is defined as the amount of forage necessary to sustain one cow/calf pair or its equivalent for one month. The light grazing use that occurs in this area of the allotment is minimal, primarily due to terrain constraints.

Cumulative Impacts

Past and present oil and gas development, roads, and dispersed recreation have occurred in the Yellow Creek Allotment. Oil and gas development in the allotment is dense and has resulted in the loss of rangelands suitable for grazing from road and well pad development. Oil and gas development is expected to continue into the future and there is the potential for continued loss of rangelands suitable for grazing as a result of oil and gas development. Loss of rangelands from oil and gas development and how that would impact Animal Unit Months (AUMs) will be analyzed during the grazing permit renewal. Construction of the Duck Creek fence would remove 184 acres of BLM lands from grazing in the Yellow Creek Allotment. The amount of acreage lost from construction of the fence is nominal in regards to the overall size of the allotment. It is possible that a minimal reduction in AUMs could result from the removal of these 184 acres during the permit renewal process but will be analyzed at that time.

5.5.3. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

The No Action Alternative would result in no change from current grazing conditions to the Yellow Creek Allotment. Under the No Action Alternative, the spring's redevelopment would not be authorized so the permittee would continue to have few reliable water resources available in the Rocky Ridge pasture.

By not authorizing the Duck Creek fence, 184 acres of the Yellow Creek Allotment would remain available for livestock grazing and livestock would continue to be able to travel outside of the allotment boundary with no need to analyze an adjustment in AUMs based on removal of these acres from the allotment.

Cumulative Impacts

Cumulative impacts are the same as those analyzed in the Proposed Action.

5.6. Wild Horses

5.6.1. Affected Environment

The HMA consists of approximately 190,130 acres of federal, state and private lands. The configuration of these lands provides for adequate forage, water, cover, and space for the wild horses located within the Piceance and Douglas Creek Basins. The HMA is valuable because of the habitat diversity it contains, consisting of pinyon-juniper woodlands interspersed with brush species and associated understories including a wide variety of grasses and forbs. Woodland pockets during the summer months are used for shade and protection of newborn foals while

during the winter months they are used for cover and wind breaks. The wild horse population appropriate management level is between 135 and 235 animals. The herd's annual production rate is on the order of 20 percent. The most recent wild horse gather in this area was conducted in 2011. The viewing of the wild horses within this herd has increased in popularity.

Over the past several years, WRFO has been working to ensure the HMA boundary fencing is in functional condition in order to reduce the number of wild horses that leave the HMA boundary. Where no fences exist, construction of new fences has taken place and in other places reconstruction of existing fences has been completed. The WRFO has enlisted the assistance of the Colorado Department of Corrections (CDOC) project crew out of Rifle, Colorado on approximately 10 miles of HMA fence reconstruction. Assistance from this crew is limited due to the fact that they are booked months ahead of time and State of Colorado projects are their priority.

At the time of the draft release of this EA there was no volunteer group associated with the HMA; however, since that time a group has formed called the Piceance Mustangs. The formal kick off of the organization took place May 2018. Piceance Mustangs currently emphasize the promotion of the wild horses of this HMA. The group works cooperatively with WRFO on fence repairs, water well maintenance. To date the group has repaired/maintained approximately five (5) miles of fence and one water well. "Flagging" of fence sections new to the landscape was also completed.

5.6.2. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

The WRFO's ability to manage wild horses, as outlined in the 1997 RMP, would be improved with savings generated from less expenditure of time and money in attempts to remove wild horses in areas not designated for long term management of wild horses. The construction of this section of HMA boundary fencing would reduce the ability of the wild horses to gain access to lands outside of the HMA boundary. The proposed fence serves as the HMA boundary as well as a livestock grazing allotment boundary. Therefore the use of barbed wire would result in the ability of the fence to retain the wild horses within the HMA and the livestock within the allotment. Wild horses, wildlife, and livestock currently make light use in this area so the pressure on this section of fence by the animals would also be considered slight.

In general, wild horses are accustomed to fences associated with oil and gas facilities, livestock allotments and/or pastures, as well as for the HMA boundary. There may be an occasion in which wild horses either become caught or cut by fencing. It is also possible for wild horses to become separated from their band on the opposite side of the fencing.

Fence construction would start as delineated by the wildlife specialists to accommodate wildlife mitigation needs, which will be past the peak foaling period. Wild horses would avoid using the areas while the fence and/or spring redevelopment are being constructed, however, the areas will be available for water in the evenings. The Duck Creek fence section would be available for crossing between the two mesas (84 and Pinto), however, the crossing would most likely be

avoided during the day time hours when people are in the area during construction activities. Wild horses will resume normal uses in watering and crossing once the construction of the projects has been completed. The approximate acreage reductions from the currently delineated HMA boundary from the fence line in the Duck Creek area will be approximately 184 acres with no expected change in the Appropriate Management Level (AML) of between 135 – 235 head of wild horses within the HMA.

Without a functional fence in this area wild horses would be able to leave the HMA boundary. There is also potential for the horses to go beyond the next fence that lies east of Yellow Creek and is the boundary fencing for portions of Pasture B of the Square S Allotment. Wild horses currently reside in that pasture which places them outside of the HMA boundary. In order to maintain this section of fence, the BLM would develop cooperative agreements with the grazing permittee; the permittee will receive a benefit from the fence. BLM would also consider an agreement with any volunteer group (i.e., Friends of the Mustangs), and/or other agencies.

As wild horses are currently able to move to and from the HMA via the unfenced area, wild horses, once fence construction is complete, may be fenced either within or outside the HMA boundary. This situation could be a hindrance for those bands and/or individual wild horses that end up being fenced outside of the HMA and have no knowledge of water source locations outside of the HMA. The same could be said for wild horses that find themselves fenced within the HMA when their water location knowledge is outside of the HMA. The WRFO would monitor wild horses along the proposed fence segments to identify wild horses that may have been excluded from the HMA by the new fences. The WRFO would use gates or "downing" of small sections of fence in order to relocate those wild horses back to the HMA; then those small sections of fence will be placed back into functional condition.

The only gate that is proposed at this time will be located at the start of the fence on the north end at the water gap. There will be an obvious corner to the fence so that if animals find themselves in the corner there is easy access to get them out of the corner. Signs will be used to indicate that this gate needs to be maintained as closed in order to keep wild horses within the HMA (Figure 5). This process will educate the public as to which gates need to be kept closed along the HMA boundary and for what purpose. New signage should help with the gates along the HMA boundary that need to be closed.

In order for the boundary fence to work as intended (i.e., to keep wild horses within the HMA boundary), consultation with and cooperation from the grazing permittees that hold authorized grazing use must include consistent gate closure within the HMA after their initial trailing of livestock between pastures and their initial gathering of livestock from their allotments after grazing use in the fall/winter. This will require frequent checks of the various gate locations for livestock that may have been missed during the initial trailing and/or gathering.

The spring improvement would aid in providing higher quality water as well as continuing to provide water for wild horses, livestock and wildlife but would also allow WRFO staff future

wild horse management opportunities (e.g., using bait trapping for fertility control as well as gather and removal of excess wild horses).

The wild horses, livestock, and wildlife can make use of both types of water sources with the hope that they would learn to use above ground troughs. In the past (2012), the wild horses and wildlife in this area have shown that they would not use above ground troughs. In years when the spring flow is low, the area becomes a mud pit within the drainage which reduces the water quality and could potentially damage the spring source.

Cumulative Impacts

Upon completion of these projects the WRFO will continue to manage wild horses within the HMA. The WRFO expects that some wild horses may continue to relocate outside of the HMA, but that number should be considerably reduced. Checking the remaining perimeter of the fence, constructing necessary additional fence segments, conducting regular fence maintenance and keeping gates closed are all critical to the success of any HMA boundary fence.

If wild horse numbers are allowed to increase beyond AML, the increased continuous, year-round use by wild horses could cause rangelands to be vulnerable to transitioning to a degraded state unable to meet land health standards, with the desirable communities first being replaced by less productive species. This may result in reduced forage production for the wild horses. Once vegetation resources are exhausted or degraded, wild horses will be forced to seek other vegetation in desirable communities, thus increasing the risks to all rangelands within the entire HMA unless a thriving, natural ecological balance is maintained.

Improvements to the spring would result in multiple benefits including: 1) being able to maintain the spring source, 2) provide higher quality water to wild horses, livestock, and wildlife; and 3) use of the spring location for future wild horse management opportunities (e.g., utilizing bait trapping for fertility control and/or gather and removal of excess wild horses).

5.6.3. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

No fence would be constructed and wild horses will continue to gain access to areas outside of the HMA boundary. This hinders the WRFO's ability to manage the wild horse herd. For the Corcoran Spring, no redevelopment would take place. Therefore, the threat to the spring source would remain and possibly get worse due to high use by wild horses, with the potential for wild horses to become trapped and potentially dying in the spring as the condition becomes muddy, and may result in mortality.

Cumulative Impacts

Wild horse populations within the HMA boundary will continue to increase and wild horses would potentially seek additional areas beyond where they are currently known to inhabit. Wild horses will continue to use the spring and potentially cause damage to the spring source and get

stuck in mud when the area experiences reduced flow. If animals die in the mud this would cause additional degradation of the water quality of the source.

5.7. Wetlands and Riparian Zones

5.7.1. Affected Environment

For the Duck Creek drainage associated with the Duck Creek fence, there is a riparian section of private lands that sit north of where the northern most corner of the fence will be constructed. It is located outside of where any disturbance will occur. Riparian assessments are not conducted on private lands, but this area is a high use area and includes a water gap for water access and allows for passage between 84 Mesa and Pinto Mesa. The fence in the area is on private land and is in disrepair, however most animals use the water gap for drinking and/or for passing between the two mesas and rarely venture into the muddy bog to the east or west of the gap itself. Upstream from this location are several old high tensile fence enclosures built by previous property owners (Colorado Parks and Wildlife) for riparian and water fowl protection. However, the water levels have dropped to where the water is now generally only located at the water gap. It is recommended that these old enclosure fences be maintained for the same protections as previously listed. It is necessary to check these enclosures so that wild horses and livestock don't become trapped inside and risk death due to lack of water where there is no longer water available.

For the unnamed drainage associated with the Corcoran Spring a standard lentic (standing water) riparian habitat assessment was completed on June 18, 2012. Precipitation in 2012 was listed as an extreme drought year in Northwest Colorado for most of the season. The assessment mentions two previous attempts to develop the spring; however no maintenance had occurred so the developments became nonfunctional. The riparian habitat surrounding the spring is common to the area in that the springs are found in the drainage bottoms, and are small, low flow type springs with minimal amounts of riparian plant species due to lack of adequate water flow.

Between the pipeline crossing and the past spring development projects there is a small head cut developing near where the old water trough is located, just north of the spring. This area will need to be evaluated for repairs through the redevelopment of the Corcoran Spring. Wild horse and wildlife utilization continues to cause hummocks in the soil associated with the standing water or where wild horses, livestock and wildlife have dug to create a depression in the soil to catch water for drinking. The assessment identified the spring needs to be redeveloped and maintained outside of the riparian area associated with the unnamed drainage. Wild horse and wildlife use in the area is heavy due to the limited water resources on the area known as Rocky Ridge (also known as Black Mountain to the local population).

