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**Environmental Assessment
DOI-BLM-CO-N05-2015-0022**

Slash EV, LOV, Oldland Brothers Range Improvement Projects

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BLM

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1. INTRODUCTION

1.1. Identifying Information

Project Title: Slash EV, LOV, Oldland Brothers Range Improvement Projects

Table 1. Legal Descriptions of Project Locations

Project	Location	Allotment Name and Number	Pasture	Permittee
Park Reservoir well Solar Panels, Water line, and Troughs RIP#018432	T3S R97W sec 5 NENE	Slash EV 06023 Fawn Creek 06024	Enoch-Big Jimmy Dry Gulches	Slash EV (Shultz) LOV Ranch (Brennan)
Little Dry Pit #3 Water Storage Tank and Trough RIP #081434	T3S R97W sec 7 NW	Fawn Creek 06024	Dry Gulches	LOV Ranch (Brennan)
North Barnes Ridge Drift Fence RIP #018433	T3S R96W sec 15 NW and 16 NE	West Stewart Gulch 02822	Barnes	Oldland Brothers (Oldland)

Applicant: Slash EV Ranch, LOV Ranch, Oldland Brothers Ranch

NEPA Document Number: DOI-BLM-CO-N05-2015-0022-EA

Case file: 0501408 (Slash EV), 0501422 (LOV), 0501409 (Oldland)

1.2. Background

Livestock management in the Slash EV and Fawn Creek allotments depends on reliable water. Currently water has to be hauled to the proposed Park Reservoir well/trough project sites because Park Reservoir doesn't hold water often. Little Dry Pit #3 was obliterated during construction of

a well pad. A Chevron groundwater monitoring well (adjacent to Park Reservoir) has recently been converted to a water well and turned over to the BLM. In the fall of 2014 the pad associated with this well was recontoured, ripped, seeded, and fenced for final reclamation.

In the West Stewart Gulch allotment there is a need to improve the control of livestock to ensure that they stay in specified use areas and that certain groups don't mix (i.e. bulls and yearling heifers). There is an existing brush drift fence but it is becoming more difficult to maintain and it is not as effective as a wire fence.

These three livestock grazing permittees and BLM staff have identified two water development projects and a drift fence project that if approved would improve livestock management in the areas surrounding the projects in these three livestock grazing allotments. The water sources would be used for early summer grazing and some late fall grazing (Slash EV only). The drift fence would help control livestock movement during the early and mid-summer timeframe. The current grazing use periods for each of these operators in the affected pastures are shown below.

Allotment Name	Number	Pasture	Date On	Date Off	Days Grazed
Fawn Creek	06024	Dry Gulches	05/1	06/20	51

Cattle are turned in at the lower end of the Dry Gulches pasture (around the water projects) and graze their way to the upper end by the end of the use period. In the fall they return to the home ranch through a different area.

Allotment Name	Number	Pasture	Date On	Date Off	Days Grazed
Slash EV (even years)	06023	Enoch-Big Jimmy	5/1	6/15	46
Slash EV (odd years)	06023	Enoch-Big Jimmy	5/1	5/30	30
Slash EV	06023	Enoch-Big Jimmy	10/16	11/15	31

Cattle are turned in at the lower end of the Enoch-Big Jimmy pasture (around the water project) and graze their way to the upper end by the end of the use period. Cattle graze down through this pasture in the fall.

Design features in the environmental assessment document (CO-N05-2015-0022-EA) specify modified reclamation responsibilities in the areas adjacent to the Park Reservoir well and the Little Dry Pit #3 storage tank and trough.

1.3. Purpose and Need for Action

The purpose of this action is to facilitate the orderly use of public lands for livestock grazing in accordance with the Taylor Grazing Act of 1934 as amended; the Federal Land Policy and Management Act of 1976 as amended; and the Public Rangelands Improvement Act of 1978.

The need for this action is to facilitate livestock grazing on Bureau of Land Management (BLM) grazing allotments in a manner that promotes achievement of the Colorado Public Land Health Standards.

1.4. Decision to be Made

Based on the analysis contained in this EA, the BLM will decide whether to approve or deny the proposed Park Reservoir well, solar panel, water line, and troughs project; the proposed Little Dry Pit #3 water storage tank and trough project; and the proposed North Barnes Ridge Drift Fence (wire) project, and if so, under what terms and conditions. Under the National Environmental Policy Act (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 any or all of the proposed range improvement projects with design features as submitted;
- To approve any or all of the proposed range improvement projects with additional mitigation added;
- To analyze the effects of the Proposed Action in an EIS; or
- To deny any or all of the proposed range improvement projects.

1.5. Conformance with the Land Use Plan

The Proposed Action is subject to and is in conformance (43 CFR 1610.5) with the following land use plan:

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

Date Approved: July 1997

Decision Language: “Maintain or enhance a healthy rangeland vegetative composition and species diversity, capable of supplying forage at a sustained yield to meet the demand for livestock grazing.” (page 2-22)

“Rangeland improvements will be identified in activity plans. Range improvements are necessary to control livestock use and improve rangeland condition.” (page 2-25)

2. PUBLIC INVOLVEMENT

2.1. Scoping

NEPA regulations (40 CFR 1500-1508) require that the BLM use a scoping process 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.

Internal scoping was initiated when the project was presented to the White River Field Office (WRFO) interdisciplinary team on December 16, 2014. External scoping was conducted by posting this project on the WRFO's on-line National Environmental Policy Act (NEPA) register on December 23, 2014.

3. PROPOSED ACTION AND ALTERNATIVES

3.1. Proposed Action

3.1.1. Project Components and General Schedule

Exhibit A shows an overview of all proposed projects (Park Reservoir well solar panels, water line and troughs; Little Dry Pit #3 Water Storage Tank and Trough; and the North Barnes Ridge Drift Fence) as well as the current location of the Fawn Creek RBC 69 Stock water storage tank and trough that was previously analyzed in DOI-BLM-CO-110-2012-058-EA. All projects occur entirely on BLM surface. The proponents would like to implement the projects in the summer of 2015.

Park Reservoir Well, Solar Panel, Water line and Trough project: Exhibit B shows the layout of this project as well as the location of the Fawn Creek RBC CR 69 Stock Water Storage Tank and Trough. The Park Reservoir well, water line, and troughs project would replace the Fawn Creek RBC 69 Stock Water Storage Tank and Trough, which would be removed. Water would only be pumped from the well to the troughs for the timeframes livestock graze the area. Wildlife escape ramps would be installed and maintained in the troughs. The BLM has filed for and will retain water rights on the Park Reservoir well.

Slash EV and LOV Ranches propose to install approximately 610 feet of 1.5 inch diameter high density polyethylene (HDPE) water lines from an existing water well to water troughs in respective adjoining pastures in the Slash EV and Fawn Creek allotments. The water line would be trenched in by a backhoe at the edge of BLM road 1013. The ranches also propose to install solar panels at the well to pump the water. The Slash EV water trough (an 8 foot diameter tire) is already in place. LOV ranch would install a 10 foot tire trough (with wildlife escape ramps) adjacent to an existing dry pond (Park Reservoir RIP #201123). This trough site would be leveled by a backhoe and a concrete apron would be poured around the trough to armor the area from excessive hoof action erosion. An overflow pipe from the trough would be trenched in using a backhoe and would direct overflow water into the pond. The end of the overflow pipe would also be protected from trampling.

Slash EV and LOV ranches will hire a qualified local contractor to install the solar panels and mounting mast and complete all wiring to allow the well to operate on either solar or generator

power. They will also provide all other labor and materials for the project (tire tank, HDPE pipe, etc.) The BLM will provide wildlife escape ramps for the troughs associated with these projects.

The only new surface disturbance would be the portions of the water line trench from the existing road edge to the trough sites (30 feet for LOV trough and about 40 feet for Slash EV trough), trenching in the overflow line from the LOV trough into the pond (50 feet) and leveling a 15-20 foot circle (~300 square feet) to place this trough. Trenching along the existing access road and BLM Road 1013 would re-disturb a total of 610 linear feet for a total of 1,220 square feet of re-disturbance.

Table 2. New Surface Disturbance

Portion of Project	Linear feet X width of ditch / diameter of circle	Total disturbance (square feet)
Water line to LOV trough	30 ft. X 2 ft.	60 sq. ft.
LOV trough overflow line	50 ft. X 2 ft.	100 sq. ft.
Leveling site for LOV trough	15-20 ft. circle	~ 300 sq. ft.
Water line to Slash EV trough	40 ft. X 2 ft.	80 sq. ft.
Total new disturbance:		540 sq. ft. (0.012 acre)

Little Dry Pit #3 Water Storage Tank and Trough: As shown in Exhibit C, LOV Ranch proposes to place a water storage tank and water trough (to be known as the Little Dry Pit #3 Water Storage Tank and Trough) in a previously disturbed area adjacent to BLM Road 1014 near a previous pond site (Little Dry Pit #3 RIP 201656) that was obliterated by construction of a well pad. LOV Ranch would haul water to this site for the timeframe livestock graze the area. There would be a wildlife escape ramp installed and maintained in the trough.

North Barnes Ridge Drift Fence: Finally, shown in Exhibit D Oldland Brothers Ranch proposes to construct approximately 3,200 feet of three or four strand wire drift fence near the north end of Barnes Ridge to improve livestock control in this area. The wire fence would be more effective at controlling livestock and easier to maintain than the existing (non-historic) brush fence. The drift fence would be built to BLM specifications and the wire spacing would be wildlife friendly. The drift fence would be located and constructed such that it does not affect the brush fence. Fence line clearing would be done by hand (chainsaw) and soil disturbance would be limited to the digging of post holes. During construction the fence line will be adjusted so no Douglas fir trees need to be cut for construction or future maintenance. Access to the site is on a non-constructed faint winding cross-country route (wide enough for a vehicle) through the dense pinyon/juniper dominated vegetation. There is no public access to this area.

