

**Bureau of Land Management
Buffalo Field Office
Olsen Draw Allotment Grazing Lease Transfer & Issuance and
Olsen Draw Pipeline, WY-070-EA11-260**

1.0 Introduction

PROJECT TITLE: Olsen Draw Allotment Grazing Lease Transfer/Issuance & Olsen Draw Pipeline

PLANNING UNIT & LOCATION:

Olsen Draw Allotment (02058):

T. 55N., R.77 W: Sec.6: Lot 8;

T. 55 N., R.78 W: Sec.1: Lot 1, Sec.2: Lots 6,7, SW¹/₄NE¹/₄, SE¹/₄NW¹/₄, NE¹/₄SW¹/₄, NW¹/₄SE¹/₄.

T. 56 N., R.77 W: Sec.19: Lots 6, 7, Sec.31: Lot 8.

T. 56 N., R.78 W: Sec.1: Lots 5—16, SE¹/₄, E¹/₂SW¹/₄, NW¹/₄SW¹/₄, Sec.2: Lot 5, Sec.3: Lot 15, Sec.10: Lot 1, SE¹/₄SW¹/₄, S¹/₂SE¹/₄, Sec.11: S¹/₂SE¹/₄, Sec.12: Lots 1, 4—7, N¹/₂NE¹/₄, SE¹/₄NE¹/₄, W¹/₂SW¹/₄, SE¹/₄SW¹/₄, Sec.14: N¹/₂, SW¹/₄SW¹/₄, E¹/₂SW¹/₄, NW¹/₄SE¹/₄, Sec.15: Lots 1,2, E¹/₂NW¹/₄, NE¹/₄, Sec.23: Lots 2—8, SE¹/₄, SE¹/₄SW¹/₄, Sec.24: Lots 2—5, Sec.25: NW¹/₄, N¹/₂SW¹/₄, E¹/₂NE¹/₄, Sec.26: NE¹/₄, SE¹/₄, E¹/₂NW¹/₄,NE¹/₄SW¹/₄, Sec.35: Lots 1,2, NE¹/₄, N¹/₂SE¹/₄.

T. 56 N., R. 79 W: Sec.1: Lots 5—12, Sec.2: Lots 5—7,10—12,14,15, Sec.4: Lot 17, N¹/₂SW¹/₄, SE¹/₄SW¹/₄;

Proposed Pipeline: T.56N, R.78W, Secs.25, 26, 35, 36.

(see attached maps)

PREPARED BY: Charlotte Darling, Biological Science Technician, BLM, BFO

CASEFILE NUMBER: 4907098

RIPS NUMBER: 013164

APPLICANT: Farmland Reserve, Inc.

This site-specific environmental assessment (EA) tiers to and incorporates by reference the Buffalo Resource Management Plan (RMP) dated October 4, 1985, and the 2001 amendment. This EA follows the format in Chapter 8 of the BLM National Environmental Policy Act Handbook, H-1790-1.

1.1 Background

Buffalo Creek Land and Cattle Company transferred its base property to Farmland Reserve, Inc. Farmland Reserve, Inc. applied for transfer of the grazing privileges attached to this property and a new lease authorizing grazing on the Olsen Draw Allotment. Per 43 CFR 4110, Farmland Reserve has preference in obtaining the grazing privileges attached to this property.

Farmland Reserve, Inc. is also proposing to construct a stock water pipeline between two existing wells to feed a new storage tank and two new gravity-fed troughs. The proposed pipeline crosses BLM land. The new water dispersal system would allow greater operator flexibility in pasture rotation and improve within-pasture stock distribution. It would also help

keep cattle out of intermittent streams. The allotment and proposed pipeline are within a Wyoming Game & Fish Department Sage-grouse Core Area and BLM Sage-grouse Focus Area.

1.2 Need for the Proposed Action

The BLM promotes healthy sustainable rangeland ecosystems and provides for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands while complying with land use plans and multiple use objectives, including environmental and economic values, as provided in 43 CFR 4100, the Taylor Grazing Act of 1934 and the Federal Land Policy and Management Act of 1976. The proposed action would allow livestock grazing on public land through the exercise of grazing preference attached to controlled base property while considering these multiple use objectives (43 CFR 4110). There is need for the action due to the requirement that an individual or group desiring to graze livestock on public land must hold a valid grazing authorization in the form of a permit or lease; the BLM is to balance the authorization with other uses of public land. The current grazing lessee has a preference to receive the authorization if grazing is to continue on the associated allotment.

The proposed action would also allow for a Rangeland Improvement Project to be installed in accordance with 43 CFR 4120.3, which stipulates that a lessee shall enter into a cooperative range improvement agreement with the BLM before installing, maintaining, using, or modifying a range improvement on the public lands. The proposed action would allow for more flexible grazing management on public land in the Olsen Draw Allotment. By creating additional water developments, the construction of the new pipeline and troughs will allow greater flexibility in rotational grazing and distribute livestock more widely throughout pastures to improve rangeland health.