5.7.2. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

Wild horse use would be limited to a minimal section (approximately 75 feet) of riparian along Duck Creek where the new fence would connect to an existing water gap. This water gap also

allows wild horses and livestock to travel between 84 Mesa and Pinto Mesa and has been in place since the 1970s. For this section of Duck Creek, wild horse use in the area is for accessing water and moving to and from 84 Mesa or to and from Pinto Mesa. Wild horses do not tend to linger in this area due to possible human interaction at this location with limited cover sources. This section of riparian is located on private land so no assessments have been conducted on this section. In past years the water levels were higher and the extent of the water went back further to the west on to BLM lands where a second water gap was built but has long since been without sufficient water to be used.

Wild horse use would be limited to the new water features as redeveloped at the Corcoran Spring location. There is potential for some use of the unnamed drainage to the west. The overflow water will be placed back into that drainage at a location further to the north where the lentic section is located, but usually dries up over the summer period. The use in the area is historically high from both wildlife and wild horses and occasionally by livestock if/when they are in the grazing pasture. The trailing to and from this spring comes from all directions by wildlife and wild horses and will continue to experience that use even without being redeveloped. There is evidence that wild horses leave the spring to shade up in nearby pinyon/juniper trees but do not occupy the area directly where the spring is located.

Cumulative Impacts

The BLM would expect some trailing along the fence by wild horses, livestock, and wildlife which may have an impact on this specific section of fence. Due to chosen placement of the fence line and the timing of livestock grazing, along with incidental wild horse and wildlife trailing, the BLM would expect it to be only a slight impact. The riparian associated with the Corcoran Spring location is limited by the drainage and the flows associated with the spring and snow runoff or summer rain events. The potential exists to repair a small head cut that has developed potentially due to the old spring development and/or pipeline crossing just to the north of the spring could be repaired through this effort.

5.7.3. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

For this alternative, no fence construction or spring redevelopment would occur adjacent to any riparian zones; therefore there would be no impacts from fence construction or spring redevelopment. Wild horses, livestock and wildlife would continue to use the area. This spring would continue to stay in a degraded condition.

Cumulative Impacts

No cumulative impacts to wetlands/riparian zones will occur as a result of the No Action Alternative

5.8. Migratory Birds

5.8.1. Affected Environment

The project areas are generally surrounded by pinyon-juniper woodlands. Bird species that are commonly found in this habitat type include Bewick's wren, black-throated gray warbler, spotted towhee, pinyon jay, mountain bluebird, and gray flycatcher. Most migratory bird species return to these areas in April and begin nesting in earnest around mid-May. Most young have fledged by mid-July.

5.8.2. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

The direct loss of approximately one acre of habitat associated with fence construction would not be expected to have any conceivable influence on migratory bird breeding functions in the short or long term. Design features outlined in the Proposed Action including vegetation clearing kept to a minimum and use of only foot or pack animals to transport equipment to the site (limited vehicle traffic) would further reduce any direct impacts to migratory birds. Noise and human activity associated with construction activities have the potential to disrupt or displace nesting birds should construction take place during the nesting season (roughly mid-May through mid-July). This could indirectly impact an additional four acres of otherwise functional habitat as nesting birds may avoid habitats immediately surrounding the project area. However, as proposed, construction activities are scheduled to take place outside the breeding period, and therefore would be expected to have little if any direct or indirect impacts to migratory birds.

Construction of the Duck Creek fence would eliminate grazing use on approximately 184 acres of largely pinyon-juniper dominated woodlands. Removal of grazing use by wild horse and livestock would be expected to improve herbaceous understory conditions (density and height), improving forage and cover resources available for migratory birds over time.

Minimization of vegetation clearing, deferred construction outside the migratory bird nesting season, and deterrence of vehicle use along cross-country fence line corridor have been integrated as project design features.

Redevelopment of Corcoran Spring would not be expected to have any substantial direct influence on migratory birds as it is located in an area that provides little effective cover or forage for most migratory bird species. Indirect impacts, namely reductions in herbaceous ground cover resulting in increased use from ungulates in the surrounding area, would be similar to current conditions as the area currently serves as a water source for livestock, wildlife and wild horses.

Cumulative Impacts

The predominant activities contributing to loss or modification of habitats supporting migratory birds in the area are oil and gas development and livestock grazing. Fence construction would result in the direct removal of roughly one acre of pinyon-juniper woodlands and would not be

expected to add substantially to existing or foreseeable disturbances in the area. Improvements in ground cover conditions, as a source of forage and cover for migratory birds would be expected on the roughly 184 acres where grazing use would be eliminated.

Spring redevelopment would not result in a substantial amount of ground disturbance. Reductions in herbaceous ground cover are not expected nor would the distribution of use by ungulates be expected to shift as the site currently serves as a water source. Impacts to habitats supporting the reproductive functions of migratory birds would likely be similar to current conditions.

5.8.3. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

Impacts would be similar to those described under the Proposed Action. However, under this alternative, wild horses would continue to use roughly 184 acres of largely open canopied pinyon-juniper woodlands. Reductions in herbaceous ground cover, as migratory bird forage and cover, would be more prevalent, likely resulting in reduced nest densities to a minor degree.

Cumulative Impacts

Cumulative impacts would be similar to those discussed above in the Proposed Action and above in Direct and Indirect Impacts. The most notable difference would be that reductions in herbaceous ground cover, as a source of forage and cover for migratory birds would remain on the roughly 184 acres accessible to wild horse grazing.

5.9. Terrestrial Wildlife

5.9.1. Affected Environment

The lower elevation pinyon-juniper woodlands are categorized as mule deer severe winter range by Colorado Parks and Wildlife (CPW). Severe winter range, a specialized component of winter range supports virtually an entire herd during the most severe winter (extreme temperatures and snowfall). These ranges typically receive the most use from December through April.

The pinyon-juniper woodlands surrounding the project areas have the potential to provide nesting substrate for woodland raptors such as sharp-shinned and Coopers hawk, red-tailed hawk, long-eared owl and saw whet owl. Most raptor species begin nesting in May with young fledged by mid-August. A raptor survey was conducted by staff biologists along the proposed Duck Creek fence route on June 16, 2016. An active Cooper’s hawk nest was found within five meters of the proposed fence line. A raptor survey was deemed by staff specialists to be unnecessary at the Corcoran Spring redevelopment location.

The distribution and abundance of small mammal populations are poorly documented within the WRFO. Recent trapping efforts undertaken throughout Piceance Basin indicate a high tendency in both sagebrush and pinyon-juniper communities for more generalized species such as deer

mouse and least chipmunk and it is suspected that these species would be relatively abundant in the project areas. There are no small mammal species that are narrowly endemic or highly specialized species known to inhabit the project areas.

5.9.2. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

Fence installation and spring redevelopment will take place during the late summer or fall months and would not coincide with mid or late winter occupation of winter ranges by big game (typically December through April). During the winter use periods (especially on severe winter ranges), it is more difficult for big game animals in a weakened state and contending with deeper snow accumulations to negotiate fence crossings, which increases the likelihood of injury and mortality from fence entanglement. Similarly, during the summer months (June through August), young big game animals may be unwilling or incapable of jumping fences and if they are unsuccessful in passing beneath the bottom wire, risk entanglement or becoming separated from their dams. These risks become more pronounced as fence alignments traverse increasingly steep terrain and animals attempt to jump fences from the downhill position (higher effective fence heights). In those instances where fences intersect lengthy slope intervals, in places where crossing is more likely, and on big game severe winter ranges, adjusting fence designs to accommodate big game crossing is advocated in BLM Manual Fencing Handbook 1741-1. Modified fence design includes reducing the number of wires from 4 to 3 and/or reducing the top wire height and/or increasing the bottom wire height while maintaining a minimum 12 inch gap between the top two wires.

Noise and human activity associated with fence installation would be expected to disrupt raptor breeding/nesting activities. Activity in and around the nest site would likely displace nesting females which may result in nest failure due to chilling or overheating of eggs/young. Extended periods away from the nest may make nestlings more vulnerable to predation as well. As mitigated, the Proposed Action would not be expected to directly influence woodland raptor breeding activities. Fence installation will not be permitted until young have fledged and dispersed from the nest stand. The nest tree will be identified so as not to be removed during fence installation. Nest stand characteristics will be preserved as much as possible within approximately 50 – 70 meters of the nest tree, which may require minor reroutes to the fence line.

The proposed fence would eliminate the use of wild horses on approximately 184 acres of open canopied pinyon-juniper woodlands. Reductions in grazing use would be expected to enhance understory conditions as a source of cover and forage for big game and nongame species.

Seasonal use considerations and big game fence modifications have been incorporated into the Proposed Action. Fence installation will not be permitted until birds have fledged and dispersed from the nest stand (typically mid-August). Wildlife staff will revisit the nest to determine nest status. Should fence installation be postponed until 2019 or later, the nest site will be revisited to

determine activity status. If the site is determined active, no work will be permitted from May 15 – August 15, or until young have fledged.

The nest tree will be identified. Removal and/or modification to the nest tree will not be permitted. Wildlife staff will be present during fence layout to ensure nest stand characteristics remain intact within 50 – 70 meters of the nest tree.

Redevelopment of Corcoran Spring is not expected to have a substantial influence on terrestrial wildlife or vegetative conditions in the immediate area. This area currently serves as a water source for wild horses, livestock and wildlife and reductions in ground cover are evident in the immediate area with considerable trails leading into the site. Redevelopment of this spring would not be expected to further degrade the area.

Cumulative Impacts

Cumulative impacts would be similar to those discussed above under Migratory Birds (Section 5.11.2). As conditioned, installation of the proposed fence would have no effective influence on big game or raptors as a source of disruption during important use periods and would reduce the risk of big game fence entanglement. Fence installation would eliminate grazing impacts attributable to wild horse use on roughly 184 acres, which in the long term would be expected to enhance herbaceous understory conditions (density and height) as a source of forage and cover for nongame and big game species.

5.9.3. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

Under this alternative there would be no impacts to big game and nongame species associated with fence installation or spring redevelopment. Wild horses would continue to use roughly 184 acres of largely open canopied pinyon-juniper woodlands. Reductions in herbaceous ground cover, as a source of forage and cover for big game and nongame, would be more widespread.

Cumulative Impacts

Cumulative impacts would be similar to those discussed above in the Proposed Action and above in Direct and Indirect Impacts. The most notable difference would be that reductions in herbaceous ground cover, as a source of forage and cover for migratory birds would be more prevalent on the roughly 184 acres accessible to wild horse grazing.

5.10. Special Status Plant Species

5.10.1. Affected Environment

Dudley Bluffs bladderpod [*Lesquerella congesta* or *Physaria congesta*] (bladderpod) occurs within a portion of the Duck Creek fence project and the Dudley Bluffs twinpod [Physaria obcordata] (twin pod) was recently discovered to occur near the Corcoran Spring redevelopment

project. Both of these projects have the potential to impact these species. The bladderpod and twinpod are listed as threatened under the Endangered Species Act. These species are restricted primarily to barren shale outcrops of the Thirteen Mile Creek Tongue of the Green River Formation on flat or low angled slopes. These shale outcrops have little soil development and are harsh for plant growth. Oil and gas development, solid mineral extraction, off-highway vehicle use, invasive species, and grazing have been identified as threats to the species (FWS 2008).