3.1.2. Design Features

1. Each livestock grazing permittee will be assigned future maintenance responsibilities for the appropriate projects and any access routes to them through Cooperative Maintenance Agreements.
2. To reduce the time livestock linger around the water sources and to encourage them to leave the trough sites, no salt or mineral supplement will be placed within ¼ mile of any of these water sources.
3. To reduce big game lingering around the water sources through the summer, water will only be pumped into the Park Reservoir troughs and hauled to the Little Dry Gulch Pit #3 trough during the scheduled use periods when livestock are present.
4. All of the disturbed soil associated with installation of the waterlines and the site associated with the Fawn Creek RBC 69 Stock Water Storage tank and trough site will be seeded with seed mix #2 in the fall (September/October) following construction.

Table 3. Seed Mix #2

Cultivar	Common Name	Scientific Name	Application Rate (lbs PLS/acre)
Arriba	Western Wheatgrass	<i>Pascopyrum smithii</i>	4
Rimrock	Indian Ricegrass	<i>Achnatherum hymenoides</i>	3.5
Whitmar	Bluebunch Wheatgrass	<i>Pseudoroegneria spicata</i> ssp. <i>inermis</i>	4
Lodorm	Green Needlegrass	<i>Nassella viridula</i>	2.5
Timp	Northern Sweetvetch	<i>Hedysarum boreale</i>	3
	Scarlet Globemallow	<i>Sphaeralcea coccinea</i>	0.5

5. Both livestock grazing permittees (Slash EV Ranch and LOV Ranch) will be responsible for controlling noxious weeds associated with their respective portions of the water projects. See additional mitigation in Invasive and Non-native Species section.
6. The well, waterline, all trough sites, and the fence construction site will be maintained in a sanitary condition at all times; all waste materials will be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.
7. If there is any spill or release of any chemical, oil, petroleum product, or solid waste during the pipeline and trough installation a ranch representative would contact the BLM WRFO Hazardous Materials Coordinator at (970) 878-3800 and/or the Colorado Department of Public Health and Environment (CDPHE) at 1(877)518-5608.

8. At the Little Dry Pit #3 Water Storage tank and trough site, the revegetation (only) reclamation success criteria and noxious weed control (only) in the immediate area (200 meters either side of the tank and trough) will be waived by the BLM for the right-of-way holders (Bargath LLC pipeline ROWs COC74979 and COC70713, and WPX Energy Rocky Mountain LLC pipeline ROWs COC075171 and COC74980) for the pipeline disturbance due to the creation of a livestock concentration area at that site. Future weed control in this identified area will be the responsibility of the LOV Ranch. This modification in reclamation requirements will be filed in these ROW case files.
9. At the Park Reservoir Well site, the revegetation (only) reclamation success criteria and noxious weed control (only) in the immediate area (access route from BLM 1014 and a 20 foot radius around the well head) will be waived by the BLM for Chevron (COC-69165) where maintenance activities by the grazing permittees may hinder vegetation establishment. Future weed control in this identified well-head area will be the responsibility of the Slash EV and LOV Ranches. This modification in reclamation requirements will be filed in this ROW case file.

3.1.3. BLM Required Conditions of Approval to Mitigate Impacts to Cultural and Paleontological Resources

1. The applicant 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.
2. 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 BLM WRFO Archaeologist will be notified immediately. Work may not resume at that location until approved by the AO. The applicant 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 applicant, 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.
3. Pursuant to 43 CFR 10.4(g), the applicant 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 operator must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.
4. The applicant is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for disturbing or collecting vertebrate

or other scientifically-important fossils, or collecting fossils for commercial purposes on public lands.

5. If any paleontological resources are discovered as a result of operations under this authorization, the applicant 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 operator 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.

3.2. No Action Alternative

The No Action Alternative constitutes denial of the proposed projects (Park Reservoir well solar panel, water line, and troughs; Little Dry Pit #3 water storage tank and trough; North Barnes Ridge Drift Fence). Denial of the Park Reservoir well solar panel, waterline and trough project would have no effect on livestock grazing but would mean a continued workload for the livestock grazing permittees to haul water to the existing facilities. Denial of the Little Dry Pit #3 water storage tank and trough project would result in continued inability to make substantial grazing use in the area surrounding this site due to lack of water (since the obliteration of Little Dry Pit #3). Under-use in this area translates to increased grazing pressure in those areas closer to existing water sources. Denial of the North Barnes Ridge Drift Fence would result in more work for the livestock grazing permittee to continue maintaining the existing non-historic brush drift fence. Even with maintenance this fence does not provide complete control of livestock resulting in some undesired mixing of cattle (bulls and yearling heifers).

3.3. Alternatives Considered but Eliminated from Detailed Analysis

No feasible alternative surface locations were identified for the proposed projects that would result in less impact than the proposed locations.

4. ISSUES

The 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.

- **Soil Resources**: The proposed drift fence would be constructed upslope of steep terrain with soils classified as sensitive due to the slope angle being greater than 35 percent.
- **Vegetation**: The proposed water lines and trough (LOV ranch) sites would result in continued though more convenient water at these sites. The Fawn Creek RBC 69 Stock Water storage tank and trough would be removed and livestock use would shift back to the Park Reservoir site ¼ mile to the east. Pumping water from the Park Reservoir well would require less work (hauling water) for the permittees allowing them to focus their efforts elsewhere. Placing the Little Dry Gulches storage tank and trough along BLM Road 1014 would provide water where it is currently lacking due to the obliteration of the Little Dry Gulches Pit #3. This would improve livestock grazing management and distribution in this area again.

There would be a general benefit to vegetation, especially in the general area surrounding the Little Dry Gulches storage tank and trough, by improving livestock distribution in this area that would in turn reduce grazing intensity because livestock would be better able to utilize more of the affected pasture. There will be essentially no vegetation disturbance associated with construction of the proposed drift fence other than the trimming of some tree branches or the removal of the shrubs or young trees that occur on the proposed fence line.

- **Invasive, Non-Native Species**: Installation of the proposed water line and water troughs would create new areas of soil disturbance and continued livestock concentration, both of which increase the risk of noxious and invasive weed spread and establishment in these areas. There are no known issues or concerns related to weeds associated with construction of the proposed drift fence.
- **Migratory Birds**: Impacts associated with construction of the fence line and water developments have the potential to influence migratory bird nesting activities.
- **Terrestrial Wildlife**: Construction activities associated with the Proposed Action have the potential to influence local wildlife.

- **Realty Authorizations:** There are pipeline right-of-ways within the area proposed for the Park Reservoir well solar panels, water line, and troughs. Also, pipeline, access and facility sites right-of-ways are present within the area proposed for the Little Dry Pit #3 storage tank and trough. Damage to existing pipelines could occur if the existing facilities are not located prior to construction.
- **Livestock Grazing:** Removing the Fawn Creek RBC Road 69 storage tank and trough and providing reliable water at the Park Reservoir well site would result in continued livestock concentration in this general area, would create a minor amount of new surface disturbance (0.012 acre), and would reduce the work (hauling water) required of the permittees. Providing reliable water at the Little Dry Pit #3 site would create an area of livestock concentration in this general area. Inadequate fencing across the northeast of Barnes Ridge allows livestock to drift out of their intended use areas and maintaining the existing brush fence is labor intensive for the permittee. Construction of the proposed drift fence would improve livestock control in that area and would be easier to maintain compared to maintaining the brush fence.

4.2. Issues Considered but not Analyzed

- **Air Quality:** The Proposed Action would result in localized short-term impacts on air quality during the construction activities from the combustion of fossil fuels which would increase carbon monoxide, ozone (secondary pollutant formed photo-chemically from volatile organic compounds (VOCs) and nitrogen oxides (NOx)), nitrogen dioxide, and sulfur dioxide. The Proposed Action is unlikely to result in an exceedance of National Ambient Air Quality Standards or Colorado Ambient Air Quality Standards, and is likely to comply with applicable Prevention of Significant Deterioration (PSD) increments and other significant impact thresholds.
- **Surface and Ground Water Quality:** No impacts to surface or groundwater quality, beyond current impact levels, are anticipated from the proposed water developments. Ground water extracted from the transferred Chevron monitoring well would be controlled by a float valve on the proposed stock tank. As such, no active surface water runoff and consequent surface erosion (rilling or gullyng) or sediment transport/deposition to ephemeral channels located in and around the proposed developments would be expected.
- **Floodplains, Hydrology, and Water Rights:** Based on U.S. Army Corp of Engineer data (2007), none of the proposed developments are located within a mapped 100 year flood plain. The proposed drift fence would be beneficial in minimizing impacts to the steep topography downslope of the proposed fence. No impacts to hillslope or ephemeral channel hydrology are anticipated from any of the proposed developments. Based on BLM White River Field Office springs/wells 2015 GIS database, no springs or wells nor associated water rights are located in or around the Proposed Action. The BLM would

file for water rights for the Chevron monitoring well targeted for development. Based on the proposed pump, the maximum pumping rate for the water development would be 3 gallons per minute. The pump would be controlled by a float valve on the stock tank and would only run as needed to fill the stock tank. Based on the planned grazing schedule and number of cattle, the annual depletion from the Colorado River basin is estimated at 3.5 acre-feet.

- **Aquatic Wildlife:** There are no aquatic systems in the project area that are known to support aquatic wildlife species. Fawn Creek and Black Sulphur Creek, which are separated from the project area by nearly four miles of ephemeral channel support populations of speckled dace and mountain sucker. The Proposed Action would not be expected to have any conceivable influence on these aquatic systems.
- **Visual Resources:** The Proposed Action is located in an area identified as Visual Resource Inventory (VRI) Class IV area as a result of being rated as low for Scenic Quality, moderate for Sensitivity, and Distance Zone of Foreground/Middleground. Overall, these types of range improvement projects are dispersed throughout this landscape and should not attract the attention of casual observers in this area. The Proposed Action is located in a Visual Resource Management (VRM) Class III with an objective of partially retaining the existing character of the landscape, where management activities may attract attention but should not dominate the view of the casual observer. This project will meet the VRM Class III objective.
- **Lands with Wilderness Characteristics:** There are no lands with wilderness characteristics identified near the Proposed Action.
- **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.
- **Geology and Minerals:** The proposed livestock water development projects and drift fence would have little to no impacts to the geologic and mineral resources in the project areas.
- **Hazardous or Solid Wastes:** There are no known hazardous materials, wastes, or dump sites known within these allotments. The potential for harm to human health or the environment associated with spills of fuel, oil and/or hazardous substances during installation of the waterlines, troughs or fence is minimal. Future applications of herbicides would be in compliance with BLM requirements and allowed under a separate authorization.
- **Native American Religious Concerns:** The Ute have a generalized concept of spiritual significance that is not easily transferred to Euro American models or definitions. As such, the BLM recognizes that the Ute have identified sites that are of concern because of their association with Ute occupation of the area as part of their traditional lands. No

traditional cultural properties, unique natural resources, or properties of a type previously identified as being of interest to local tribes, were identified during the cultural resources inventory of the project area. No additional Native American Indian consultation was conducted for the proposed project.