1.3 Decision to be Made

The BLM will decide whether or not to transfer the grazing preference on the Olsen Draw Allotment from Buffalo Creek Land & Cattle Co. to Farmland Reserve, Inc., whether or not to issue a grazing lease with no change in terms and conditions to Farmland Reserve, Inc. for the Olsen Draw Allotment, and how to balance the proposed action with multiple public uses.

The BLM will also decide whether or not to allow the installation of approximately 1.4 miles of stock water pipeline across public land in the Olsen Draw Allotment, and how to balance the proposed action with multiple public uses.

1.4 Wyoming Standards for Rangeland Health

Particularly applicable to livestock grazing management by the BLM are the Wyoming Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management. The Secretary of the Interior developed and approved the Standards and Guidelines on August 12, 1997. They address watersheds, ecological condition, water quality and habitat for special status species. These policies and guidelines are critical to achieving ecologically sustainable range management.

The regulation at 43 CFR 4180.1 details four fundamentals of rangeland health. They are:

1. Watersheds are in or are making progress toward properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support water infiltration, soil moisture storage, and the release of water that are in balance with climate and landform and maintain or improve water quality, water quantity, and timing and duration of flow.
2. Ecological processes including the hydrologic cycle, nutrient cycle, and energy flow are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.
3. Water quality complies with state water quality standards and achieves, or is making significant progress toward achieving established BLM management objectives such as meeting wildlife needs.
4. Habitats are, or are making significant progress toward, being restored or maintained for Federal threatened and endangered species, Federal Proposed, Category 1 and 2 Federal Proposed Candidate and other special status species.

The BLM developed the Wyoming Standards for Healthy Public Rangelands and Guidelines for Livestock Grazing Management (S&Gs) to achieve the four fundamentals of rangeland health detailed above. These Standards relate the minimal acceptable conditions for BLM administered public rangelands, including the health, productivity, and sustainability of the land. Observing, measuring, and monitoring field conditions of range sites, on a watershed scale, determine whether a Standard is being achieved. In accordance with the grazing regulations, if livestock grazing practices are found to be contributing to a failure to meet a Standard, corrective action is developed and implemented before the next grazing season. Guidelines provide reasonable, responsible, and cost-effective management practices at the grazing allotment and watershed levels to attain and maintain rangeland Standards. These management practices either maintain existing desirable conditions or move rangelands toward statewide Standards within reasonable timeframes.

The six Standards for Healthy Public Rangelands are:

Standard 1: Within the potential of the ecological site (soil type, landform, climate, and geology), soils are stable and allow for water infiltration to provide for optimal plant growth and minimal surface runoff.

Standard 2: Riparian and wetland vegetation have structural, age, and species diversity characteristic of the state of channel success and is resilient and capable of recovering from natural and human disturbance in order to provide forage and cover, capture sediment, dissipate energy, and provide for ground water recharge.

Standard 3: Upland vegetation on each ecological site consists of plant communities appropriate to the site which are resilient, diverse, and able to recover from natural and human disturbance.

Standard 4: Rangelands are capable of sustaining viable populations and a diversity of native plant and animal species appropriate to the habitat. Habitats that support or could support threatened species, endangered species, species of special concern, or sensitive species will be maintained or enhanced.

Standard 5: Water Quality meets state standards.

Standard 6: Air Quality meets state standards.

The Buffalo RMP has been amended to adopt the Wyoming Standards for Healthy Rangelands. While an assessment of the S&Gs has not yet been conducted for the Olsen Draw Allotment, monitoring conducted in 1980 revealed that the BLM lands were in good health at the stocking rate of 594 AUMs. This stocking rate has remained constant since 1980. An on-site visit by a BLM range technician on May 18, 2011 revealed good range conditions and no marked resource problems. Range monitoring performed on July 26, 2011 showed one site to be in fair to good condition.

This allotment is a “C” category allotment, which is low priority for evaluation (see Section 3.3). In 1998 the BFO developed a schedule for evaluating S&Gs. The allotments on this list are all in the “I” and “M” categories, which are highest priority for management and evaluation as described in the WY S&Gs Implementation Plan. Active management of category "C" isolated public lands is at a public cost and management effort largely beyond the scope of generating public benefit; see generally, *Ted Lapis v. U.S.*, 178 IBLA 62 (2009).

1.5 Scoping and Issues

The BLM conducts its decision-making in accordance with the requirements of the Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policy Act (NEPA), and the Department of Interior (DOI) and BLM policies and procedures implementing NEPA. NEPA and the associated regulatory and policy framework require federal agencies to involve the interested public in their decision-making.