On May 2015, a field visit was conducted by BLM and FWS to the Duck Creek fence site. The proposed fence line was identified at that time and was designed to bisect the fewest number of plants possible. At the time of the visit, plants were in full bloom and it was confirmed plants were present in the project area and doing well. Design features and conservation measures were discussed and agreed upon and consultation was completed June 2016.

In the fall of 2017, the BLM requested plant surveys be conducted by an energy related operator associated with facilities located near Corcoran Spring. BLM was then notified of the existing of the twinpod. On October 18, 2017, a field visit was conducted by BLM and FWS to the Corcoran Spring site. This visit confirmed that plants were present within 50 feet of the proposed project. Design features and conservation measures were discussed and agreed upon and consultation was completed April 2018.

5.10.2. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

Activities from fence construction such as trampling and direct loss from setting fence posts are expected to occur on approximately 50-100 individuals. Design features described in the Proposed Action are designed to limit disturbance to occupied habitat to the maximum extent possible. Construction of the fence would likely benefit bladderpod by decreasing accessibility to approximately 300 acres of BLM lands within the population. While the area would not be completely excluded from livestock use, based on current use in the area, livestock would have a difficult time accessing portions of the population based on the location of the proposed fence. The fence would reduce trailing and trampling impacts from wild horses and livestock on approximately 300 acres to the east of the fence.

The Corcoran Spring re-development would directly impact 8-10 twinpods in the population. Consultation with the Fish and Wildlife Service (FWS) was completed, and a BO was received from FWS on April 9, 2018, concurring with the BLM determination of "May affect, likely to adversely effect" Dudley Bluffs Twinpod. Conservation measure from the consultation with USFWS have been added as design freatures in the Proposed Action and would limit impacts to the maximum extent possible. The primary impacts are crushing and trampling from equipment and people working on the development. Indirect impacts would include continued trampling of plants by wild horse, livestock, and wildlife that would continue to use the area for water. This has been an ongoing impact of the site, and redevelopment of the spring is not expected to increase or decrease the level of use at the spring.

Cumulative Impacts

Past and present projects in the area have the potential to impact bladderpod populations in Duck Creek, Yellow Creek, and Corcoran Spring. Near the proposed Duck Creek few, a few of the projects that have been completed and are in the operational stage are energy related well pads (1/2 mile to the north and 1 mile to the south) and the Yellow Creek Compressor Plant (3 miles north and east). Corcoran Spring has an existing pipeline built in the 1950's that runs within 50 feet of where the plants are currently growing. There is also a well pad approximately ½ mile to the north that is currently in production stage. The greatest potential for impacts from these projects is during the construction and/or reclamation stages when there would be several workers in the area producing fugitive dust and working near the plants.

All previous consultations with FWS have had a "may affect, not likely to adversely affect" determination. In 2015, a macroplot 40m x 28m in size was established by BLM to monitor impacts from the Yellow Creek Compressor Plant. Within the macroplot, 14 transects (0.5m x 40m) were established using a restricted random method. A total of 3,962 plants were counted in these 14 transects with a high number producing flowers and fruits. No trend can be identified with only one year of data, but the density of plants in the area is high and there appears to be no impacts to the populations as a result of the Yellow Creek Compressor Plant being near the population.

The proposed fence would bisect another large population in Duck Creek with the potential to adversely impact 50-100 individuals during fence construction. In 2012, a macroplot (60m x 40m) was established by BLM near the proposed fence. This plot is located east of the proposed fence project and could provide beneficial data on bladderpod population trends in the future. In 2015, 3,557 plants were counted on the 10 transects within the macroplot. Of these 3,557 plants, 2,760 were vegetative and 797 were reproductive. This was the highest number of plants counted on the plot since monitoring began in 2012, and the population appears to be on an upward trend.

The various projects previously identified appear to be having minimal impacts on the bladderpod plant populations and would not collectively change the effects determinations from previous FWS consultations; however cumulative impacts from past projects as well as any future projects in the area may start to impact the bladderpod plant populations. Monitoring of projects in the area would need to continue along with future FWS consultation on new projects to ensure the plant populations remain stable or on an upward trend.

5.10.3. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

The No Action Alternative would result in no direct impacts to bladderpods or twinpods from fence construction and spring development, and there would be no loss of individuals.

Cumulative Impacts

Past and present impacts to bladderpod are the same as those analyzed in the Proposed Action. Cumulative impacts from future projects such as oil and gas development, livestock and wild horse grazing, and dispersed recreation are expected to continue into the future and monitoring of these plant populations will continue. Current monitoring is showing static and upward trends on bladderpod populations in the Yellow Creek and Duck Creek areas.

The long-term goal of the WRFO is create an approximate 300 acre enclosure around a large portion of occupied bladderpod habitat in this area (to be analyzed in the future under a separate NEPA document). If the Duck Creek fence project were not approved, the WRFO would be unable to complete the potential enclosure fencing around the occupied habitat to exclude grazing by wild horses and livestock. Impacts on the population from wild horses and livestock would continue and the net gain from constructing a potential enclosure fence could not occur.

5.11. Areas of Critical Environmental Concern

5.11.1. Affected Environment

There is no designated ACEC within the vicinity of the Corcoran Spring redevelopment project. The proposed fence occurs within the Duck Creek ACEC. The Duck Creek ACEC is 3,430 acres in size and was designated for threatened and endangered plants and cultural resources. The objectives for management of ACECs is to protect important historic, cultural, scenic and natural values while allowing for multiple uses within the context of maintaining the values for which the ACEC was designated.

5.11.2. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

Direct impacts primarily revolve around impacts to a special status plant which is one of the resources for which the Duck Creek ACEC was designated. It is estimated that approximately 50-100 plants may be lost during fence construction (see Special Status Plants Section). The trailing that takes place in the area where animals cross from Pinto Mesa to 84 Mesa will continue but is not expected to occur outside of where the trail currently exists. Impacts to plants were addressed during Section 7 Consultation with the FWS. Impacts to cultural resources, the other resource for which the ACEC was designated, have been addressed through design features and are not expected to be impacted due to fence construction. As a whole, construction of the fence would not cause measurable impacts to resources for which the ACEC was designated.

Cumulative Impacts

Past and present development in the ACEC is limited to a few roads and dispersed recreation. The 1997 White River ROD/RMP manages oil and gas development in the ACEC with no surface occupancy stipulations (NSO) and minimal development has taken place within the

ACEC. Impacts from fence construction are not going to impact resources for which the ACEC was designate.

5.11.3. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

The No Action Alternative would have no direct impacts to the plants or cultural resources in the areas associated with the projects.

Cumulative Impacts

Cumulative impacts are the same as those described in the Proposed Action.

5.12. Realty Authorizations

There are no rights-of-way within the project area for the proposed Duck Creek Fence. An existing ROW is present in the area of the proposed Corcoran Spring redevelopment, and would require design and redevelopment coordination with the current pipeline ROW holder which is Northwest Pipeline Corporation, LLC/Williams.

5.12.1. Environmental Consequences – Proposed Action (Alt A)

Direct and Indirect Impacts

There are no ROWs within the project area for the proposed Duck Creek Fence, therefore; no impacts to rights-of-way would occur. The proposed Corcoran Spring redevelopment is adjacent to Northwest Pipeline LLC's ROW grant, COC011409, for an existing pipeline and associated facilities. Damage to the facilities or rights of existing ROW holders pipeline could occur if construction activities are not properly planned and other ROW facilities are not properly identified prior to construction.

Cumulative Impacts

As the number of ROW holders and uses in the project area increases so would competition for suitable locations for facilities. Increased ROW densities would also lead to a higher probability of conflict between ROW users.

5.12.2. Environmental Consequences – No Action (Alt B)

Direct and Indirect Impacts

Failure to authorize the proposed projects would not result in any increased impacts to realty authorizations in the areas.

Cumulative Impacts

There would not be any cumulative effects from not authorizing the proposed projects.

5.13. Colorado Standards for Public Land Health

In January 1997, the Colorado BLM approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, special status species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. If there is the potential to impact these resources, the BLM will note whether or not the project area currently meets the standards and whether or not implementation of the Proposed Action would impair the standards.

5.13.1. Standard 1 – Upland Soils

Duck Creek Fence: In Alternative A, the proposed addition of the fencing would be expected to minimize impacts to the surrounding upland soils located adjacent to the fence due to restricting use of the area available for use by wild horses, livestock and wildlife. In Alternative B, there is currently no degradation to the upland landscape adjacent to this area and is not expected to increase.

Corcoran Spring Redevelopment: For Alternative A, the completion of the proposed spring development would not be expected to change the condition of the surrounding uplands because the spring use will be the same, however, the spring source would be protected. For Alternative B, the current levels of impacts are expected to be evident at this location in the long term.

5.13.2. Standard 2 – Riparian Systems

Duck Creek Fence: In Alternative A, the proposed addition of the fencing would be expected to have minimal impacts to the riparian area (located on private lands) adjacent to this project. The area for the past 30 years has been used as both a watering location as well as a gap in fencing to allow wild horses and livestock the ability to pass between the 84 Mesa and Pinto Mesa areas. In Alternative B, the current levels of impacts are expected to be evident at this location in the long term.

Corcoran Spring Redevelopment: For Alternative A, the completion of the proposed spring development would be expected to result in minimal impact changes to the current ephemeral channel in that the overflow will be allowed back into the unnamed channel. Flow patterns should remain similar, in that it will essentially dry up approximately 100 meters from where it is placed back into the unnamed channel. Where water is available, wild horses and livestock will continue to hummock the area until it is necessary to use the troughs. At a minimum it will be beneficial to protect the spring source in the long term. For Alternative B, the current levels of impacts are expected to be evident at this location in the long term.

5.13.3. Standard 3 – Plant and Animal Communities

Duck Creek Fence: In Alternative A, the proposed addition of the fencing would be expected to have minimal impacts to the plant and animal communities due to the conservation/mitigation measures (from the BO) and design features that are being incorporated on this project. In Alternative B, there would be no impacts to plant and/or animals in the general area of the proposed project.

Corcoran Spring Redevelopment: For Alternative A, the completion of the proposed spring development would be expected to result in improved conditions for wild horses, livestock, and wildlife that use this water source (when the snows have left the area) with improved water quality readily available at amounts necessary to sustain the health of animals. The plant conditions will remain the same because the spring is currently being used by wildlife and wild horses. Under Alternative B, the wild horse and wildlife risk being without a quality water source, and potential to be stuck in mud when those conditions at the spring are present.

5.13.4. Standard 4 – Special Status Species

Duck Creek Fence: In Alternative A, the proposed addition of the fencing would be expected to have minor impacts to the special status plant species due to the conservation/mitigation measures (from the BO) and design features that are being incorporated on this project. In Alternative B, forage utilization in this general area would be expected to ultimately impact some of the plant populations above the 50 to 100 impacted from the project in the long term. There would be no monitoring of the plants while the project is conducted so information would be lost on what impacts the plant population would sustain.