- **Cultural Resources**: A records search of the general project area and the Area of Potential Effect (APE), as defined in the National Historic Preservation Act (NHPA), was completed by the WRFO archaeologist. The file search indicated that the proposed water development projects (Park Reservoir well solar panels, waterline, and troughs, and the installation of the Little Dry Pit #3 near BLM 1014) have been previously surveyed for cultural resources. There were no National Register or otherwise eligible historic properties identified near the proposed water development projects that would be adversely affected by the proposed undertaking.

The installation of the wire drift fence near the north end of Barnes Ridge required approximately 2 acres of additional cultural resource inventory. On April 30, 2015, the WRFO archaeologist completed a Class III inventory of the area of potential effect (APE), as defined in the National Historic Preservation Act (NHPA), which yielded no National Register or otherwise eligible historic properties that would be impacted by the construction of the proposed wire fence. A modern brush drift fence was discovered that the new wire fence would follow. The modern brush fence was constructed with use of a chainsaw cut branches and after discussions with the landowners the fence was determined to be 15-20 years old. Given the recent age of the brush fence, it was not documented or recorded for this project.

- **Paleontological Resources**: The project area is located in an area generally mapped as the Uinta Formation (Tweto 1979). The BLM, WRFO has classified the Upper Mesa Verde and the Wasatch as Potential Fossil Yield Classification (PFYC) 4 formations meaning that they are known to produce scientifically noteworthy fossil resources (c. f. Armstrong and Wolny 1989). Given the prior ground disturbances in the project area and the conditions of approval to mitigate impacts paleontological resources, this project will not affect any known paleontological resources.
- **Prime and Unique Farmlands**: There are no prime and unique farmlands within the project area.
- **Recreation**: The primary recreational activity in the area of the Proposed Action is big game hunting during the fall months. The Proposed Action is not expected to have any noticeable impacts to the recreational settings, experiences, or opportunities in this area.
- **Access and Transportation**: The Proposed Action will not create new access to public lands for the public. The use of existing BLM travel routes associated with the Proposed Action is expected to result in an unnoticeable increase in traffic volume and no change the existing conditions of any BLM travel route. The low amount of traffic traveling to and from the proposed drift fence during construction or for subsequent maintenance

activities is not expected to result in a new travel route and is not located in an area where the public has motorized vehicle access. The Proposed Action is expected to result in no noticeable impacts or changes to the BLM Travel and Transportation System.

- **Scenic Byways**: There are no Scenic Byways within the project area.
- **Social and Economic Conditions**: There would not be any substantial changes to local social or economic conditions.
- **Wetlands and Riparian Zones**: There are no wetlands or riparian areas that are known to occur within or reasonably near any of the project areas. In relation to the proposed water projects the nearest BLM administered lands that support riparian communities are Fawn Creek and Black Sulphur Creek, which in a separate pasture and are separated from the water project areas by nearly four miles of ephemeral channel. In relation to the proposed North Barnes Ridge Drift fence the nearest BLM lands with riparian communities is West Stewart Gulch approximately 1.4 miles away in a separate pasture. Implementation of these projects would have no conceivable impact on these wetland/riparian communities.
- **Wild Horses**: The proposed projects would occur in the Fawn Creek, Slash EV, and West Stewart Gulch allotments. These allotments are separated from the Piceance-East Douglas Herd Management Area (PEDHMA) by a minimum of 8.6 miles. There are several barriers (allotment boundary fences, fenced private lands, and fenced portions of county roads) between the project area and the PEDHMA. There would be no related impacts to the wild horses in the PEDHMA from these projects
- **Wilderness**: There are no designated Wilderness areas or Wilderness Study Areas located near the Proposed Action.
- **Wild and Scenic Rivers**: There are no Wild and Scenic Rivers within the WRFO.
- **Special Status Plant Species**: The Park Reservoir well solar panels, water line, and troughs project and the Little Dry Pit #3 water storage tank and trough project have no special status plants or special status plant habitat near the project area. The proposed North Barnes Ridge drift fence has been mapped as potential habitat for the BLM sensitive species debris milkvetch. Surveys for the debris milkvetch were completed (April 23, 2015) within 100 meters of the proposed fence project and no plants were found. There are expected to be no impacts to special status plants from these proposed range improvements.
- **Forestry and Woodland Products**: The Park Reservoir well solar panels, waterline, and troughs, and the Little Dry Pit #3 Water Storage tank and trough projects are expected to have no impacts to forestry or woodland products. The proposed North Barnes Ridge Drift Fence would be constructed in pinyon-juniper woodlands; however construction of the fence would likely only result in the hand removal of some limbs on larger trees and potential removal of some smaller young trees along the fence line. No Douglas fir will

be cut. All clearing would be completed by hand (chainsaw) and impacts are expected to be minimal.

- **Areas of Critical Environmental Concern:** There are no Areas of Critical Environmental Concern located near the proposed projects that would be affected by them.
- **Hazardous Materials:** There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored, or disposed of at any of the project sites.
- **Fire Management:** The Proposed Action will not impact the implementation of the Northwest Colorado Fire Program Area Fire Management Plan. Improving grazing management would aid in reducing fine fuel loading in water project areas and would allow fire officials improved opportunity to reduce the impacts of large catastrophic wildfires.
- **Special Status Animal Species:** There are no threatened or endangered animal species that are known to inhabit or derive important use from the project area. Water depletions from the Colorado River Basin are considered likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, and razorback. This project falls under the BLM Colorado's Programmatic Biological Assessment (PBA) for water depleting activities (excluding fluid minerals development) on BLM lands in the Colorado River basin in Colorado (BLM 2008).

In response to the BLM's PBA, the U. S. Fish and Wildlife Service (FWS) issued a Programmatic Biological Opinion (PBO)(ES/GJ-6-CO-08-F-0010) on February 25, 2009, which concurred with the BLM's determination that water depletions are "Likely to Adversely Affect" the Colorado pikeminnow, humpback chub, bonytail, and razorback sucker. Likewise, the project is also likely to adversely affect designated critical habitats for these endangered fish along the Green, Yampa, White, Colorado, and Gunnison rivers. However, the FWS also determined that BLM water depletions from the Colorado River Basin are not likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, or razorback sucker, and that BLM water depletions are not likely to destroy or adversely modify designated critical habitat.

A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin was initiated in January 1988. The Recovery Program serves as the reasonable and prudent alternative to avoid jeopardy and aid in recovery efforts for these endangered fishes resulting from water depletions from the Colorado River Basin. The PBO addresses internal and external BLM projects including impoundments, diversions, water wells, pipelines, and spring developments. The FWS determined that projects that fit under the umbrella of the PBO would avoid the likelihood of jeopardy and/or adverse modification of critical habitat for depletion impacts to the Upper Colorado River Basin

if they deplete relatively small amounts of water (less than 100 acre feet) and BLM makes a one-time contribution to the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) in the amount equal to the average annual acre-feet depleted by each project. The PBO instructed BLM to make an annual payment to the National Fish and Wildlife Foundation (NFWF) to cover all BLM authorized actions that result in water depletions. The Slash EV and LOV water projects will deplete 3.5 acre feet annually from the Colorado River Basin. The depletion fee for this project is \$71.82. This project has been entered into the WRFO water depletion log which will be submitted to the Colorado State Office (COSO) at the end of the Fiscal Year. The COSO is responsible for paying depletion fees based on the annual statewide total.

BLM sensitive animal species that have the potential to be found in the project area include Brewer's sparrow and northern goshawk. Impacts to these species would be similar to those discussed below in the Migratory Bird section and the woodland raptor portion of the Terrestrial Wildlife section.

5. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

5.1. General Setting & Access to the Project Area

The proposed water development projects would be in the Slash EV allotment #06023 and the Fawn Creek allotment #06024, which are approximately 26 miles southwest of Meeker (see Exhibits B, and C). These water projects would be in the Enoch-Big Jimmy and Dry Gulches pastures, which are the lower elevation, earlier use pastures of these allotments. The proposed drift fence would be in the Barnes Ridge pasture of the West Stewart Gulch allotment, about 22 miles southwest of Meeker (Exhibit D).

Elevation in all these pastures ranges from around 6,300 feet at the northern ends up to around 8,000 feet at the southern ends. The lower ends of the Enoch-Big Jimmy and Dry Gulches pastures receive an average of 12-16 inches of precipitation annually and the higher elevations receive average precipitation in the 16-20 inch range. The Barnes Ridge area also receives an average of 16-20 inches of precipitation annually. More than half of the moisture comes in the winter as snow.

The area surrounding the proposed Park Reservoir tanks is a rolling loam range site dominated by Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*) parks with an understory of native grasses including bluebunch wheatgrass (*Pseudoroegneria spicata*), western wheatgrass (*Pascopyrum smithii*), prairie Junegrass (*Koeleria macrantha*), needle and thread (*Hesperostipa comata*), and Indian ricegrass (*Achnatherum hymenoides*), and forbs. The area around the Little Dry Gulch storage tank and trough is a pinyon/juniper woodland (*Pinus edulis* / *Juniperus*

osteosperma) ridge dominated by mid-seral pinyon and juniper trees with a mix of mountain shrubs including serviceberry (*Amelanchier alnifolia*), antelope bitterbrush (*Purshia tridentata*), mountain mahogany (*Cercocarpus montanus*), and Wyoming or mountain big sagebrush (*Artemisia tridentata* ssp. *wyomingensis* or *vaseyana*), grasses and forbs throughout.