This EA received internal scoping. The identified issues are:

- How would the proposed action affect current livestock grazing management?
- Would the proposed action impact invasive species?
- Would and how would the proposed action affect any special status species, particularly sage-grouse (candidate species)?
- Would the proposed action impact big game habitat?
- Would the proposed action impact migratory bird habitats or populations?
- Would the proposed action impact raptor habitats or populations?
- Would the proposed action impact cultural resources and/or lands with wilderness characteristics?

This EA is sent to interested parties of record and is posted on the Buffalo Field Office (BFO) website to solicit public and cooperating agency comments over a 30-day period. The BFO uses received comments to assess whether the EA covers the issues raised and adequately addresses

their significance. The BFO’s response consists of either addressing public comments in the decision record or results in the preparation of a new EA.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative A – No Action – Deny Transfer of Grazing Preference & Lease Issuance and Deny Pipeline Construction

Under this alternative the BLM will not permit livestock grazing on the Olsen Draw Allotment. The previous grazing lease will be cancelled in accordance with 43 CFR parts 4100 and 1600 to eliminate grazing on the allotment.

Additionally, under this alternative the BLM will not allow the construction of a stock water pipeline across BLM land in the Olsen Draw Allotment.

2.2 Alternative B – Authorize Transfer of Grazing Preference and Issuance of Lease, Deny Pipeline Construction

Under this alternative, the BLM will transfer grazing privileges from Buffalo Creek Land & Cattle Co. to Farmland Reserve, Inc., and issue a new 10-year term grazing lease to Farmland Reserve for the Olsen Draw Allotment. There are no modifications to the current terms and conditions outlined in the existing lease held by Buffalo Creek Land & Cattle. Table 1 lists the details of this BLM grazing lease.

Table 1

Allotment	Livestock		Season of Use	% PL	AUMs	Type Use
	Number	Kind				
Olsen Draw Allotment (02058)	50	Cattle	3/01 – 2/28	99	592	Active

*BLM recognizes that this allotment consists primarily of non-federal lands. As such, BLM will not limit the season of use or number of livestock as long as grazing use is not to the detriment of the public lands. The lease schedule shown is primarily for billing purposes.

The proposed action will transfer grazing privileges to Farmland Reserve from Buffalo Creek Land & Cattle and issue a new 10-year term grazing lease to Farmland Reserve. Both applicants are currently in good standing with the Bureau of Land Management (BLM) and meet all mandatory qualifications for obtaining a grazing lease per 43 CFR 4110.1 and 4110.2. In accordance with Title 43 CFR 4130.2(a), “Grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the administration of the Bureau of Land Management that are designated as available for livestock grazing through land use plans.”

Under this alternative the BLM will not allow the construction of a stock water pipeline across BLM land in the Olsen Draw Allotment.

2.3 Alternative C – Proposed Action – Authorize Transfer of Grazing Preference and Issuance of Lease, Authorize Pipeline Construction

The BLM Buffalo Field Office proposes to maintain and improve land health and enhance habitat conditions on public lands within the Buffalo Field Office by maintaining and/or

enhancing upland grassland health and sagebrush habitats (species composition and structure) and maintaining riparian, wetland, and aquatic habitats through livestock grazing management.

The BLM also proposes to transfer grazing privileges from Buffalo Creek Land & Cattle Co. to Farmland Reserve, Inc., and to issue a new 10-year term grazing lease to Farmland Reserve for the Olsen Draw Allotment. There are no modifications to the current terms and conditions outlined in the existing lease held by Buffalo Creek Land & Cattle. Table 2 lists the details of this BLM grazing lease.

Table 2

Allotment	Livestock		Season of Use	% PL	AUMs	Type Use
	Number	Kind				
Olsen Draw Allotment (02058)	50	Cattle	3/01 – 2/28	99	594	Active

*BLM recognizes that this allotment consists primarily of non-federal lands. As such, BLM will not limit the season of use or number of livestock as long as grazing use is not to the detriment of the public lands. The lease schedule shown is primarily for billing purposes.

The proposed action will transfer grazing privileges to Farmland Reserve from Buffalo Creek Land & Cattle and issue a new 10-year term grazing lease to Farmland Reserve. Both applicants are currently in good standing with the Bureau of Land Management (BLM) and meet all mandatory qualifications for obtaining a grazing lease per 43 CFR 4110.1 and 4110.2. In accordance with Title 43 CFR 4130.2(a), “Grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the administration of the Bureau of Land Management that are designated as available for livestock grazing through land use plans.”

The BLM also proposes to allow construction of a stock water pipeline across BLM land and installation of a storage tank and two watering troughs on deeded land in the Olsen Draw Allotment. The proposed pipeline will connect two existing wells on BLM land to a new storage tank, and extend to two new water troughs on deeded land. All four troughs will be gravity fed by the new storage tank. The entire pipeline would be about 1.95 miles long. The pipeline would cross approximately 1.4 miles of federal surface, resulting in a disturbance corridor approximately 10 feet wide through BLM lands. The new troughs and storage tank will be placed on deeded land.