Corcoran Spring Redevelopment: For Alternatives A and B, the completion of the proposed spring could possibly impact approximately 8 to 10 special status plant species.

5.13.5. Standard 5 – Water Quality

Duck Creek Fence: In Alternative A, the proposed addition of the fencing would be expected to minimize impacts to the steep slopes located along the perennial stream channel. In Alternative B, the degradation of these steep slopes would be expected potentially resulting in increased rill erosion and sediment production.

Corcoran Spring Redevelopment: For Alternative A, the completion of the proposed spring development would be expected to result in improved water quality by removing the impacts from the ephemeral channel and by fencing the spring source. For Alternative B, the continued degradation of the water quality would be expected.

6. SUPPORTING INFORMATION

6.1. Interdisciplinary Review

Table 6. List of Preparers

Name	Title	Area of Responsibility	Date Signed
Keith Sauter	Hydrologist	Surface and Ground Water Quality; Floodplains, Hydrology, and Water Rights; Prime and Unique Farmlands	5/26/2016 and 12/20/2017
Lisa Belmonte	Wildlife Biologist	Special Status Animal Species, Migratory Birds, and Aquatic and Terrestrial Wildlife	6/21/2016
Melissa J. Kindall	Range Technician/Project Lead	Vegetation, Invasive, Non-Native Species, Wild Horses, Soil Resources, Wetlands and Riparian Zones, Hazardous or Solid Wastes, Social and Economic Conditions	5/31/2016, 2/28/2017 and 4/20/2018
Matt Dupire	Ecologist	Livestock Grazing, Special Status Plant Species, Forestry and Woodland Products, Areas of Critical Environmental Concern	5/17/2016 and 4/20/2018
Brian Yaquinto	Archaeologist	Cultural Resources, Paleontological Resources, Native American Religious Concerns	5/9/2016
Aaron Grimes	Outdoor Recreation Planner	Visual Resources, Lands with Wilderness Characteristics, Recreation, Access and Transportation, Wilderness, Scenic Byways	5/26/2016 and 3/15/2017
Paul Daggett	Mining Engineer	Air Quality; Geology and Minerals	5/5/2016
Landon Smith	Fire Management Specialist	Fire Management Specialist	5/9/2016
Keesha Cary	Realty Specialist	Realty Authorizations	6/28/2016
Danielle Courtois	Planning & Environmental Coordinator	NEPA Compliance – Preliminary EA	10/19/2016
Heather Sauls	Planning & Environmental Coordinator	NEPA Compliance – Final EA	4/19/2017 and 4/20/2018

6.2. Tribes, Individuals, Organizations, or Agencies Consulted

Scoping letters were sent to members of the public that the BLM expected would be interested in the proposed project (i.e., Cloud Foundation, Friends of the Mustangs, Rio Blanco County Commissioners, specific livestock grazing permittees, etc.)

For the Duck Creek fence, the WRFO has met with the new land owner's (TC Landco previously Shell Exploration) local representative, Chuck Whiteman, on discussions regarding fencing in the area.

The pipeline adjacent to the Corcoran Spring Redevelopment was authorized under ROW grant #COC0011409 at Township 2 North, Range 97 West, Section 33: NWSW. On June 7, 2016 WRFO staff met with Scott Skinner of Northwest Pipeline Corporation/Williams (Williams) regarding the proposed project adjacent to the Piceance Lateral. The WRFO will continue to coordinate final project design with Williams.

Consultation letters and contact was made with the Eastern Shoshone Tribe of the Wind River Reservation, Ute Indian Tribe of the Uintah and Ouray Reservation, the Southern Ute Indian Tribe and the Ute Mountain Ute Tribe for this project. If additional information comes out in consultation, aspects of the project may be changed in response to tribal concerns.

An informational letter for the cultural resource inventory of the Duck Creek fence survey was send to the State Historic Preservation Officer on April 26, 2016.

In May 2015, WRFO staff coordinated with U.S. Fish and Wildlife Service's (FWS) Gina Glenne to conduct an initial survey of the Dudley Bluffs bladderpod population in the area associated with the proposed fence reconstruction project. After this survey, the FWS required that the WRFO submit a Biological Assessment (BA) to initiate Section 7 Formal Consultation with the FWS. A BA was submitted to the FWS on January 13, 2016. On May 11, 2016, the FWS submitted a written request for an extension of time on their Biological Opinion (BO), which was subsequently granted by the WRFO. The BO did not identify any major concerns associated with the proposed Duck Creek fence. A copy of BO #TAILS 06E24100-2016-F-0129 dated June 27, 2016 is available upon request.

In December 2017, WRFO staff coordinated with FWS's Aimee Crittendon to conduct an initial survey of the Dudley Bluffs twinpod population in the area associated with the proposed Corcoran Spring Re-development project. After this survey, the FWS required that the WRFO submit a Biological Assessment (BA) to initiate Section 7 Formal Consultation with the FWS. A BA was submitted to the FWS on December 18, 2017. On April 9, 2018, the FWS submitted their Biological Opinion (BO). The BO did not identify any major concerns associated with the proposed Corcoran Spring Re-development project. A copy of BO #TAILS 06E24100-2018-F-0113 dated April 3, 2018 is available upon request.

6.3. References

BLM. 2015. White River Field Office Oil and Gas Development Resource Management Plan Amendment and Environmental Impact Statement, August 2015.

BLM. 2010. White River Field Office Integrated Weed Management Plan (DOI-BLM-CO-110-2010-0005-EA), March 2010.

BLM. 2007. Vegetation Treatments using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement. U.S. Department of the Interior, Bureau of Land Management. Washington, D.C.

BLM. 2007. Reasonable Foreseeable Development Scenario for Oil and Gas Activities in the BLM White River Field Office: Rio Blanco, Moffat and Garfield Counties, Colorado. UDOI, BLM, WRFO, Meeker, CO

BLM. 1992. Manual 9015; Integrated Weed Management. Release 9-321, 12/2/1992

Natural Resource Conservation Service, USDA (NRCS). 2008. Soil Survey of Rio Blanco County, Colorado.

Tweto, Ogden
1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

USFWS. 2008. 5-Year Review, Dudley Bluffs bladderpod (*Lesquerella congesta* or *Physaria congesta*) and Dudley Bluffs twinpod (*Physaria obcordata*). Region 6. Available at: http://www.fws.gov/mountain%2Dprairie/species/plants/dudleybluffs/

USFWS. 2016. Biological Opinion on the Duck Creek Herd Management Fence. ES/GJ-6-CO-16-F-009, TAILS 06E24100-2016-F-0129. Region 6. Available from WRFO upon request.