Topography in the overall area is a series of long narrow ridges and valley bottoms between creating long fingers of gentler sloped forage areas on the ridges or bottoms where livestock make the most grazing use. The ridge top of Barnes Ridge in the area of the proposed drift fence is dominated by dense pinyon and juniper, mountain shrub (as previously described) and some Douglas fir (*Pseudotsuga menziesii*) on the north facing areas, except where trees have been removed in the pipeline corridor along the entire ridge top. Vegetation in the pipeline corridor is mostly herbaceous (grasses) with some reestablishing shrubs (Wyoming and mountain sagebrush and other mountain shrubs).

All three water trough sites are adjacent to roads accessible to the public. The proposed drift fence site is accessible from the two-track on Barnes Ridge then by a faint track through the dense pinyon/juniper woodland though there is no public access to this site.

5.2. Assumptions for Analysis

Development of the water sources would result in minimal change in livestock use but would reduce the work (hauling water) required of the permittees and would make use of a reliable water well in the area. Construction of the drift fence would not change livestock use but would improve their management and control. The wire drift fence would also be less work for the permittee to maintain compared to maintaining the old brush fence.

If these projects are not implemented there would be minimal effect on grazing use around the Park Reservoir. The permittees would continue to haul water to these sites. Without the Little Dry Gulches trough and tank that area would continue to have reduced utility for livestock and grazing pressure would be higher where there is water. Without the drift fence the permittee would have to put more effort into maintaining the brush fence and there would still be some potential for livestock to find a way through the brush fence negatively affecting livestock management.

All three permittees would like to complete these projects as early as possible in the 2015 grazing season. Each project should take less than a week to complete.

5.3. Cumulative Impacts Analysis

5.3.1. 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 **Error! Reference source not found.**

Table 4. Cumulative Impact Analysis Areas by Resource

Resource	CIAA	Total CIAA Acreage	Temporal Boundary
Noxious and Invasive Weeds	Those areas in the Enoch-Big Jimmy pasture of the Slash EV allotment and the Dry Gulches pasture of the Fawn Creek allotment within approximately 300 yards of each water source. These areas were chosen because they are in and around the area of concentrated livestock use associated with the water sources, which places them at increased risk for weed establishment.	Approximately five acres (1.6 acres in the Enoch-Big Jimmy pasture and 3.2 acres in the Dry Gulches pasture). Outside of this immediate area the risk of noxious weed establishment is unchanged from that of the overall general area.	Life of the projects assuming they are maintained in a functional condition.
Livestock Grazing	The Enoch-Big Jimmy pasture of the Slash EV allotment, the Dry Gulches pasture of the Fawn Creek allotment and the Barnes Ridge/Horse Ridge pastures of the West Stewart Gulch allotment.	Approximately 33,717 acres (all BLM acres within these affected pastures) because implementation of these projects will influence livestock grazing and management in these pastures.	Life of the projects assuming they are maintained in a functional condition.
Soil Resources	The area comprised of all linear (pipelines) and point (stock tank) developments including a 10 foot buffer around each of the proposed developments.	Approximately 1.8 acres.	Duration of project through initial reestablishment of newly disturbed vegetation.

Migratory Bird and Terrestrial Wildlife	Areas within 0.50 miles of the Little Dry Pit #3 water tank.	Approximately 500 acres.	Duration of grazing permit.
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5.3.2. 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.”

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 to date 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 2012 the BLM published the Oil and Gas Development Draft RMP Amendment/EIS which considered changes in the location, type, and level of oil and gas development within the resource area. Based on an updated 2007 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. These projects are located within the MPA, where it was assumed that full-field development would require two to three pads per section.

The preferred alternative in the Draft RMPA/EIS considered drilling up to 15,042 wells from 1,800 well pads with an associated surface disturbance of 21,600 acres (see Table 2-1, Record 13 of the Draft RMPA/EIS). 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 (see Table 4-2 of the Draft RMPA/EIS). 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 (see Table 4-3 of the Draft RMPA/EIS).

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.

Other past, present, and reasonably foreseeable actions in the project area include livestock grazing and associated range improvement projects, vegetation treatments, and both wildfires and prescribed burns. Recreation use is characterized by dispersed camping, OHV use, and hunting.

There would be no resource related direct or indirect cumulative effects associated with the No Action alternative.

5.4. Soil Resources

5.4.1. Affected Environment

Soils within the project area were identified using the Natural Resources Conservation Service (NRCS) soil survey of Rio Blanco County Area, Colorado (Soil Conservation Service - SCS, 1982) and web-based data (NRCS 2012). The predominant soils affected by the Proposed Action include Rentsac channery loam and Piceance fine sandy loam. The following are general descriptions of physical properties of the listed predominant soils:

- Rentsac channery loam, 5 to 50% percent slopes: This shallow, well-drained soil is derived from calcareous sandstone. Permeability of this soil is moderately rapid, available water capacity is very low, effective rooting depth is 10 to 20 inches, runoff is rapid, and the likelihood of water driven erosion for exposed soil is moderate to very high.
- Piceance fine sandy loam, 5 to 15 percent slopes: This moderately deep and well-drained soil formed in eolian (wind deposits) and colluvium (rock fragment deposits) derived from shale. Permeability is moderate, available water capacity is moderately low, effective rooting depth is 20 to 40 inches, runoff slow to medium, and water driven erosion for exposed soils is moderate to high.

Due to the slope angle being > 35 percent downslope of the proposed drift fence, the Rentsac channery loam is classified as sensitive soil. The remaining proposed water projects are located in non-sensitive soil (Piceance fine sandy loam).

5.4.2. Environmental Consequences – Proposed Action

Direct and Indirect Impacts

To a limited extent, the proposed water developments and drift fence would result in removal of vegetation, mixing of soil horizons, soil compaction, increased susceptibility to surface erosion from wind and water due to the removal of vegetation and loss of structure, and loss of topsoil productivity. The proposed drift fence would have beneficial effects to the overall soil resources health by limiting trailing and trampling of sensitive soils on steep slopes (> 35 percent) downslope of the drift fence.

Ground water extracted from the transferred Chevron monitoring well would be controlled by a float valve on the Slash EV trough and would have an overflow pipe directing overflow water into the existing Park Reservoir pond from the trough on the Fawn Creek allotment. As such, no active surface water runoff and consequent surface erosion (rilling or gullyng) or sediment transport/deposition would be expected.

Cumulative Impacts

The proposed water development projects and drift fence, when combined with other projects in and around the Proposed Action, would result in short-term removal of vegetation, and minor unmeasurable decreased soil productivity, and subsequent increased susceptibility to surface erosion on BLM administered land.

Long-term impacts to soil resources in and around the Proposed Action areas would continue to include a broader scale of livestock grazing, dispersed recreation, and other industrial activities. Long-term benefits to the soil resource, resulting from armoring areas surrounding the proposed water developments and the installation of a drift fence, would include reduced soil pulverization around stock water troughs and reduced trampling of sensitive soil located on slopes > 35 percent and subsequent reduction wind erosion of pulverized soils and rilling and gullyng on the steep slopes downslope of the drift fence.

5.4.3. Environmental Consequences – No Action Alternative

Direct and Indirect Impacts

Under this alternative, none of the proposed water projects or drift fence would be installed. Slash EV and LOV ranches would continue hauling water to the existing troughs near the Park reservoir and the direct and indirect soil resource impacts would remain unchanged.

Cumulative Impacts

The cumulative impacts would be similar to the Proposed Action alternative without the noted benefits from the armoring of the area surrounding stock tanks and reduced impacts to the steep slopes downslope from the proposed drift fence.

5.4.4. Mitigation Measures and Residual Impacts

1. All construction activity shall cease when soils or access routes to construction sites become saturated to a depth of three inches or more unless there are safety concerns or activities are otherwise approved by the authorized officer.
2. In order to protect public land health related to soils, erosion processes including rilling, gullyng, piping, and/or mass wasting in, near or adjacent to the surface disturbance will be prevented and/or mitigated by implementing BMPs to address potential and observed erosion problems. BMPs should be approved by the authorized officer.

5.5. Vegetation

5.5.1. Affected Environment

The proposed Park Reservoir well solar panels, water line, and trough project would occur entirely in a mid-seral rolling loam range site. The waterline would be installed adjacent to the existing roadway where vegetation is sparse and has a continual level of disturbance/use. The proposed trough site on the Fawn Creek allotment has already been impacted by the construction and intermittent use of the adjacent Park Reservoir and established native vegetation here is sparse. The trough on the Slash EV allotment is already in place and in use with water being supplied from a large storage tank (filled by truck) adjacent to it. There would be minimal if any change in impacts to vegetation at this site. The Little Dry Gulches storage tank and trough and the Barnes Ridge fence sites are adjacent to or through mid-seral pinyon/juniper woodland range sites. The understory at both sites is sparse native shrubs and grasses. There are no noxious weeds at any of the sites currently. A summary of observed vegetation classes is shown below.

Table 5. Vegetation Classes Present on Proposed Project Sites

Ecological Site / Woodland Type	Plant Community Appearance	Predominant Plant Species in the Plant Community
Rolling Loam	Sagebrush / Grass Shrubland	Wyoming big sagebrush, winterfat, low rabbitbrush, horsebrush, bitterbrush, western wheat grass, Indian rice grass, squirreltail, June grass, Nevada and Sandberg bluegrass
Pinyon/Juniper	Pinyon/Juniper Woodland	Pinyon pine, Utah juniper, mountain mahogany, bitterbrush, serviceberry, Wyoming big sagebrush, beardless bluebunch wheatgrass, western wheatgrass, June grass, Indian rice grass, mutton grass

5.5.2. Environmental Consequences – Proposed Action

Direct and Indirect Impacts

Direct impacts to vegetation would be limited. Installation of the waterline for the Park Reservoir well solar panel and water troughs project would occur almost entirely along an existing road in the previously disturbed area. Leveling for placement of the trough and trenching in the overflow line on the Fawn Creek allotment would disturb approximately 460 square feet of native vegetation. Approximately 40 feet of the water line (80 feet of new disturbance) to the Slash EV trough would cross through undisturbed herbaceous vegetation. This site is currently an area where livestock congregate around the existing trough so vegetation is sparse. There would be no other disturbance associated with the trough on the Slash EV side.