Water will be pumped from existing BLM wells (#25 Well and #35 Well) to the new storage tank, and a 1.5 inch polyethylene pipe will gravity feed the existing and new troughs. The pipe will be buried below the frost line at approximately 5 feet deep. The pipe will be trenched in as much as possible to minimize disturbance, but some digging with a backhoe may be necessary in rocky areas. The pipeline will follow the corridor of an existing powerline between the existing wells, and the north offshoot will follow an existing two-track road to minimize additional disturbance. The southern extension of approximately 0.5 miles will follow the most direct route to the new trough.

The proposed water troughs are ten-foot diameter tire tanks, holding approximately 750-900 gallons. Though they will be located on private land, the BLM will provide wildlife ramps to be installed in the new and existing water troughs to minimize impacts to wildlife.

The proposed action will result in a Cooperative Range Improvement Agreement between the BLM and Farmland Reserve, Inc. authorizing installation of the pipeline and specifying use and maintenance provisions in accordance with 43 CFR 4120.3-2.

2.4 Conformance with Land Use Plan and Other Laws, Regulations, and Policies

The proposed action is in conformance with the Record of Decision for the Buffalo Resource Management Plan approved October 4, 1985, the 2001 amendment, and the Powder River Basin Oil & Gas Project Final Environmental Impact Statement and Resource Management Plan Amendment (PRB FEIS) approved April 30, 2003. The action is also consistent with the land use plan terms and conditions as required by 43 CFR 1610.5-3(a). The Buffalo RMP EIS analyzed the impacts of grazing.

This EA fulfills the NEPA requirement for site-specific analysis. The Proposed Action is in accordance with the following laws and/or regulations, other plans, and is consistent with federal, state, and local laws, regulations:

- Taylor Grazing Act of June 30, 1934
- Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.)
- Public Rangelands Improvement Act of 1978
- Endangered Species Act of 1973
- 43 CFR § 4100 Grazing Administration-Exclusive of Alaska
- Clean Water Act Section 303d
- National Historic Preservation Act of 1966 Section 106
- National Environmental Policy Act of 1969
- Sikes Act of 1969 (Habitat Improvement on Public Land)
- Fish and Wildlife Improvement Act of 1978
- Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds
- Grazing Regulations as codified in 43 CFR § 4100 as amended in 2005
- BLM Instruction Memorandum No. WY-2010-012, Greater Sage-Grouse Habitat Management Policy on Wyoming BLM Administered Public Lands including the Federal Mineral Estate (Maintained into the Buffalo RMP)
- DOI Secretarial Order No.3310—Protecting Wilderness Characteristics on Lands Managed by the BLM, Dec. 2010

3.0 AFFECTED ENVIRONMENT

3.1 Introduction

This section discusses and analyzes the affected physical and regulatory environment concerning the proposed lease and project.

3.1.1 Location

The Olsen Draw Grazing Allotment is about 4 miles northeast of Leiter, Wyoming in Sheridan County. The allotment is a mixture of public, private, and state lands (lands managed by the Office of State Lands and Investments). Private lands compose the majority of the allotment, with 1280 acres of state land and several parcels of BLM land that total 4,891 acres. There is no legal public access to the public lands in the allotment.

The proposed pipeline will cross a parcel of BLM land in the Clear Creek and Buffalo Creek pastures in the eastern half of the allotment.

3.1.2 General Description

The Olsen Draw Allotment is typical of the land forms, soils, and vegetation in the area of influence for the Powder River drainage system. Differences in dominant species within the allotment vary with soil type, aspect, topography, and water availability. Annual precipitation is the principal factor limiting forage production. Floodplains and lowlands with intermittent streams are the most productive sites and the very steep escarpments, ridges, and slopes are the least productive.

Buffalo Creek runs through the center of the Olsen Draw Allotment. However, this creek is located on private land and is not subject to management by BLM. Any other stream channels lying in this allotment are intermittent streams. This means that water flow generally occurs during the wet season (50% of the year or less) so water typically only flows in these channels during times such as spring runoff. Water ceases to flow in these channels during drier periods but may still continue to run underground. As such, there may or may not be riparian vegetation associated with intermittent stream channels. Also, they are not a reliable source of water for livestock or wildlife. There are several seasonal stock water reservoirs in the allotment, which do not have associated riparian vegetation. These sites will not be affected by the proposed pipeline.

The public land in this allotment is clearly lacking in wilderness characteristics due to its small size (less than 5,000 acres).