APPENDIX A. FIGURES

Figure 1. Duck Creek - All Alternatives

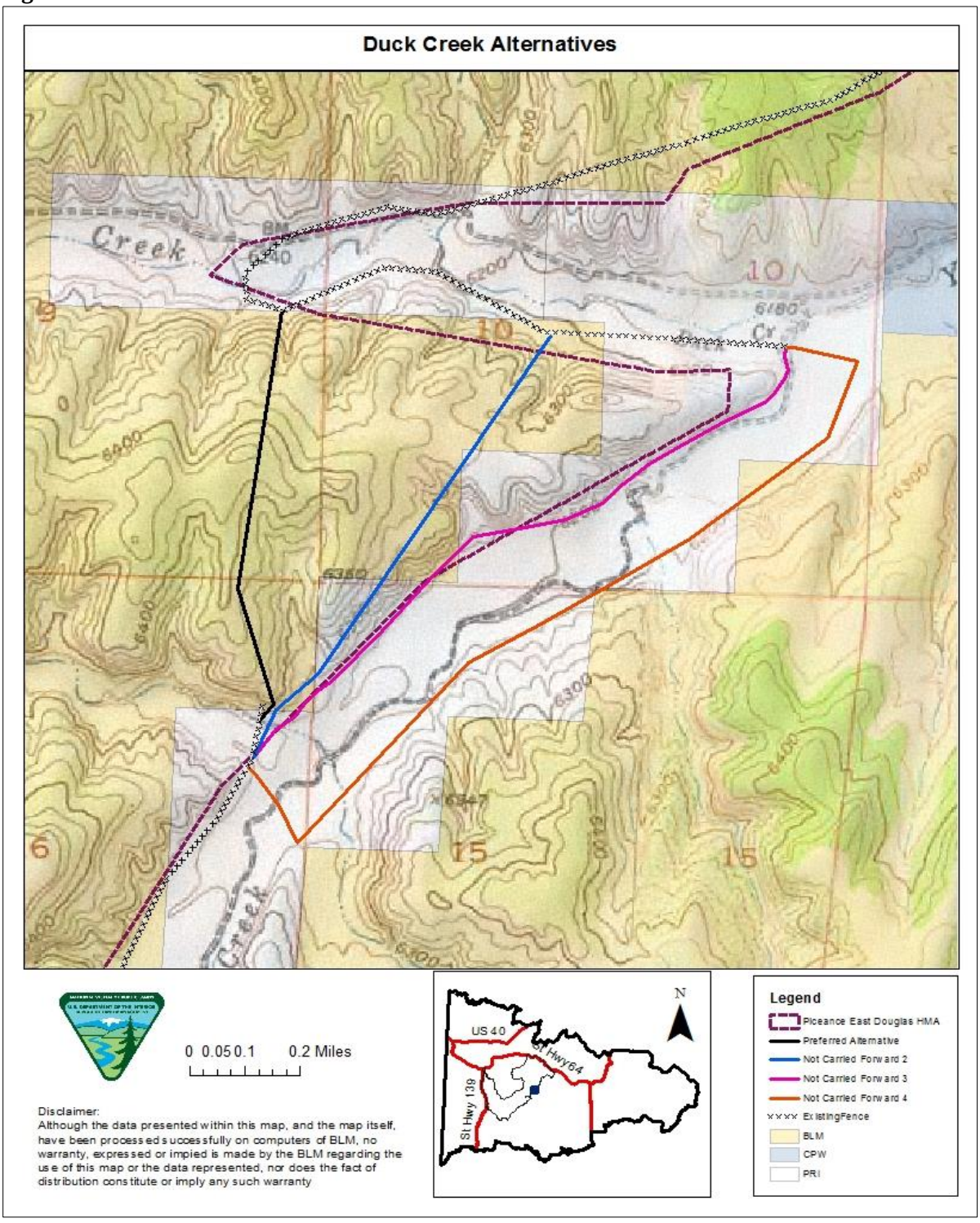


Figure 2. Corcoran Spring Redevelopment

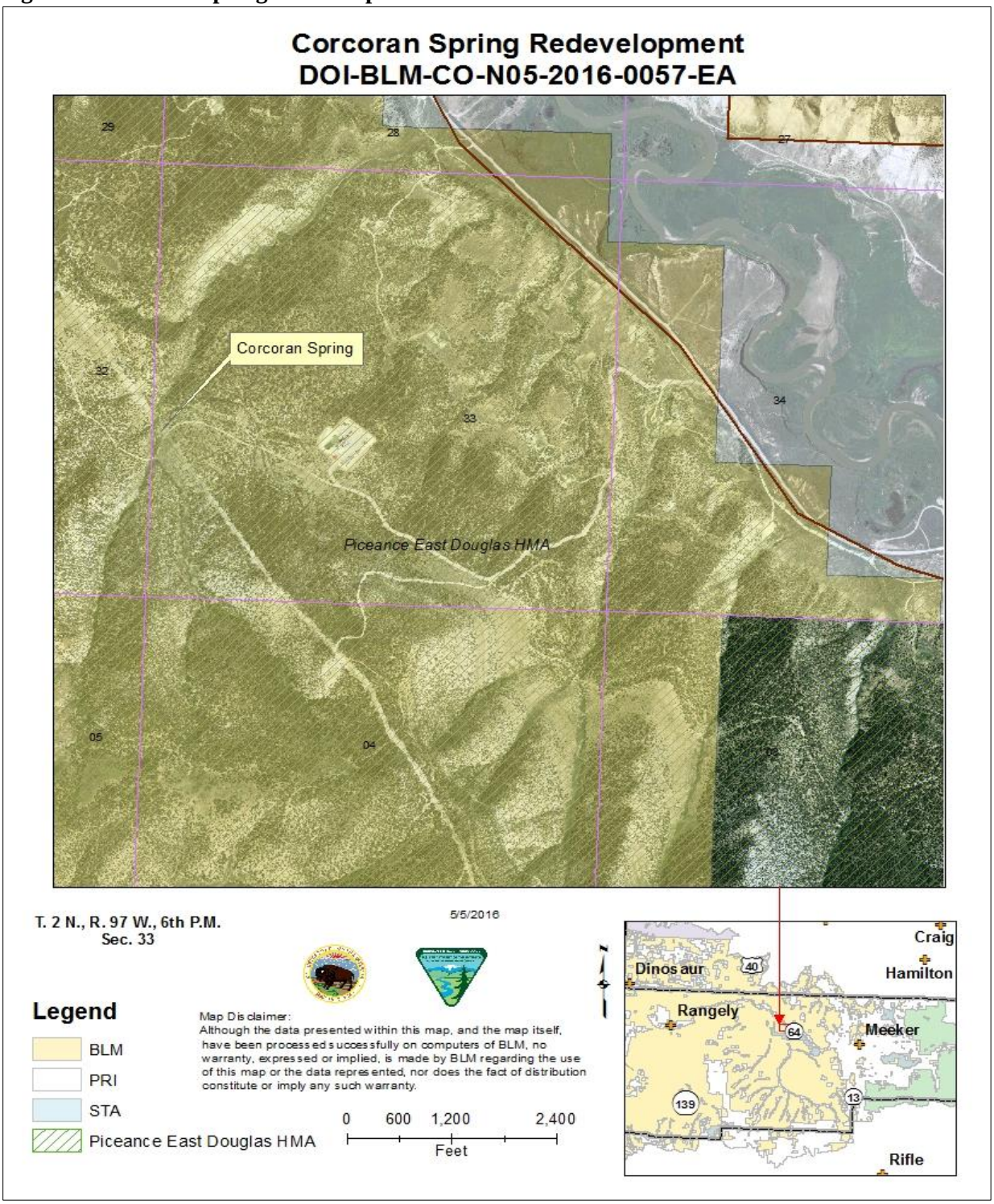


Figure 3. Corcoran Spring Redevelopment - Layout Design

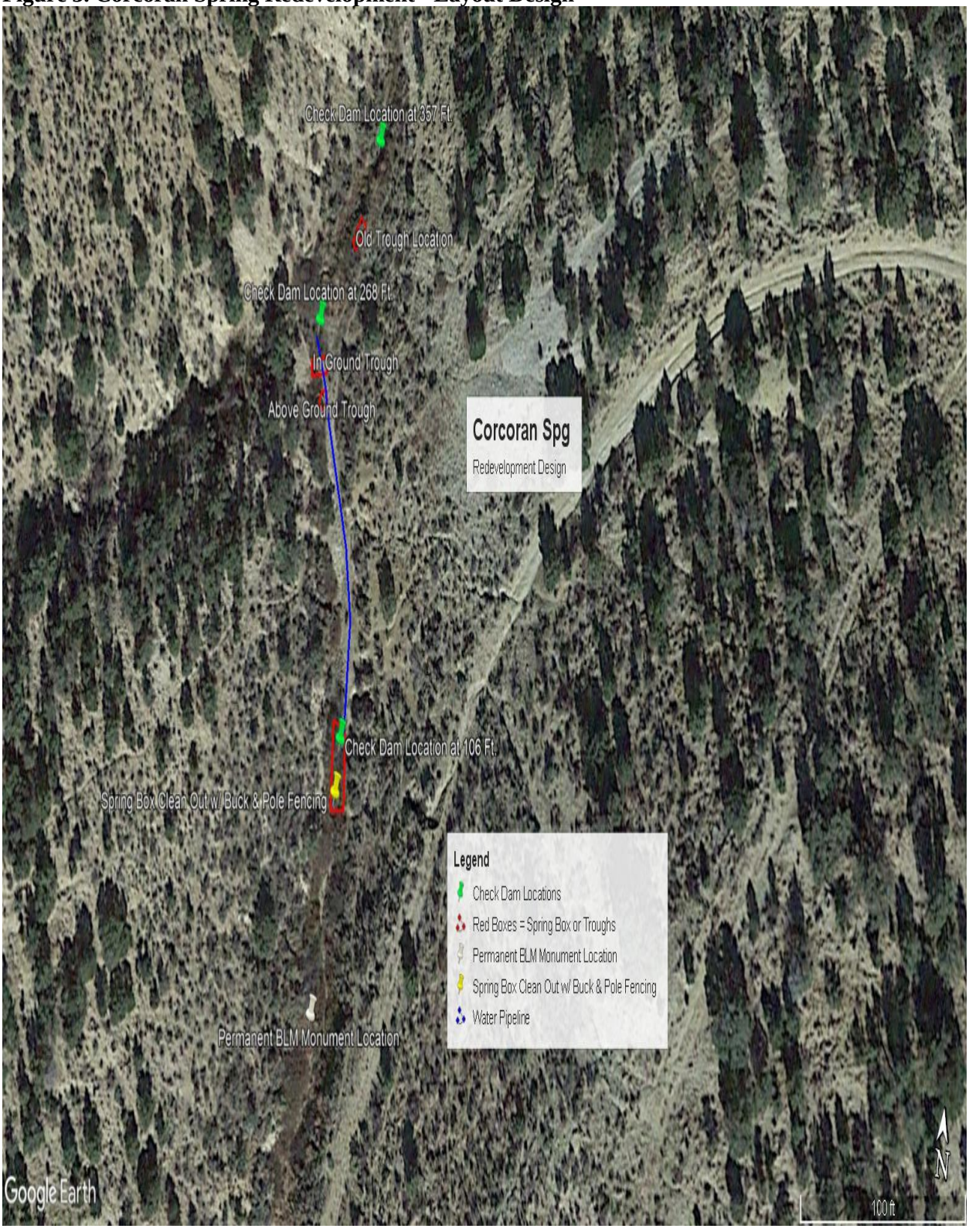


Figure 4. Yellow Creek Grazing Allotment with Pasture Boundaries