The nearby well pads (from 500 to 2,300 feet from the proposed troughs) that have recently been reclaimed would not be affected by the livestock use in the area because all of the reclaimed areas have been fenced. Fences will remain in place until seeded vegetation has become well established; generally in 2-3 growing seasons. When vegetation has become adequately

established and reclamation has been approved, the protective fencing will be removed. Future livestock grazing on the established vegetation should not have a negative effect on these sites.

Placement of the Little Dry Pit #3 storage tank and trough would not involve any vegetation clearing but the water source would create an area of livestock congregation. Livestock use at each water trough site would concentrate use in the area immediately around each trough (within roughly 200 meters). Providing a water source at this location would increase livestock grazing of forage on approximately 500 acres that is currently unavailable due to the excessive distance to water.

The water source would create a livestock concentration area here instead of where the Little Dry Pit #3 pond had been (approximately 1,000 feet to the south). Currently this portion of this pipeline is adequately reclaimed and vegetated. The concentrated livestock use at the new water source would likely negatively affect vegetation immediately around the tank (within 100 feet). It is recognized that the success standards for vegetation establishment in this area would not be met because of the livestock use.

Indirect impacts include increased potential for non-native/noxious plant establishment and introduction, accelerated wind and water erosion, changes in water runoff due to concentrated livestock use, soil impacts that affect plant growth (soil erosion or siltation), shifts in species composition and/or changes in vegetative density.

Cumulative Impacts

The proposed projects, when added to other projects and developments, in and near the project area, would result in an increase in short-term removal of existing vegetation on public land. Long-term changes in plant community composition and structure would also occur on the project sites and on a broader scale from livestock grazing and public recreation and industrial activities. Of the total potential affects to vegetation near the water trough sites, the proposed projects would not result in a noteworthy increase in vegetation disturbance or long-term changes in plant community.

5.5.3. Environmental Consequences – No Action Alternative

Direct and Indirect Impacts

Under this alternative none of the proposed projects would be installed. Rather than making use of the existing water well on site, both Slash EV and LOV ranches would continue hauling water to the existing troughs near the Park Reservoir and impacts to vegetation would be essentially the same. Without placement of the storage tank and water trough near the Little Dry Pit #3 livestock would continue to make limited use of that area due to lack of nearby water and the intensity of grazing would remain higher further up the pasture where water is available.

Cumulative Impacts

Cumulative impacts would be similar to the Proposed Action alternative.

5.6. Invasive, Non-Native Species

5.6.1. Affected Environment

There are no specific noxious or invasive weed infestations associated with the proposed project sites. There are noxious weeds known to occur in at various sites within the general area surrounding the proposed projects and these include common mullein (*Verbascum thapsis*), bull thistle (*Cirsium vulgare*) spotted knapweed (*Centaurea maculosa*), and houndstongue (*Cynoglossum officinale*). Cheatgrass (*Bromus tectorum*) and Russian thistle (*Salsola iberica*) also occur throughout the project area primarily on disturbed sites such as well pads, pipelines, and adjacent to roads. The area immediately surrounding most livestock water sources is generally bare due to the concentrated use that occurs there. Any of these weedy species will readily establish on disturbed sites.

5.6.2. Environmental Consequences – Proposed Action

Direct and Indirect Impacts

The Proposed Action will create minimal new surface disturbance other than continued livestock concentration around the water sources. The concentration area in the Fawn Creek allotment that is associated with the Park Reservoir well solar panels water line and troughs project would shift from the area surrounding the Fawn Creek RBC 69 Stock Water Storage tank and trough to the proposed tank site adjacent to Park Reservoir approximately ¼ mile to the east. Placement of the Little Dry Pit #3 water storage tank and trough on BLM 1014 would create an area of livestock concentration in the previously disturbed pipeline corridor making this site more vulnerable to the establishment of noxious and invasive weeds that would need to be treated to prevent spread into the surrounding plant communities.

5.6.3. Environmental Consequences – No Action Alternative

Direct and Indirect Impacts

There would be no direct or indirect impacts that would influence the presence or spread of noxious or non-native species under the No Action alternative. Livestock distribution and concentration areas would remain the same within the allotments.

Cumulative Impacts

Cumulative impacts would be similar to those discussed above under the Proposed Action.

5.6.4. Mitigation Measures and Residual Impacts

1. All areas identified to be disturbed or that will become livestock concentration areas under the water development portion of this proposal will be monitored and treated for noxious weeds on an annual basis by Slash EV and LOV Ranches.
2. Application of herbicides must comply with the Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environments Impact

Statement (EIS), and the WRFO Integrated Weed Management Plan (DOI-BLM-CO-110-2010-0005-EA).

3. Pesticide Use Proposals (PUPs) must be submitted to and approved by the BLM before applying herbicides on BLM lands. The PUP will include target weed species, the herbicides to be used, application rates and timeframes, estimated acres to be treated, as well as maps depicting the areas to be treated and known locations of weeds. The WRFO recommends that all PUPs be submitted no later than March 1st of the year anticipating herbicide application.
4. Pesticide Application Reports (PAR) will be provided to the BLM annually, usually in the fall at the end of annual weed treatment. The PAR will include the permittee name, PUP number, applicator name(s), application date, timeframe of application, location of application, type of equipment used, pesticide used including manufacturer and trade name, formulation, application rate in terms of active ingredient per acre, acres treated, primary species treated, stage of plant development, and weather conditions during treatment.

5.7. Migratory Birds

5.7.1. Affected Environment

The proposed water developments are, for the most part, located in disturbed areas (e.g., well pad, livestock concentration areas near existing water sources) with minimal vegetative cover. The larger area encompassing the Park Reservoir water developments is comprised of native perennial grasses and forbs with low density shrub (sagebrush) cover. Annual invasive species, such as cheatgrass, are relatively common in the immediate areas surrounding the water developments, although it becomes increasingly uncommon further from the project area. The water development near Little Dry Pit #3 is located in a disturbed area immediately adjacent to BLM Road 1014. Vegetation surrounding this site is largely dominated by big sagebrush and pinyon-juniper woodlands. The proposed drift fence traverses the slope along the north end of Barnes Ridge. Vegetation surrounding this site is almost exclusively dominated by mixed-aged pinyon and juniper interspersed with Douglas fir. Mountain shrub communities (serviceberry and snowberry) and sparse native vegetation are common throughout the understory.

There are a wide variety of migratory birds that nest in these shrubland and woodland communities during the migratory bird breeding season (generally May 15 – July 15). Birds of Conservation Concern, as identified by the U.S. Fish and Wildlife Service, that do or may occur in the project area include Brewer's sparrow (BLM sensitive) and juniper titmouse. In general, most species that are likely to occur in the project area are common and widespread throughout the Resource Area.

5.7.2. Environmental Consequences – Proposed Action

Direct and Indirect Impacts

The Proposed Action would involve less than a half an acre of surface disturbance and would not be expected to have any conceivable influence on local migratory bird populations. The Park Reservoir water developments (troughs and pipelines) and the Little Dry Pit #3 water development are all located in previously disturbed sites that provide suboptimal cover and forage resources to support the reproductive functions of migratory birds. Construction of the proposed North Barnes Ridge Drift Fence could involve the hand removal of some limbs on larger trees and potential removal of some smaller young trees along the fence line. No Douglas fir will be cut. All fence line clearing would be completed by hand (chainsaw). Vegetation removal would be minimal and should not have any conceivable influence on migratory bird habitats. If work is conducted during the migratory bird nesting season, noise and human activity associated with the Proposed Action, particularly along the drift fence, have the potential to indirectly influence migratory bird behavior and nesting activities in the immediate vicinity (60 – 100 meters).

No noticeable changes in livestock distribution would be expected in and around the Park Reservoir well solar panels, water line, and troughs sites as this currently is a congregation area for livestock due to the existing water sources (Slash EV trough and Fawn Creek RBC 69 Stock Water Storage Tank and Trough). Use of the Little Dry Pit #3 water storage tank and trough site would be expected to result in more expansive degradation of vegetation around the trough (noticeably out to about 200 meters). However, due to the existing road, pipeline and well pad, it is likely that bird densities are somewhat reduced in the immediate area. Gradual reductions in ground cover would be expected out to roughly ¼ to ½ mile of the site, which may further reduce nest densities in the vicinity.

Cumulative Impacts

Currently, livestock grazing and oil and gas development are the predominant actions resulting in loss or modification of migratory bird habitats. The Proposed Action would result in the direct removal of less than half an acre of vegetation and would not be expected to add substantially to existing disturbance or those that are likely to occur in the foreseeable future. The addition of a water source near the Little Dry Pit #3 would shift livestock distribution and may result in more pronounced vegetation degradation in the immediate vicinity of the trough; however overall, impacts to vegetation supporting the reproductive functions of migratory birds would likely be similar to current conditions.

5.7.3. Environmental Consequences – No Action Alternative

Direct and Indirect Impacts

There would be no direct or indirect impacts to migratory birds or habitats that support their reproductive functions under the No Action alternative. Livestock distribution and concentration areas would remain the same within the allotments.

Cumulative Impacts

Cumulative impacts would be similar to those discussed above under the Proposed Action.

5.8. Terrestrial Wildlife

5.8.1. Affected Environment

The Park Reservoir water developments are located in previously disturbed areas (well pads, livestock concentration areas), with minimal vegetative cover. The areas immediately surrounding these sites (up to 100 meters) provide suboptimal habitat for big game and nongame species due to concentrated livestock use. The Little Dry Pit water storage tank and trough site is located along a pipeline corridor adjacent to a road and a well pad. This site is surrounded by big sagebrush and mountain shrub communities with a pinyon-juniper overstory. The proposed fenceline runs along the north end of Barnes Ridge and is largely dominated by mixed-aged pinyon-juniper woodlands with scattered Douglas fir.

The herbaceous understory at the three sites is largely comprised of native perennial species, although cheatgrass is common in the immediate vicinity of the existing water sources near the Park Reservoir water developments. The project area is classified by Colorado Parks and Wildlife as big game general winter range. These ranges typically receive the most use from October through April.