The soils within the Olsen Draw Allotment vary greatly depending on topographic location, slope, elevation, and precipitation. The climate of the area is characterized by relatively low amounts of precipitation, averaging between 15 and 19 inches annually. The majority of soils within the allotment are loams and sandy soils. Soils at the site of the proposed pipeline are primarily loamy.

Wyoming big sagebrush is a significant component of the plant community associated with loamy sites; densities range from 2-12% in the project area. Cool-season mid-grasses make up the majority of the understory with the balance made up of short warm-season grasses, introduced annual grasses, and miscellaneous forbs. The dominant cool season mid-grass species include green needlegrass (*Nassella viridula*), needleandthread (*Hesperostipa comata*), and rhizomatous wheatgrasses. Grasses can account for up to 75% of the vegetation in this type of ecological site. With an elevation of approximately 4000 feet, the growing season is short, consisting of the months of April through mid-August. The pipeline project site is located in an area of mixed grasses and moderate sagebrush cover.

Historically, native plants in northeastern Wyoming evolved under prehistoric conditions which included grazing and browsing by bison and other native ungulates, and an associated low frequency of fire. This community is well-suited to grazing by both domestic livestock and wildlife year round.

3.1.3 Energy Development

The BLM permits federal mineral development (coal bed natural gas, conventional oil, and coal) in the Powder River Basin. This includes federal minerals below federal and/or private (split estate) surface. The BLM prepares EAs, as required by NEPA, for this federal mineral development. In general, companies submit proposals in the form of plans of development (PODs) that may consist of one to 200 wells. Currently, a small portion of the Olsen Draw Allotment lies within the River 2 POD operated by St. Mary Land & Exploration, which has not been approved. The allotment does not contain any producing oil and gas wells. An EA specific to the River 2 POD will analyze the environmental impacts from federal mineral development, and this document incorporates it by reference.

This grazing lease issuance does not affect the following resources, which receive no further analysis:

Air Quality	Recreation
Areas of Critical Environmental Concern (ACEC)	Soils
Environmental Justice	Traditional Cultural Properties
Prime or Unique Farmlands	Visual Resource Management
Flood Plains	Water Quality and Prime or Sole Source of
Hazardous or Solid Wastes	Drinking Water
Mineral Resources	Wetlands and Riparian Zones
Native American Religious Concerns	Wild and Scenic Rivers
Paleontology	Wilderness Values

3.2 Cultural Resources

Class III inventory for cultural resources has not occurred on the majority of the allotment. Several inventories oil and gas development have been conducted and discovered two cultural sites. The Long Draw Allotment contains two unevaluated historic sites. There may be many more unrecorded cultural sites, some which may be eligible for listing on the National Register, within the allotment.

Class III cultural resource inventory was performed for the proposed pipeline prior to on-the-ground project work (BFO project no. 70110086). A class III cultural resource inventory following the Archeology and Historic Preservation, Secretary of the Interior's Standards and Guidelines (48CFR190) and the *Wyoming State Historic Preservation Office Format, Guidelines, and Standards for Class II and III Reports* was performed by the BLM-BFO. Seth Lambert, BLM Archaeologist, reviewed the report for technical adequacy and compliance with Bureau of Land Management (BLM) standards, and determined it to be adequate.

3.3 Livestock Grazing

In 1985, BLM established 3 categories for allotments to identify areas where management was potentially needed, as well as to prioritize workloads and the use of range improvement funds. The categories classify allotments as Improve Existing Resource Conditions (I), Maintain Existing Resource Conditions (M), or Custodial Management (C) (USDI 2008). The Olsen Draw Allotment is a category “C” allotment, meaning its management is minimal in nature, due to the small amount of public land within the allotment. The BLM’s rationale for this classification is that there are no identified resource problems, and the size and continuity of the public land is not conducive to more intensive management by the BLM.

The Olsen Draw Allotment consists of 4891 acres of public land, 1280 acres of state land, and about 20,520 acres of deeded land. There are 592 AUMs associated with the federal lands in the allotment. Grazing of public land parcels is in conjunction with state and deeded lands.

Within the allotment, there are 7 pastures containing BLM lands. These range in size from 1540 acres to 5203 acres. The pastures affected by the proposed pipeline are the Buffalo Creek and Clear Creek Pastures, on the eastern edge of the allotment. The Buffalo Creek Pasture contains 4349 acres, 1357 of which are BLM land. There is 1 well (#25 Well) which was developed in 2002, and a small stock reservoir on BLM surface in the pasture. The Clear Creek Pasture contains 3202 acres, including 613 acres of federal land. There is 1 well and cistern (#35 Well), constructed in 1958, and 1 small stock reservoir on BLM land in the pasture.

The Clear Creek and Buffalo Creek pastures of the Olsen Draw allotment have received little use in the last few years. Farmland Reserve, Inc. is currently developing a grazing plan for the newly acquired ranch. Livestock may be grazed in these pastures at any time of year. The BLM does not limit season of use in the allotment.