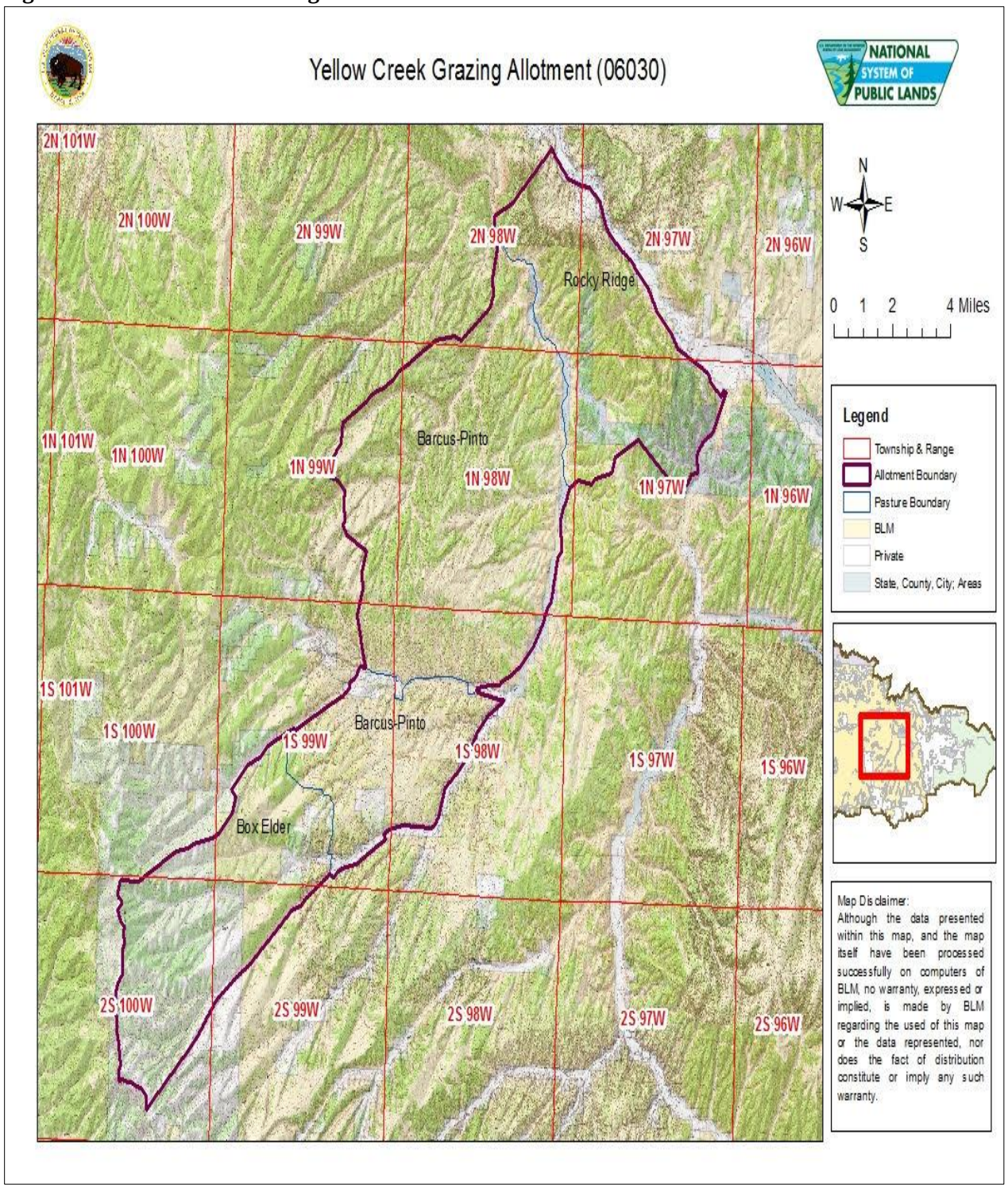


Figure 5. Sample Sign

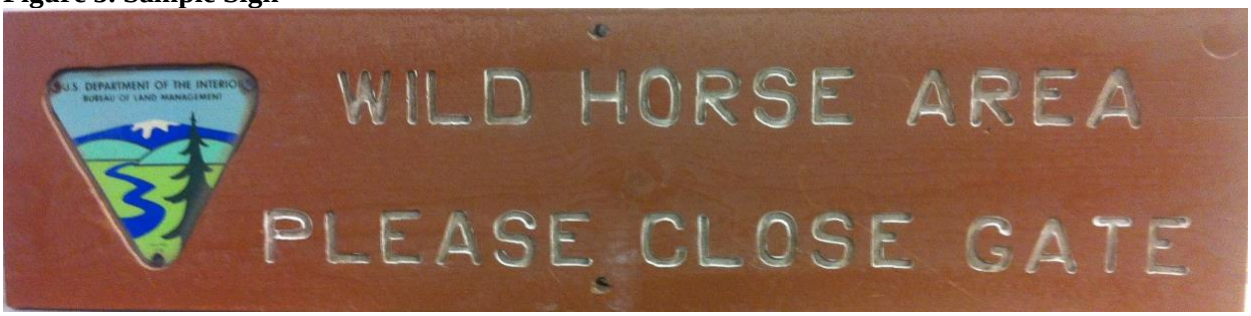


Figure 6. Sample In Ground Tank

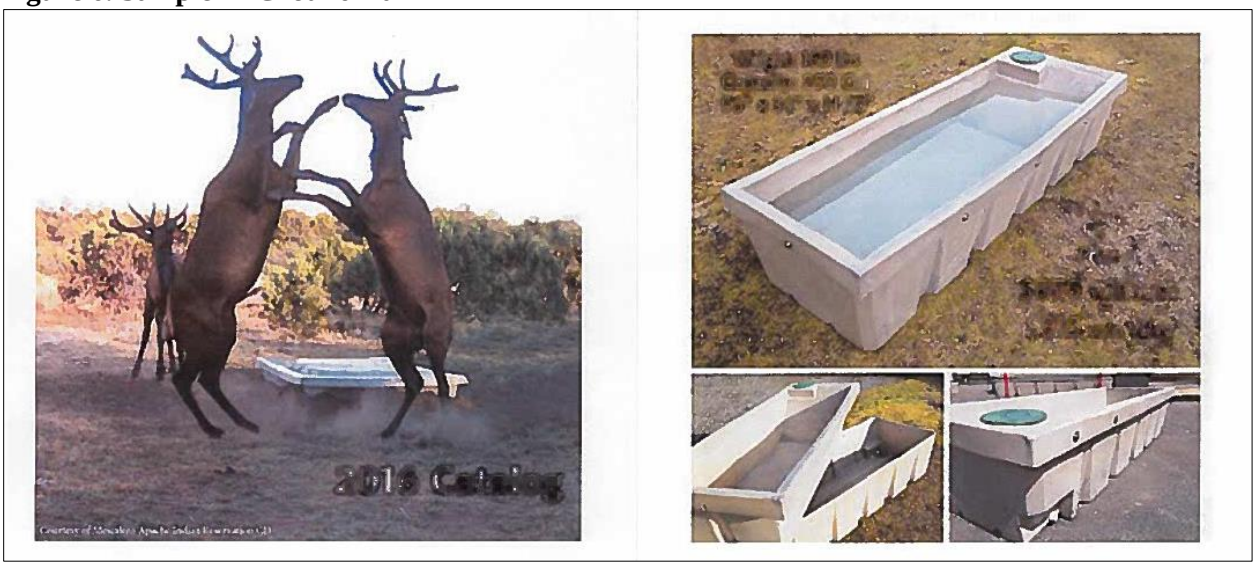


Figure 7. Fence Design

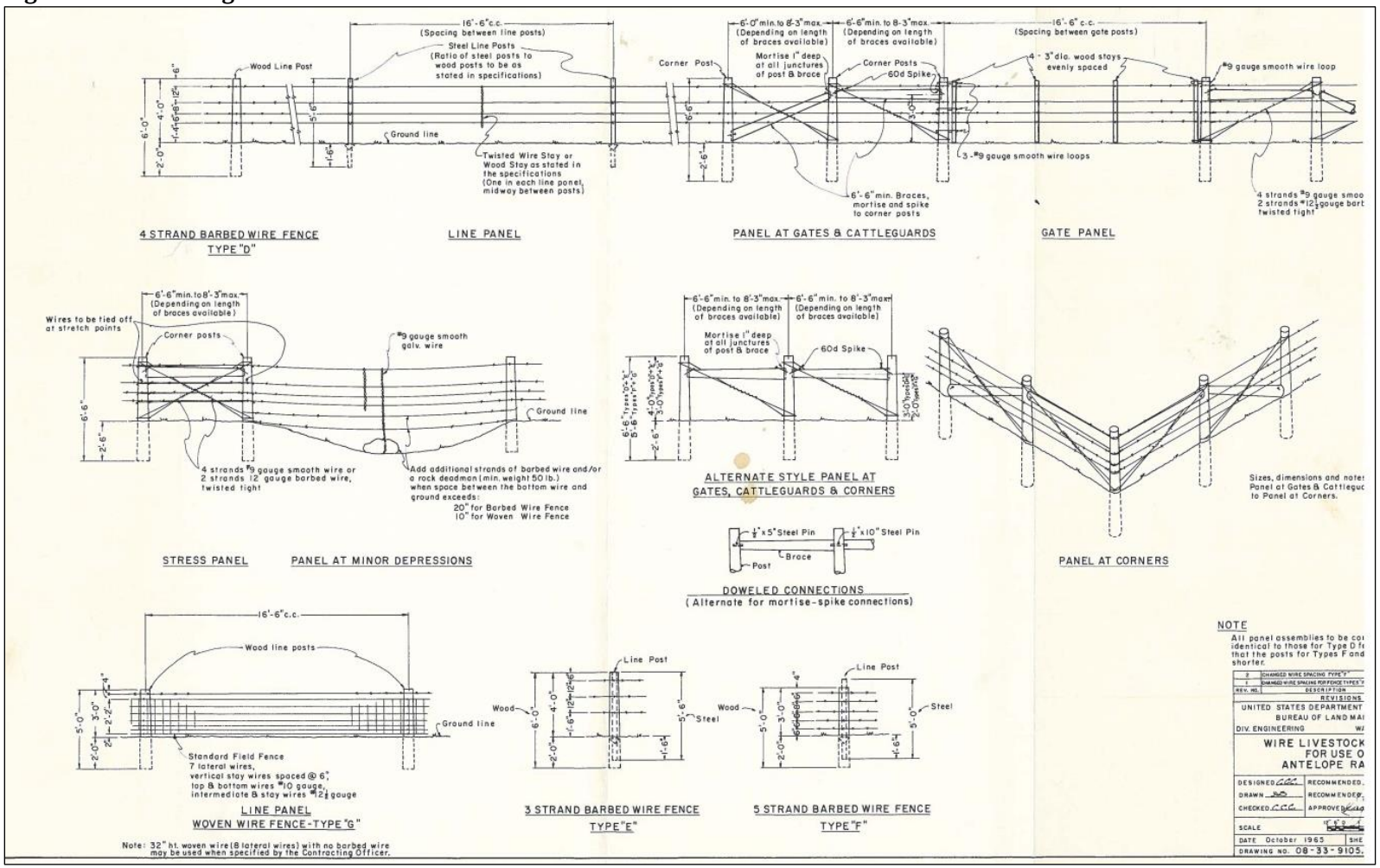
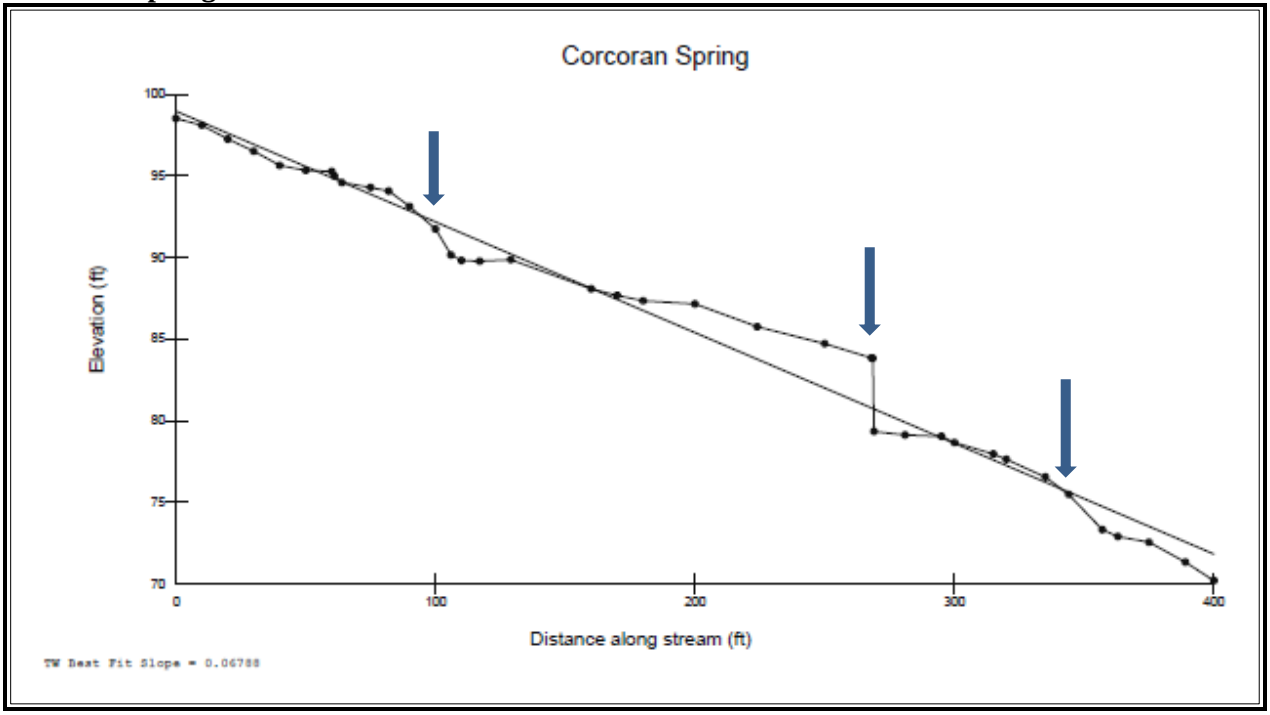


Figure 8. Longitudinal Survey of Stream Channel Thalweg (Deepest Point) Above and Below Corcoran Spring