Woodlands surrounding the proposed drift fence have the potential to provide nesting substrate for woodland raptors including sharp-shinned and Coopers hawk, red-tailed hawk, long-eared owl and saw whet owl.

The distribution and abundance of small mammal populations are poorly documented within the Resource Area. 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 area. Non-game populations associated with these upland communities, particularly dense mountain shrub basins that retain more fully developed understories, likely occur at densities that approach habitat potential. There are no small mammal species that are narrowly endemic or highly specialized species known to inhabit the project area.

5.8.2. Environmental Consequences – Proposed Action

Direct and Indirect Impacts

The Proposed Action would involve the direct removal of less than half an acre (0.012 acre) of vegetation and would not be expected to have any conceivable influence on local big game and nongame populations. Both the Park Reservoir and Little Dry Pit #3 locations are located in disturbed areas that are likely used sparingly by local wildlife. Livestock use and distribution and impacts to surrounding vegetation is not likely to change substantially as the Fawn Creek RBC 69 Stock Water Storage tank and trough and the Slash EV trough both currently serve as water sources in this same area. Noticeable reductions in herbaceous ground cover (out to roughly 200 meters) would be expected at the Little Dry Pit #3 site with gradual reductions in ground cover extending out to ¼ to ½ mile from the site. This would likely have the most noticeable influence on nongame species as more fully developed understories provide greater concealment from predators and environmental conditions.

A raptor survey along the fence line was conducted by staff biologists on April 14, 2015. One unoccupied nest was located within the vicinity of the fence, however no active nests were located nor was there any evidence of raptors in the area.

Cumulative Impacts

Currently, livestock grazing and oil and gas development are the predominant actions resulting in loss or modification of habitats supporting terrestrial wildlife. The Proposed Action would result in the direct removal of less than half an acre (0.012 acre) of vegetation and would not be expected to add substantially to existing disturbances or those that are likely to occur in the foreseeable future. The addition of a water source near the Little Dry Pit #3 would shift livestock distribution and may result in more pronounced vegetation degradation in the immediate vicinity of the trough; however overall, impacts to vegetation that provide forage and cover resources for big game and nongame species would likely be similar to current conditions.

5.8.3. Environmental Consequences – No Action Alternative

Direct and Indirect Impacts

There would be no direct or indirect impacts to terrestrial wildlife and associated habitats under the No Action alternative. Livestock distribution and concentration areas would remain the same within the allotments.

Cumulative Impacts

Cumulative impacts will be similar to those discussed above under the Proposed Action.

5.9. Livestock Grazing

5.9.1. Affected Environment

The proposed Park Reservoir well solar panels, water line and troughs project, the Little Dry Pit #3 storage tank and trough project, and the North Barnes Ridge Drift Fence project have been

identified by Slash EV Ranch, LOV Ranch, Oldland Brothers Ranch, and BLM staff as projects that if approved would improve livestock management in the areas surrounding the projects in the Slash EV, Fawn Creek, and West Stewart Gulch livestock grazing allotments. The water sources adjacent to the Park Reservoir well site would be used for early summer grazing (both Slash EV and LOV) and some late fall grazing (Slash EV only) and would result in concentrated livestock use in the general areas around the water sources during the scheduled use period(s) similar to how it has occurred in the past. Construction of the proposed North Barnes Ridge Drift Fence would improve livestock management in the Barnes Ridge and Horse Ridge pastures during the early and mid-summer timeframe. The current grazing use periods for each of these operators in the affected pastures are shown below.

Table 6. LOV Ranch - Dry Gulches Pasture Use Period

Allotment Name	Number	Pasture	Date On	Date Off	Days Grazed
Fawn Creek	06024	Dry Gulches	05/1	06/20	51

In the Fawn Creek allotment cattle are turned in at the lower end of the Dry Gulches pasture (around the water projects) and graze their way to the upper end by the end of the use period. In the fall they return to the home ranch through a different area.

Table 7. Slash EV - Enoch-Big Jimmy Pasture Use Period

Allotment Name	Number	Pasture	Date On	Date Off	Days Grazed
Slash EV (even years)	06023	Enoch-Big Jimmy	5/1	6/15	46
Slash EV (odd years)	06023	Enoch-Big Jimmy	5/1	5/30	30
Slash EV	06023	Enoch-Big Jimmy	10/16	11/15	31

In the Slash EV allotment cattle are turned in at the lower end of the Enoch-Big Jimmy pasture (around the water project) and graze their way to the upper end by the end of the use period. Slash EV cattle also graze down through this pasture in the fall.

Table 8. Oldland Brothers - Barnes Ridge and Horse Ridge Pastures Use Period

Allotment Name	Number	Pasture(s)	Cattle	Date On	Date Off	Days Grazed
West Stewart Gulch	02822	Barnes	Yearlings	5/15	6/1	18
West Stewart Gulch	02822	Horse Ridge	Bulls	5/20	7/25	67

5.9.2. Environmental Consequences – Proposed Action

Direct and Indirect Impacts

Installing the proposed water trough in the Dry Gulches pasture of the Fawn Creek allotment and pumping water from the Park Reservoir well site to it and the trough site on in the Enoch-Big Jimmy pasture of the Slash EV allotment would continue to provide reliable water at these sites and would reduce the work (hauling water) required of the permittees. Removal of the Fawn Creek RBC Road 69 storage tank and trough would shift the concentrated livestock use (~1,000 feet) back to the area closer to the Park Reservoir pond/trough site(s). Overall, livestock concentration in the general areas surrounding these water troughs and livestock use in the lower ends of these affected pastures would be essentially unchanged.

Placing the Little Dry Pit #3 water storage tank and water trough along BLM road 1014 on the existing pipeline corridor would allow livestock to better utilize approximately 500 acres that due to the loss of the Little Dry Pit #3 currently lacks water. Increased distribution in this pasture would allow livestock access to roughly 28 AUMs of forage and improve livestock management in this area.

Aside from the shifted area of concentrated livestock use to the pipeline corridor and the acknowledged affects to vegetation at that trough, there are no known issues or concerns related to livestock grazing with implementation of either of these proposed water projects.

The existing brush drift fence in the area of the proposed North Barnes Ridge Drift Fence is ineffective and allows livestock, especially bulls, to drift out of their intended use area and mix with yearling heifers, which is detrimental to the Oldland Brothers Ranch livestock operation. Constructing the proposed North Barnes Ridge Drift Fence would improve livestock management by preventing unintended drift and mixing of cattle. There are no known issues or concerns related to livestock grazing with construction of the proposed drift fence.

Cumulative Impacts

Implementation of the Park Reservoir well solar panels, water line and troughs project would make use of the existing water well to provide water at these sites and would reduce the work (hauling water) required of the permittees thus allowing them to shift their efforts elsewhere. Implementation of the Little Dry Pit #3 storage tank and trough project would require additional work of the permittee (hauling water) but increase the area available to livestock for grazing in the lower end of the Dry Gulches pasture. These actions would incrementally moderate the overall intensity of grazing use on preferred forage species in these pastures. Implementation of the North Barnes Ridge Drift Fence project would reduce the work (maintaining the existing brush drift fence) and would improve livestock control (reduce unwanted livestock drift) in this area. Overall, implementation of these projects would improve livestock management in the affected pastures and associated allotments for the life of these projects.

5.9.3. Environmental Consequences – No Action Alternative

Direct and Indirect Impacts

Not implementing Park Reservoir well solar panels, water line and troughs project would have minimal effect on livestock grazing use in the affected pastures but would require continued extra work (hauling water) for the permittees. Not implementing the Little Dry Pit #3 storage tank and trough project would result in approximately 500 acres or roughly 28 AUMs of forage remaining unavailable to livestock because the distance they would have to travel to and from existing water sources is too great. Areas closer to water sources would continue to experience more grazing use than if the forage around this proposed water source was available. Not implementing the North Barnes Ridge Drift Fence project would result more work for the permittee to try to maintain the marginally effective existing brush drift fence. Additionally there would be continued undesired mixing of livestock between the Barnes Ridge and Horse Ridge pastures, which has a negative effect on the livestock grazing permittee's livestock management goals.

Cumulative Impacts

The No Action Alternative would result in livestock grazing in the Enoch-Big Jimmy, Dry Gulches, Barnes Ridge, and Horse Ridge pastures as it has been in the past. In the Dry Gulches pasture livestock distribution would continue to be limited to a minor extent resulting in less balanced grazing intensity with some areas being minimally utilized if at all. Impacts to the livestock operators would be the continued work associated with hauling water and maintaining the brush drift fence. This alternative would miss opportunities to improve livestock distribution, management, and control in the affected pastures

5.10. Realty Authorizations

5.10.1. Affected Environment

Encana Oil and Gas Inc. pipeline ROWs COC70857 and COC70220 are authorized adjacent to the existing road where the proposed water line would be located for the Park Reservoir water line and trough. Bargath LLC pipeline ROWs COC74979 and COC70713, and WPX Energy Rocky Mountain LLC pipeline ROWs COC075171 and COC74980 are authorized where the Little Dry Pit storage tank and water trough are proposed.

5.10.2. Environmental Consequences – Proposed Action

Direct and Indirect Impacts

Damage to the facilities or rights of existing ROW holders could occur if construction activities are not properly planned and ROW facilities are not properly identified prior to construction.

Cumulative Impacts

As the number of ROW holders 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.

5.10.3. Environmental Consequences – No Action Alternative

Direct and Indirect Impacts

Failure to authorize the proposed project would not result in any increased impacts to realty authorizations in the area.

Cumulative Impacts

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

5.10.4. Mitigation Measures and Residual Impacts

1. The applicants will effectively coordinate with existing ROW holders, Encana Oil and Gas (USA) Inc., Bargath LLC, and WPX Energy Rocky Mountain LLC, and locate pipelines prior to any construction activity.

5.11. 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.

5.11.1. Standard 1 – Upland Soils

Localized, short-term reductions in soil surface infiltration and permeability characteristics would result from pipeline installation. Post-construction reclamation would reestablish pre-construction vegetation needed to generate litter cover and subsequent organic matter critical in restoring pre-disturbance water infiltration, increased moisture retention, and plant root mass necessary for soil retention and functionality.