3.4 Invasive Species/Noxious Weeds

Invasive species and noxious weeds exist in the affected environment. The primary species in the allotment are leafy spurge (*Euphorbia esula*), and downy brome (*Bromus tectorum*). This *Bromus* species occurs in such high densities and numerous locations throughout Northeast Wyoming that a control program is not considered feasible at this time. Leafy spurge in the allotment was sprayed starting in the 1970s, and the species appears to be under control. No substantial noxious weed infestations were observed around water developments that were visited in May 2011.

3.5 Wildlife, Threatened & Endangered, Candidate and Sensitive Species

The BLM conducted wildlife evaluations to assess the occurrence of selected wildlife species and their habitats, as well as to evaluate the anticipated effects associated with issuance of the proposed grazing lease and installation of the proposed pipeline on the Olsen Draw Allotment. Datasets included occurrence information for big game, raptors, bald eagles, sage-grouse, sharp-tailed grouse, mountain plover, black-tailed prairie dogs, and sagebrush in the project area. An on-site evaluation was conducted by a BLM biologist in the project area in March of 2011 and a BLM range technician on July 26, 2011.

Wildlife habitats occurring on the Olsen Draw Allotment are results of a complex history of natural and man-caused influences. Important natural influences included short- and long-term climate variation, infrequent wildfire, and ungulate grazing; especially by bison (Baker 2006; Mack and Thompson 1982). From about 1880 to 1910, the removal of native bison, and their subsequent replacement with “vast numbers” of cattle sheep, greatly influenced the Powder River Basin, including the Olsen Draw Allotment (Cassity 2007; Patterson 1952). The combined impacts of cattle and sheep overstocking and climate may have initiated the ongoing epicycle of gully erosion that is evident throughout the Basin (Leopold and Miller 1954). Enactment of the Taylor Grazing Act of 1934 repaired early range degradation and aided the recoveries of reduced wildlife populations (Patterson 1952).

The following tables summarize the affected environment relative to selected wildlife.