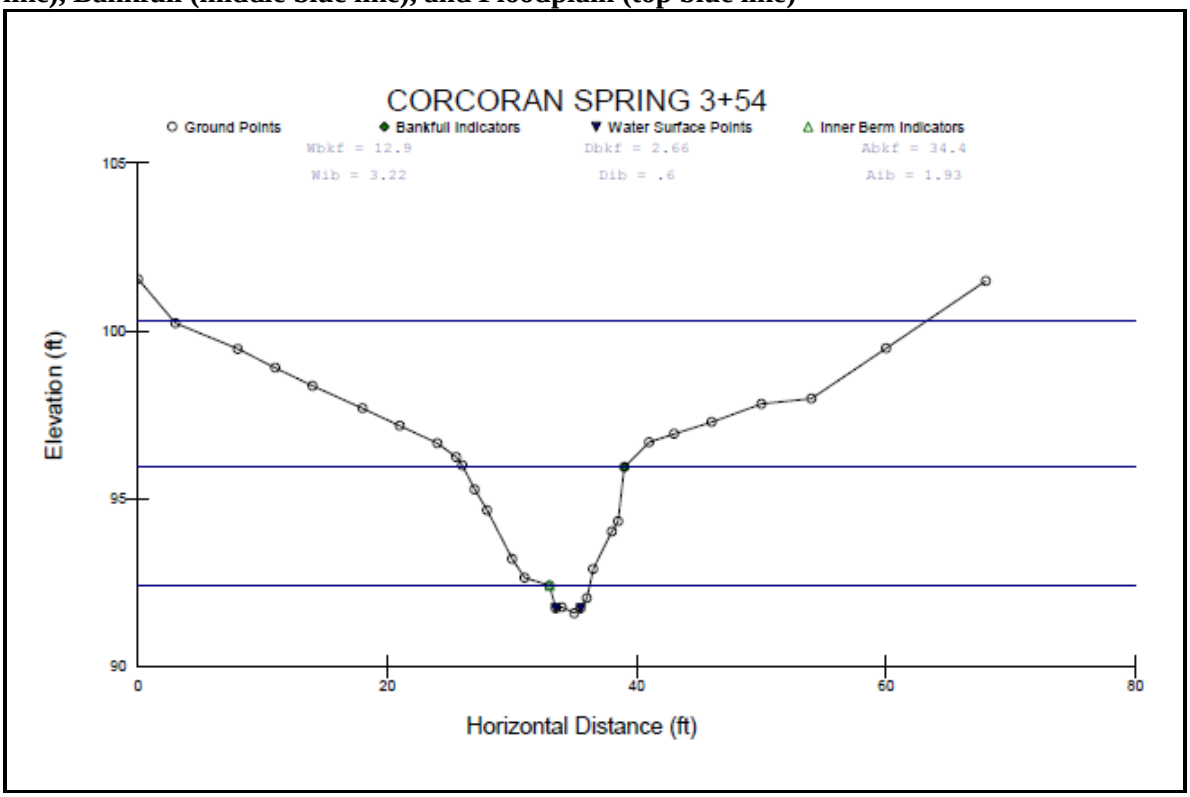


Corcoran Spring is located on a 1st order ephemeral tributary to the White River. On December 20, 2017 a stream survey was conducted on the reach where Corcoran Spring is located. A permanent BLM monument was established at LAT 40.09621 LON 108.29250 on the left bank and approximately 130ft downstream from the upstream road intersect. The stream channel thalweg (deepest point) slope ranges from 2.1 to 18.6 percent with an average of 6.8 percent (depicted by solid line). From 129 to 268 ft (x axis), the average slope is 4.3 percent due to erosional deposition in the stream channel from an eroding pipeline corridor intersecting the right bank. As a result of this deposition, the output from the spring becomes hyporheic (subsurface flow) at approximately 129 ft until resurfacing at 268 ft. Three headcuts were identified during this survey (blue arrows). The head cuts are located at 106 ft (just above the spring planned for re-development), at 268 ft, and at 357 ft in the survey plot. In addition to stormflow, the hyporheic flow from the spring appears to be contributing to the headcut formation at 268 ft.

Figure 9. Example of Wooden Check Dam Structure on a 1st Order Ephemeral Tributary

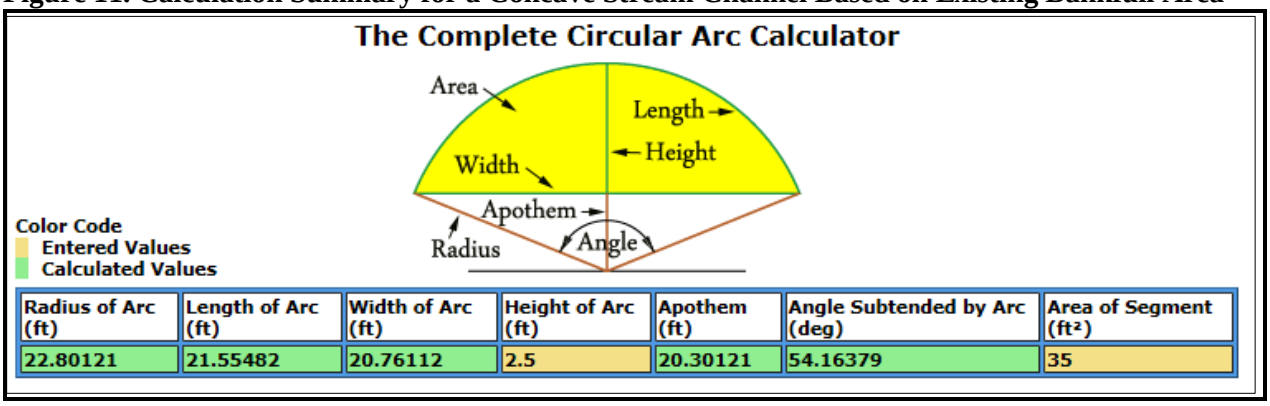
To address the active headcutting, the installation of wooden check structures at 106 ft, 268 ft, and 357 ft is recommended. Check structures have proven to be effective mitigation measures for gullies and headcutting on 1st order streams. Figure 9 is an example of a wooden check dam constructed to mitigate erosion (Roosevelt National Forest, Sand Creek Pass, Colorado, 2012). To inhibit hyporheic flow, the incorporation of erosion fabric is recommended against the upstream face of the check structure. To prevent erosion downstream of the check structure, lining the stream channel with erosion fabric covered by cobble is recommended. Without this mitigation, the continued upstream and downward migration of the three headcuts should be expected which, eventually could impact the spring and associated developments.

Figure 10. Typical Cross Section at 354 ft Showing the Inner Berm (low flow channel – bottom blue line), Bankfull (middle blue line), and Floodplain (top blue line)



Prior to installing check dams, it is recommended that a mechanized recontouring of the stream channel be completed to reestablish the average thalweg slope of approximately 6 percent. Based on a typical cross section survey conducted at 354 ft, the bankfull area (water level at 1.5 to 2 year event return interval) was approximately 35ft^2. To further reduce streamflow energy, a wider stream channel with a concave bottom (swale), should be constructed with the proposed average slope of 6 percent. Figure 10 shows the recommended stream channel dimensions which maintain the existing bankfull area (concave channel approximately 21ft wide by 2.5ft deep). If this mechanized treatment is infeasible, it is critical to ensure the check structures are installed at an adequate depth to inhibit the continued headcutting.

Figure 11. Calculation Summary for a Concave Stream Channel Based on Existing Bankfull Area



Radius of Arc (ft)	Length of Arc (ft)	Width of Arc (ft)	Height of Arc (ft)	Apothem (ft)	Angle Subtended by Arc (deg)	Area of Segment (ft²)
22.80121	21.55482	20.76112	2.5	20.30121	54.16379	35

APPENDIX B. PUBLIC COMMENTS AND BLM RESPONSES

#/**Commenter**	**Comment**	**BLM Response**
1/The Cloud Foundation	We agree that BLM should control maintenance responsibilities for Corcoran Springs because the original construction of this spring was for wild horses. However we recommend that you use interested citizens in the reconstruction, which might help to increase local volunteer involvement for further fence monitoring, herd monitoring, and documentation for developing a comprehensive Fertility Control Program to manage wild horses on the range.	According to CFR 4120.3-2(a) The Bureau of Land Management may enter into a cooperative range improvement agreement with any person, organization, or other government entity for the installation, use, maintenance, and/or modification of permanent range improvements or rangeland developments to achieve management or resource condition objectives. The cooperative range improvement agreement shall specify how the costs, or labor, or both shall be divided between the United States and cooperators. The WRFO is currently working to develop relationships with volunteer groups in the management of the Piceance-East Douglas Herd Management Area wild horses. Thank you for your comment.
2/The Cloud Foundation	We agree with construction for a fence that would reduce the ability for wild horses to gain access to lands outside the HMA. However, the BLM and volunteers need to ensure that no wild horses are stranded outside the boundary and that horses within the boundary are given multiple and adequate water. **The EA states:** *As wild horses are currently able to move to and from the HMA via the unfenced area, wild horses, once fence construction is complete, may be fenced either within or outside the HMA boundary. This situation could be a hindrance for those bands and/or individual wild horses that end up being fenced outside of the HMA and have no knowledge of water source locations outside of the HMA. The same could be said for wild horses that find themselves fenced within the HMA*	The proposed fence is located in the best possible location to construct and maintain the fence but it does not follow the HMA boundary exactly. With construction of this fence, there are approximately 184 acres of the HMA that would be fenced out of the rest of the HMA. If the BLM were to find wild horses in this area that is technically within the HMA but outside of the fence, then we would attempt to move the wild horses back into the fenced portion of the HMA. If wild horses are found outside of the HMA boundary, then those wild horses would not be moved into the HMA since the HMA is currently over AML.

	when their water location knowledge is outside of the HMA. The WRFO should monitor wild horses along the proposed fence segments to identify wild horses that may have been excluded from the HMA by the new fences. Recommend language be inserted here that provides assurance that horses outside the fence will be moved to inside the HMA to prevent the need for removals of these out of bounds wild horses.	
3/The Cloud Foundation	1. The Preferred Alternative describes fencing material to be used as 4-strand barbed wire fence (Type D). The Cloud Foundation opposes the use of barbed wire for the HMA boundary fence as the fence may cause injury to horses as described within the EA. We recommend the use of only smooth wire. The EA states:"*The WRFO would use gates or "downing" of small sections of fence in order to relocate those wild horses back to the HMA; then those small sections of fence will be placed back into functional condition.* While downing of small sections of fence may provide a convenient way to relocate wild horses back to the HMA, the used of barbed wire would impose an unnecessary risk of injury to horses crossing downed areas. Perhaps you meant pulling back the fence, which should be the case regardless if it is barbed or smooth wire.	As noted in the EA, this section of fence is a boundary fence for the herd management area (HMA) as well as for livestock grazing so there is the need to retain these animals within the boundary therefore a barbed wire fence is appropriate for the level of animal control that is necessary to meet management objectives (retaining wild horses within the HMA boundary along with livestock within the allotment). For this specific section of fence there is minimal pressure from animals based on current trailing in the area to the east. The WRFO understands that there are instances of wild horses, livestock and/or wildlife becoming entangled in this type of wire fencing. Therefore we reconsidered our position on the removal of the barbed wire from the old fence line and will be removing it. We will leave the cedar posts associated with the old fence line in place, either standing or laying on the ground. We have incorporated those changes into the updated EA.
4/The Cloud Foundation	2. In describing the **Cumulative Impacts**, the EA states*: There may be a need to gather wild horses in the near future to maintain a thriving natural ecological balance between all resources, and that increased continuous, year round use by wild horses would cause rangelands to be vulnerable to*	The decision to gather wild horses located outside of the HMA is beyond the scope of this document and will be addressed in future management of the HMA and attempts to reach Appropriate Management Levels (AML). WRFO has entered into a volunteer group agreement with Piceance Mustangs in May

	transitioning to a degraded state unable to meet health standards. Rather than waiting for rangeland degradation and wild horse population increases to occur, The Cloud Foundation recommends that the BLM take positive steps now to prevent said conditions. • Use volunteer groups to begin documenting the herd and to help identify wild horses within the HMA. The documentation and collaboration with a volunteer group would greatly improve the opportunity to develop a comprehensive fertility control program with a goal of managing the herd "on the range" which would reduce and eventually eliminate future removals. The Cloud Foundation stands ready to help with recruiting volunteers to assist with this goal. • The EA states *that year-round use by wild horses would cause rangelands to be vulnerable to transitioning to a degraded state*. And that *there may be a need for a gather of the excess wild horses in the near future in order to maintain a thriving, natural ecological balance between all resources.* It would appear that a more prudent route would be limiting new Oil and Gas Development within the HMA, which according to the EA description is already extensive.	2018 aiding in wild horse management in the Piceance-East Douglas Herd Management Area. Reducing or limiting oil and gas development is analyzed under separate NEPA documents and is outside of the scope of this document.