5.11.2. Standard 2 – Riparian Systems

There are no riparian systems nearby that would be affected by the project proposals.

5.11.3. Standard 3 – Plant and Animal Communities

Current livestock grazing schedules in the Slash EV, Fawn Creek, and West Stewart Gulch allotments have all had Land Health Assessments completed for the grazing permits associated with each. The proposed projects would benefit plant and animal communities by reducing the

intensity of livestock use by increasing the extent and utility of grazeable areas in each of the two affected pastures and would improve livestock control and management in the West Stewart allotment. Implementation of the proposed water developments and drift fence under the current grazing schedules is not expected to negatively affect plant or animal communities.

5.11.4. Standard 4 – Special Status Species

There are no expected impacts to special status plants or to the potential habitat for BLM sensitive species from these proposed projects. The Proposed Action is not expected to have any conceivable influence on special status terrestrial animal species. Water depletions from the Colorado River Basin are considered likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, and razorback and are considered cumulative. These influences were thoroughly analyzed in the programmatic consultation cited above and resulted in the determination that BLM water depletions from the Colorado River Basin, as conditioned by the implementation of the reasonable and prudent alternative, are not likely to jeopardize the continued existence of the Colorado pikeminnow, humpback chub, bonytail, or razorback sucker, and that BLM water depletions are not likely to destroy or adversely modify designated critical habitat.

5.11.5. Standard 5 – Water Quality

No long-term impacts to the designated beneficial uses, numeric water quality criteria, or anti-degradation requirements set forth under Colorado State Law as found in (5 CCR 1002-8). Localized, short-term impacts on surface water quality could occur prior to post-construction reclamation and reestablishment of pre-construction vegetation. Implementation of best management practices would minimize these impacts on surface water. No impacts to groundwater processes are expected in or around the Proposed Action.

6. SUPPORTING INFORMATION

6.1. Interdisciplinary Review

Table 9. List of Preparers

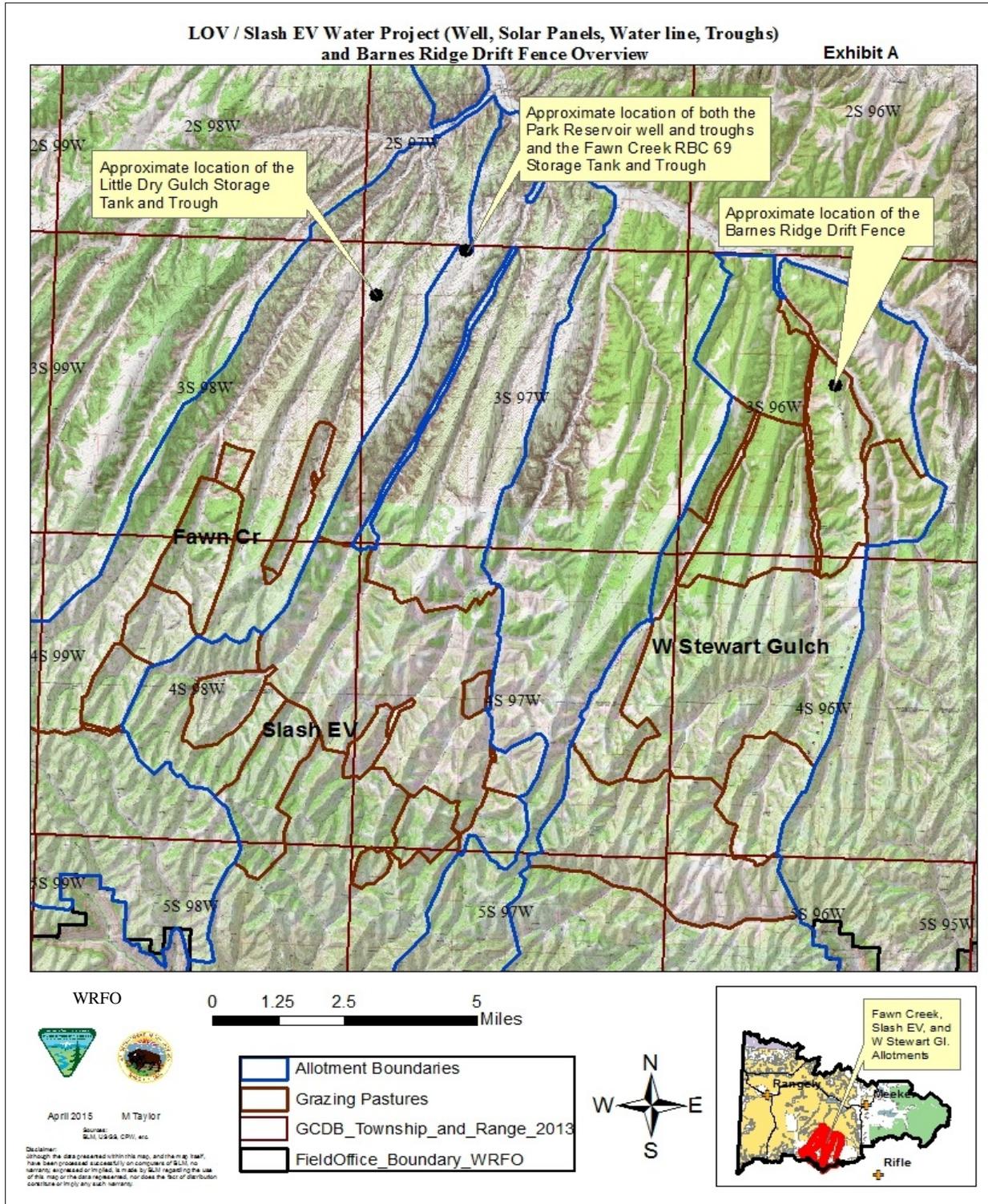
Name	Title	Area of Responsibility	Date Signed
Keith Sauter	Hydrologist	Surface and Ground Water Quality; Floodplains, Hydrology, and Water Rights; Prime and Unique Farmlands	5/18/2015
Lisa Belmonte	Wildlife Biologist	Special Status Animal Species, Migratory Birds, and Aquatic and Terrestrial Wildlife	5/1/2015
Mary Taylor	Rangeland Management Specialist/Project Lead	Vegetation, Invasive, Non-Native Species, Wild Horses, Livestock Grazing, Wetlands and Riparian Zones, Hazardous or Solid Wastes	4/16/2015
Matt Dupire	Ecologist	Special Status Plant Species, Forestry and Woodland Products, Areas of Critical Environmental Concern	5/18/2015

Name	Title	Area of Responsibility	Date Signed
Brian Yaquinto	Archaeologist	Cultural Resources, Paleontological Resources, Native American Religious Concerns	4/21/2015
Aaron Grimes	Outdoor Recreation Planner	Visual Resources, Lands with Wilderness Characteristics, Recreation, Access and Transportation, Wilderness, Scenic Byways	4/22/2015
Paul Daggett	Mining Engineer	Air Quality; Geology and Minerals	4/15/2015
Kyle Frary	Fire Management Specialist	Fire Management	4/30/2015
Keesha Carey	Realty Specialist	Realty Authorizations	5/18/2015
Heather Sauls	Planning & Environmental Coordinator	NEPA Compliance	6/15/2015

6.2. References

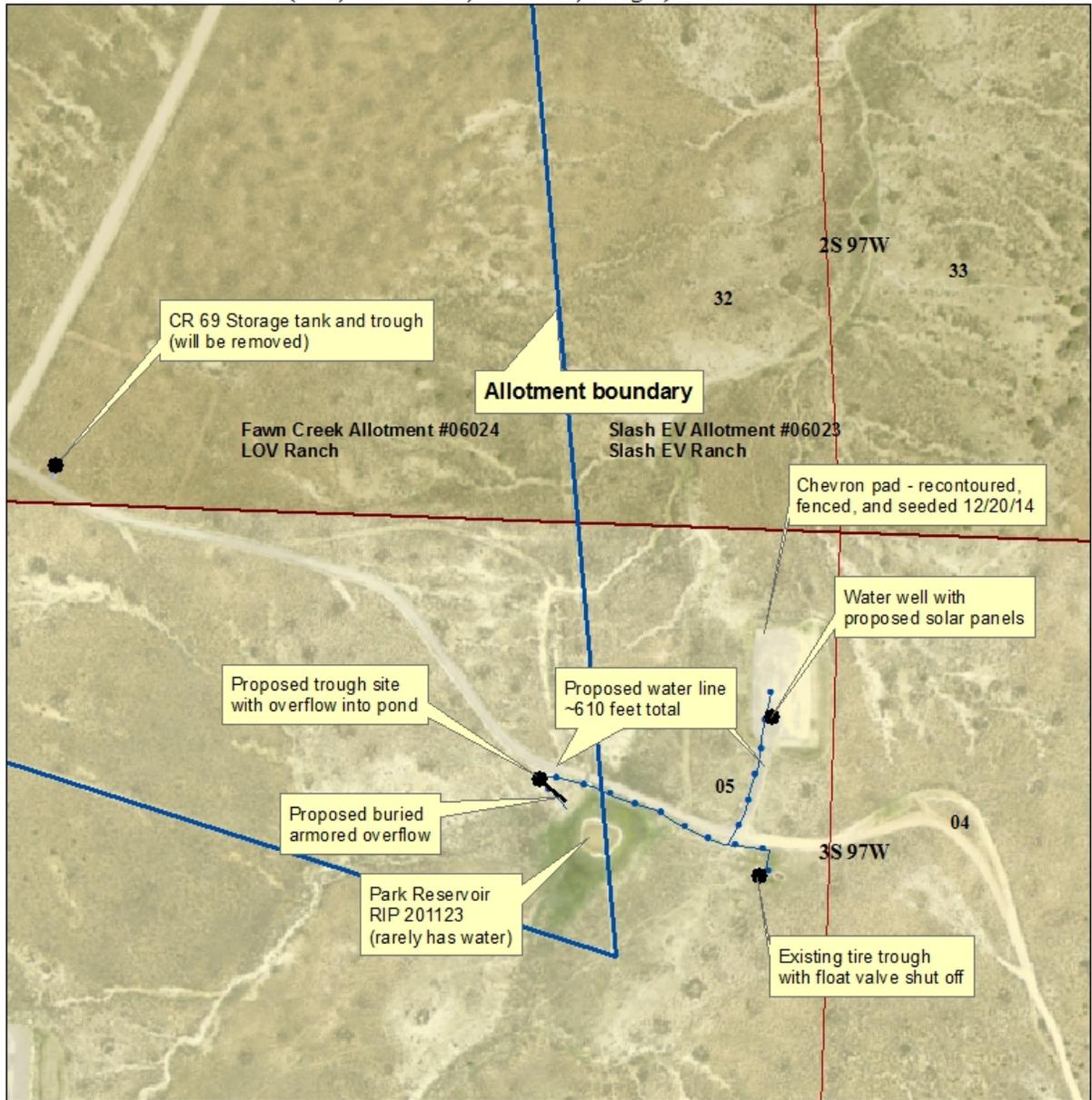
- Armstrong, Harley J., and David G. Wolny
1989 Paleontological Resources of Northwest Colorado: A Regional Analysis. Museum of Western Colorado, Grand Junction, Colorado.
- Tweto, Ogden
1979 Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