Table 3. Summary of Species Habitat and Project Effects.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
Amphibians				
Northern leopard frog (<i>Rana pipiens</i>)	Beaver ponds, permanent water in plains and foothills (SS Policy). Swampy, cattail marshes on the plains (WGFD CWCS).	S	MIIH	Habitat may be present. Individuals or eggs may be trampled. No impact from pipeline construction.
Columbia Spotted frog (<i>Rana pretiosa</i>)	Breeds in the shallows of lakes, ponds, marshes, and small streams (NatureServe).	S	MIIH	Habitat may be present. Individuals or eggs may be trampled. No impact from pipeline construction.
Birds				
Baird's sparrow (<i>Ammodramus bairdii</i>)	Grasslands, weedy fields (SS Policy). Un- or lightly grazed mixed-grass prairie, wet meadows, tallgrass prairie. Prairie w/ scattered low bushes and matted vegetation (NatureServe). In dry years, grassy slough bottoms, alkali flats, and depressions in low lying grasslands.	NS	NI	No records in the project area.
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Mature forest cover often within one mile of large water body (SS Policy). Nests near large lakes and rivers in forested habitat where adequate prey and old, large-diameter cottonwood or conifer trees are available for nesting (WGFD CWCS). Migrating and wintering eagles congregate near open water areas where concentrations of prey are available, such as carcasses of ungulate species, and spawning areas for kokanee, trout, and other fish (WGFD CWCS).	S	NI	Pipeline construction will occur outside of the nesting and winter roosting seasons. Roosting and nesting habitat is present within one mile. Bald eagles may use the area for foraging. At least 10 individuals have been observed less than 2 miles away. An immature individual was observed in the allotment on July 26, 2011. Activities associated with ongoing livestock grazing operations are not likely to occur to such an extent that foraging behavior will be disrupted.
Brewer's sparrow (<i>Spizella breweri</i>)	Basin-prairie shrub (SS Policy). Closely associated with sagebrush shrublands that have abundant, scattered shrubs and short grass (WGFD CWCS).	S	MIIH	Trampling of nests may occur. Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended. Dust, noise, and human disturbance may cause species to avoid the area during project construction.
Burrowing owl (<i>Athene cunicularia</i>)	Grasslands, basin-prairie shrub (SS Policy). Prefers open prairie, grassland, desert, and shrub-steppe habitats, and may also inhabit agricultural areas. It depends on mammals that dig burrows, which it uses for nesting, roosting, and escape (WGFD CWCS).	S	MIIH	Burrowing owls prefer grazed areas and use manure to line their nests. The proposed pipeline does not intersect any prairie dog towns. Dust, noise, and human disturbance may cause species to avoid the area during pipeline construction. Construction will occur outside of the breeding season.
Ferruginous hawk (<i>Buteo regalis</i>)	Basin-prairie shrub, grasslands, rock outcrops (SS Policy). Semi-arid open country, primarily grasslands, basin-prairie shrublands, and badlands (WGFD CWCS). Requires large tracts of relatively undisturbed rangeland and nests in rock outcrops, the ground, cutbanks, cliff ledges, or trees (WGFD CWCS).	S	NI	Ferruginous hawks may forage in this area. One nest has been documented within five miles of the allotment. Livestock activity and pipeline construction should not affect foraging behavior.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
Loggerhead shrike (<i>Lanius ludovicianus</i>)	Basin-prairie shrub, mountain-foothill shrub (SS Policy). Grasslands interspersed with scattered trees and shrubs that provide nesting and perching sites.	S	MIIH	Ongoing livestock operations will not result in reduced shrub cover or habitat fragmentation. Nests may be toppled by livestock and during pipeline construction. Dust, noise, and human disturbance may cause species to avoid the area during pipeline construction.
Long-billed curlew (<i>Numenius americanus</i>)	Grasslands, plains, foothills, wet meadows (SS Policy). Inhabits a variety of grassland types ranging from moist meadow grasslands to agricultural areas to dry prairie upland, usually near water. Prefers a complex of shortgrass prairies, agricultural fields, wet and dry meadows and prairies, and grazed mixed-grass and scrub communities. Nests on the ground in habitat that includes grass <12", bare ground, shade, abundant invertebrate prey, and a minimum on 40 acres of suitable habitat (WGFD CWCS).	S	MIIH	Nests may be trampled by livestock. Pipeline construction may damage nests and temporarily disturb individuals.
Migratory bird species (Various)	Multiple vegetation types are used for breeding, foraging and wintering, with habitat types ranging from grasslands and shrub-steppe to woodlands and riparian areas.	K	MIIH	Trampling of nests may occur. Negligible impacts from livestock or humans disrupting breeding, dislodging nests, or causing adult to leave eggs or chicks unattended. Ongoing livestock operations should not create significant additional impacts. Short-term disturbance during pipeline construction will have minimal impacts.
Mountain plover (<i>Charadrius montanus</i>)	Short-grass prairie with slopes < 5% (SS Policy). Low, open habitats such as arid shortgrass and mixed-grass prairies dominated by blue grama and buffalo grass with scattered clumps of cacti and forbs, and saltbush habitats of the shrub-steppe. Prefers to nest in large, flat grassland expanses with sparse, short vegetation (<=4") and bare ground. Adapted to areas that have been disturbed by prairie dogs, heavy grazing, or fire (WGFD CWCS).	S	MIIH	Suitable plover habitat is present. Birds may prefer grazed areas. Pipeline construction may result in temporary disturbance of individuals. Pipeline construction will occur outside of the breeding season.
Northern goshawk (<i>Accipiter gentilis</i>)	Conifer and deciduous forests (SS Policy). Mixed coniferous habitat of a wide variety of ages, structural conditions, and successional stages. Nests in mature stands with multilayered canopies with open understory, small openings, and water within 0.25 miles. Nest stands often on slopes with northerly exposures or in drainages or canyon bottoms protected by such slopes. Post-fledging area is a mosaic of forest types that provide hiding cover and abundant prey. Foraging area may include a variety of forest types and structures but most often consists of forests with a high density of large trees, high canopy closure, high basal area, and relatively open understories, interspersed w/ shrublands and openings with perching trees to observe prey. Winter habitat probably includes a variety of vegetation types, such as forests, woodlands, shrublands, and forested riparian strips (WGFD CWCS).	NP	NI	Forested habitat not present.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
Peregrine falcon (<i>Falco peregrinus</i>)	Cliffs (SS Policy). Forages in open woodlands and forests, shrub-steppe, grasslands, marshes, and riparian habitats. Nests in cliffs that are usually proximate to habitats with abundant prey (WGFD CWCS).	NP	NI	Nest substrate not present. No known breeding pairs in proximity.
Plains Sharp-Tailed Grouse (<i>Tympanuchus phasianellus jamesi</i>)	Short and mixed-grass prairie, sagebrush shrublands, woodland edges, and river canyons. Common where grasslands are intermixed with other shrublands, especially wooded draws, shrubby riparian area, and wet meadows. Diets include a variety of forbs, grasses and insects. In winter, sharp-tailed grouse also feed on buds and catkins of deciduous trees or shrubs and berries. Birds are also known to feed on the buds of aspen and willow.	S	MIIH	Properly managed grazing will maintain quality cover and habitat. Nests or chicks may occasionally be trampled. There is a lek 4.5 miles north of the allotment boundary. Ongoing livestock operations and short-term disturbance during pipeline construction are not likely to change use of this area by Sharp-tailed grouse.
Sage sparrow (<i>Amphispiza billineata</i>)	Basin-prairie shrub, mountain-foothill shrub (SS Policy). Considered a sagebrush obligate. Inhabits prairie and foothills shrubland habitat where sagebrush is present. Prefers shrublands with tall shrubs and low grass cover, where sagebrush is clumped in a patchy landscape. Requires a large block of unfragmented habitat to successfully breed and survive (WGFD CWCS).	NP	NI	No records of Sage-sparrow in the project area.
Sage thrasher (<i>Oreoscoptes montanus</i>)	Basin-prairie shrub, mountain-foothill shrub (SS Policy). Considered a sagebrush obligate. Inhabits prairie and foothills shrubland habitat where sagebrush is present. Prefers shrublands with tall shrubs and low grass cover, where sagebrush is clumped in a patchy landscape (WGFD CWCS).	S	MIIH	Nests may be trampled. Uncommon cowbird host, which are associated with cattle. May be more susceptible to higher parasitism pressure. Sagebrush removal will be minimal due to pipeline installation along existing primitive road. Dust, noise, and human disturbance may cause species to avoid the area during pipeline construction.
Trumpeter swan (<i>Cygnus buccinator</i>)	Lakes, ponds, rivers (SS Policy). Inhabits shallow marshes, ponds, lakes, and river oxbows. Prefers stable, quiet, and shallow waters where small islands, muskrat houses, or dense emergent vegetation provide nesting and loafing sites. Nutrient-rich water, with dense aquatic plant and invertebrate growth, provide the most suitable habitat. Winter habitat must provide extensive beds of aquatic plants that remain ice-free. In Wyoming, cold temps and ice restrict trumpeters to sites where geothermal waters, springs, or outflow from dams maintain ice-free areas (WGFD CWCS).	NP	NI	Habitat not present.
White-faced ibis (<i>Plegadis chihi</i>)	Marshes, wet meadows (SS Policy). Inhabits marshes, wet-moist meadows, lakes, and irrigated meadows. Nests on the ground in bulrushes, cattails, or reeds; on a floating mat; or in a low tree.	S	NI	Habitat is present in the allotment. Ongoing livestock operations should not create significant additional impacts. Short-term disturbance during pipeline construction will have minimal impacts.
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	Open woodlands, streamside willow and alder groves (SS Policy). Nests primarily in large stands of cottonwood-riparian habitat below 7000 ft, including such habitats that occur in urban areas. It is a riparian obligate species that prefers extensive areas of dense thickets and mature deciduous forests near water, and requires low, dense, shrubby vegetation for nest sites.	NP	NI	Habitat not present.