5/The Cloud Foundation	The Cloud Foundation appreciates the WRFO taking proactive measures to improve its management of wild horses by preventing them from straying beyond the HMA boundaries, and by improvement of water resources available to all wildlife including wild horses. We feel our recommendations will greatly enhance the proposed alternative by providing even more protection for the wild horses.	Thank you for your comment.
6/The Cloud Foundation	We are eager to help you develop a volunteer group of concerned citizens in the local area to aid in monitoring the herd and developing data. Taking these steps now will ensure humane management of the herd "on the range", and ensure preservation of this valuable resource for future generations.	See response to #4 above.
7/Individual	I'm in agreement with improvements being made to Corcoran Spring and with the fencing project along Duck Creek, however, in a wild horse range, smooth fence (and not barbed wire) should be standard.	See response to #3 above.
8/Individual	Any horses inadvertently fenced out (in any fence construction project) should be relocated into the HMA, not removed.	See response to #2 above. Further, the decision to gather wild horses located outside of the HMA is beyond the scope of this document and will be addressed in future NEPA.
9/Individual	I support on-the-range management through the use of a volunteer group that can help identify and implement a fertility control program to eliminate helicopter roundups.	Thank you for your comment.
10/Individual	I support 3.1 Alternative A, but would like to use as few T-posts as possible as the horses can become impaled and die, especially during stallion fights. Wooden posts are much safer.	All fencing will comply with the BLM Manual Handbook H-1741-1 which provide BLM fence standards for livestock and wildlife.
11/Individual	… constructing a fence in an area where there has been none for some time should mean using straight wire – NOT barbed wire (which is responsible for nasty injuries). My other suggestion is to flag the top wire! Any animal – wild or domestic – coming upon a	See response to #3 above. The WRFO will flag any new sections of fencing.

	fence in an area where there has been NO fence – needs to SEE & realize something is there. That's only common sense.	
12/Individual	Barbed wire can have deadly consequences, would NOT "benefit" wild horses in any way and, as such, must NEVER be used in the vicinity of wild horses when humane, safer alternatives are available such as smooth wire with flags on top so as to warn the mustangs of the presence of these obstacles, especially when they are running at fast pace. Since the West Douglas herd was senselessly zeroed out last year, it is of paramount importance to protect the few wild free-roaming horses left in Colorado from preventable dangers. … I support any action that ensures these mustangs are able to access water at all times provided this "improvement" is for the benefit of the wild horses and other wildlife and NOT for the benefit of welfare livestock.	See response to #3 and #11 above.
13/Individual	Concern #1 – Barbed-wire is dangerous to horses. According to information published in Horse &Rider Magazine, "the use of barbed wire for horse properties has caused untold tragedies. Another article, published by HorseChannel.com, concurs: "Barbed wire can easily entrap a panicked horse that tries to run through it or jump over it, ripping hide and doing career- and life-ending damage to tendons and other internal structures it exposes."	See response to #3 above.
14/Individual	Concern #2 – Leaving old barbed-wire on the ground is unacceptable and is a hazard to animals – or even humans – could become entangled and injured.	See response to #3 above.
15/Individual	Concern #3 – Visibility of wire fence: Best Management Practices – include a top rail to enhance visibility, thereby reducing the risk of wild horses colliding with the fence.	See response to #3 and #11 above.

16/Individual	Concern #4 – Cost of fence. Estimates of cost-per-linear-foot erect livestock fences range from about $1.50 to $2.00 per linear foot, **including labor**. V-mesh fences are safer, but most expensive, running about $4.00 per linear foot. If the labor were performed by BLM staff and volunteers, costs could be reduced by 25 percent. If BLM hired labor – and thus created jobs – that could benefit the surrounding community. Job-creation can improve public-relations too.	See response to #3 above. The WRFO must keep in mind that other species of animals use this area. V-mesh fencing designs are meant to prevent step-through in larger hooved animals, but is a fence design that arguably carries the highest risk of entanglement for big game animals and unless set well above the ground represents an effective barrier to the passage of most medium-sized wildlife species.
17/Individual	Concern #5 – No slave labor. It is immoral and unethical to use what amounts to a "chain-gang" to construct a government project. The prisoners should not be exploited for free labor.	The Colorado Department of Corrections pays offenders a daily stipend that does not include food, housing, etc. They are selective in the work assignments (real world experience) that will provide offenders an opportunity to learn entry-level marketable job skills and develop work habits that they can apply to jobs after they are released. Fence maintenance and/or construction are approved assignments. This area of Colorado has a long history of fence building and need for fence building employees and/or contractors, making this a marketable skill.
18/Individual	Concern #6 – No herbicides. Stop! Keep the environment free of such poisons. Remember that the Dudley Bluffs bladderpod, a threatened species found in the area, depends exclusively on pollinators. Herbicides will be detrimental to bees and the bladderpods.	The WRFO has consulted with the FWS regarding impacts to listed plant species. The FWS requires the BLM to treat invasive weeds associated with the project area in order to minimize impacts to listed plants as described in the following design feature: • If noxious/invasive weeds are detected they will be treated in conformance with the White River Field Office Integrated Weed Management Plan (2010). If possible hand removal of weeds will be preferred, but herbicides may be applied in conformance with the buffers identified in Table 1. These distances were established during consultation with USFWS on the "Vegetation Treatment on Bureau of Land Management Lands in 17 Western States

		Programmatic Environmental Impact Statement."
19/Individual	Concern #7 – Gate closure compliance and enforcement. Requesting cooperation is a good start and the signage is good too, but unless the permittees know that they are being watched, why would they take the trouble to close the gates? Some technological method of remotely monitoring and detecting failure-to-comply needs to be installed.	The WRFO believes that education is key to improving compliance of keeping the HMA gates closed. Any violation of the CFRs and/or supplemental directives are investigated.
20/Individual	Concern #8 – No evidence that wild horses impact bladderpods. This conclusion is important because the previous presumption of guilt, followed by removals that evidently were unnecessary to protect the bladderpod, disadvantaged the innocent wild horse. Too often, the wild horses are scapegoated and penalized unfairly. The bladderpod incident is one such example.	The FWS discusses trampling of Dudley Bluffs bladderpod in the 5-Year Review (FWS 2008, see pages 14 and 15): *The bladderpod has been trampled by horses and cows at the Duck Creek ACEC. The wild horse herd there has been reduced to the "appropriate management level" by the BLM. The ability to maintain these levels in the future is unknown. Cattle trampling remains at a low level (BLM-WRFO 2002a). Monitoring in this ACEC from 1996 to 2002 shows fluctuations in plant numbers that are attributed to drought more than to livestock damage (BLM-WRFO 1990, BLM-WRFO 2002a). Rickey and Kurzel (2007) observed a decline in plants on the Duck Creek ACEC between 1996 and 2006, but could not show a correlation with horse or cattle stocking rates.* *In 2000, several occurrences of the bladderpod and the twinpodtwin pod were fenced in a 243 ha (600 ac) cattle exclosure at Ryan Gulch ACEC because of concern over cattle browsing on flowers and trampling damage (BLM-WRFO 2002c). The total number of plants on monitoring plots at this site increased between 1994 and 2000.* *In conclusion, information on cattle and wild horse trampling of plants shows only localized damage to plants in a few occurrences. The effect on plant numbers*

		cannot be distinguished from population fluctuations during drought years.
21/Individual	Concern #9 – Hummocks indicate improperly managed livestock grazing. According to a discussion titled "Pasture Hummocks and Wetland Pugging" that was published in *Ranch Resources*, "the presence of hummocks is indicative of wetlands and moist pastures that have been degraded by improperly managed livestock grazing." Further, "Hummocks are formed in areas were livestock are allowed prolonged grazing on sites with saturated soils." This false accusation is another example of how wild horses are scapegoated for damage caused by improper livestock-grazing. Such falsehoods have no place in the EA.	Much of the hummocks were formed as animals dug the dirt for water to collect in order to drink from the spring as the rate of flow begins to slow over the summer. Currently few livestock use this part of the pasture. The fencing adjacent to State Highway 64/northern boundary of the Rocky Ridge pasture of the Yellow Creek Allotment has recently been repaired/ replaced and with the improvements proposed to the Corcoran Spring the grazing permittee will be able to fully incorporate a grazing rotation. After the redevelopment of the Corcoran Spring, and as the wild horses, wildlife and livestock begin to use both the above and below ground troughs/tanks, the creation of hummocks in this area will be reduced.
22/Individual	Concern #10 – FONSI prepared and posted before comment period. BLM completed and posted a Finding of No Significant Impact (FONSI) before the public had an opportunity to comment on the EA. That the FONSI is unsigned is a technicality. The message conveyed was that BLM had predetermined its course of action and the public's input did not matter.	The BLM's NEPA Handbook (H-1790-1, Section 8.4.2) recommends that: "*If you release the EA and FONSI for public review, we recommend that you not sign the FONSI until the public review is completed and any necessary changes made to the EA."*
23/Williams Northwest Pipeline	Team leaders and local representative suggest staying off the easement, which is 50 feet – 25 feet right side of pipe and 25 feet left side of pipe.	The WRFO will be able to place most of the Corcoran Spring redevelopment outside of the easement but will be required to work closely with Northwest Pipeline on the third recommended wooden check structure as discussed under **Design Features for Corcoran Spring Redevelopment: #8** at pages 12 and 13, also refer to Figure 3.
24/Colorado Parks and Wildlife	CPW does not anticipate the proposed activities will directly negatively affect wildlife species that occupy either of these areas. Moreover, CPW does not recommend any additional site-specific mitigation for the proposed activities.	Thank you for your comment.