APPENDIX A. FIGURES

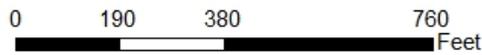


**LOV / Slash EV Water Project
(Well, Solar Panels, Water line, Troughs) Overview**

Exhibit B



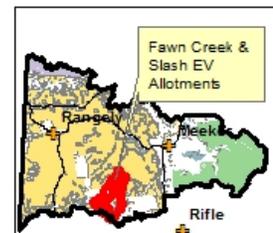
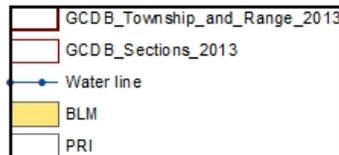
WRFO



April 2015 M Taylor

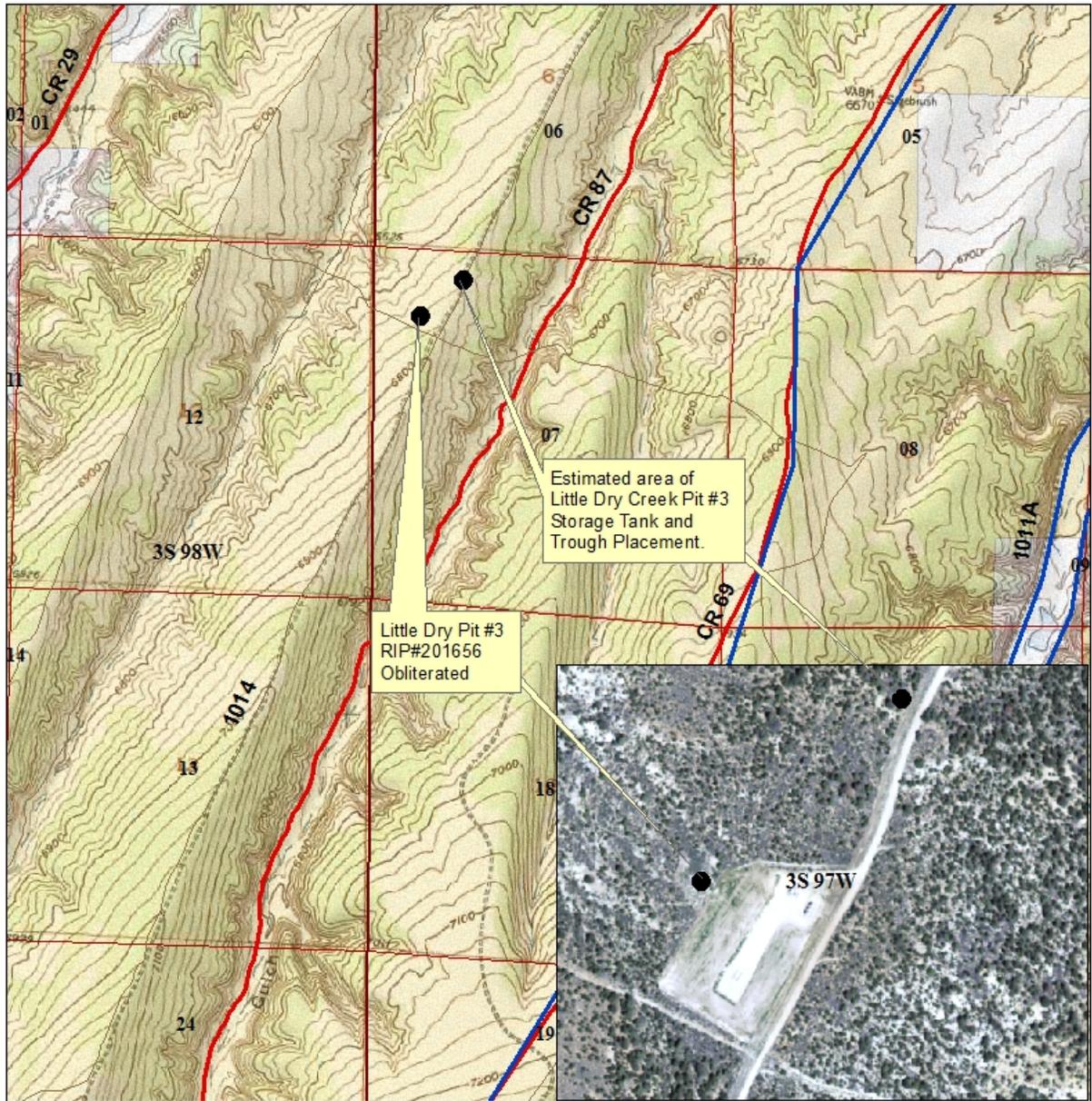
Sources:
BLM, USGS, CRW, etc.

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Fawn Creek Allotment #06024

Exhibit C



WRFO 0 0.25 0.5 1 Miles

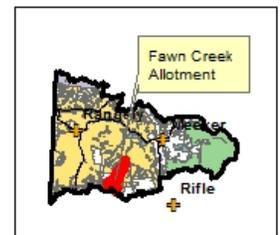


April 2015 M Taylor

Sources: BLM, USGS, CRW, etc.

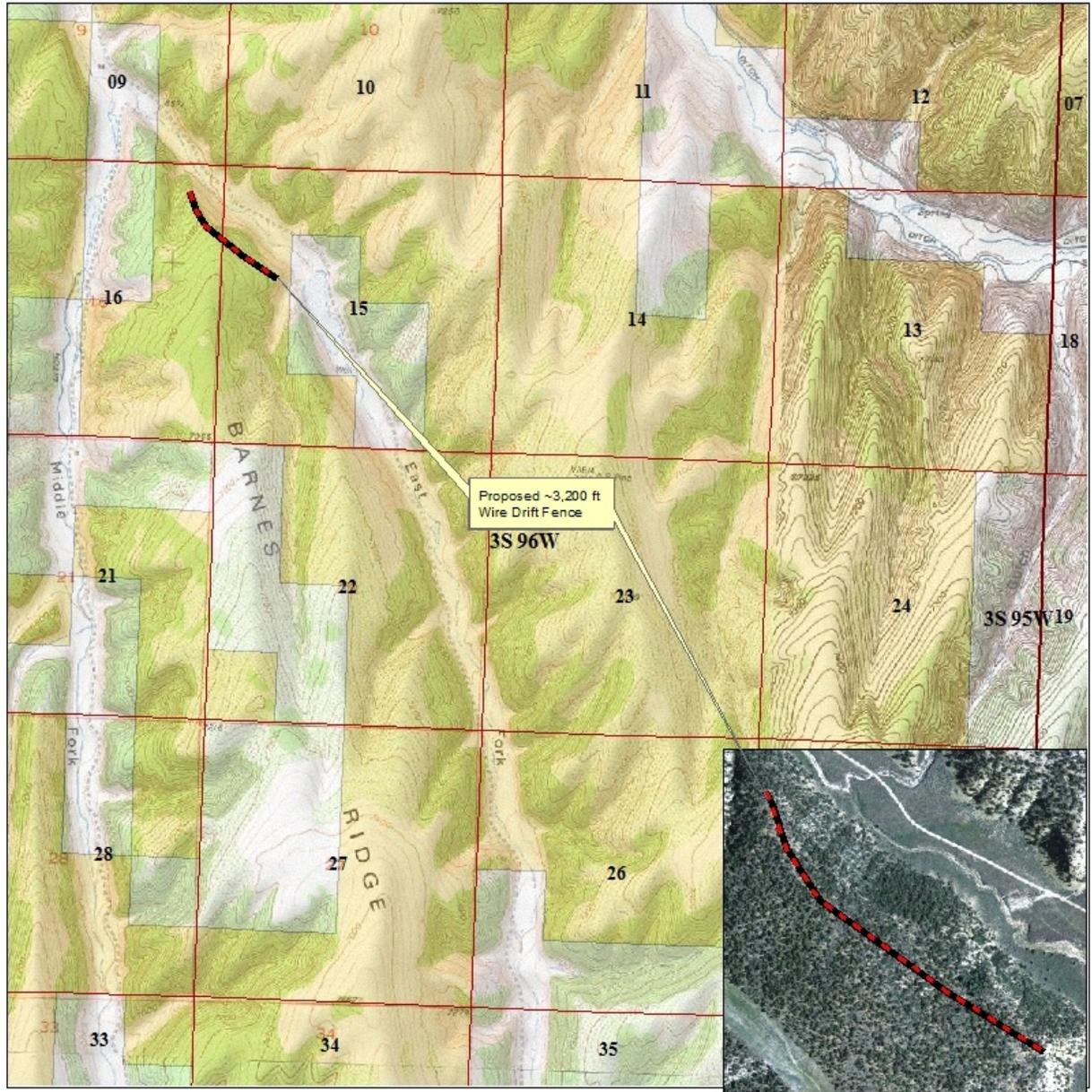
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- Allotment Boundaries
- County
- BLM
- GCDB_Township_and_Range_2013
- GCDB_Sections_2013
- BLM
- PRI



West Stewart Gulch Allotment # 02822

Exhibit D



WRFO



August 2014 M Taylor

Sources: BLM, USGS, CPO, etc.

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