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
Fish				
Yellowstone cutthroat trout (<i>Oncorhynchus clarki bouvieri</i>)	Mountain streams and rivers in Tongue River drainage	NP	NI	Habitat not present.
Mammals				
Black-tailed prairie dog (<i>Cynomys ludovicianus</i>)	Prairie habitats with deep, firm soils and slopes less than 10 degrees (SS Policy). Inhabits dry, flat, open, shortgrass and mixed-grass grasslands with low, relatively sparse vegetation, including areas overgrazed by cattle. Constructs burrows in fine to medium soils (WGFD CWCS).	K	BI/MIIH	Prairie dogs often prefer habitats grazed by livestock, which benefit the species. Livestock producers in NE Wyoming actively control prairie dogs, resulting in loss of colonies.
Fringed myotis (<i>Myotis thysanodes</i>)	Conifer forests, woodland chaparral, caves and mines (SS Policy). Found in a wide range of habitats, including coniferous forests, woodlands, grasslands, and shrublands.	S	NI	Habitat may be present. Foraging activity will not be affected by daytime pipeline construction or ongoing livestock operations.
Long-eared myotis (<i>Myotis evotis</i>)	Conifer and deciduous forest, caves and mines (SS Policy). Primarily inhabits coniferous forest and woodland, including juniper, ponderosa pine, and spruce-fir.	NP	NI	Forested habitat not in proximity.
Spotted bat (<i>Euderma maculatum</i>)	Cliffs over perennial water (SS Policy). Occupies a wide variety of habitats, from desert scrub to coniferous forest.	S	NI	Roosting habitat may be present, but will not be impacted by continued livestock grazing or pipeline construction.
Swift fox (<i>Vulpes velox</i>)	Grasslands (SS Policy). Inhabits shortgrass and mixed-grass prairies. Often uses highway and railroad ROWs, agricultural areas, and sagebrush-grasslands. Closely associated w/ prairie dog colonies and uses underground dens year-round. Selects habitat with low-growing vegetation, relatively flat terrain, friable soils, and high den availability (WGFD CWCS).	S	MIIH	Inappropriate grazing could reduce hiding cover and increase susceptibility to predation. Pipeline construction may temporarily discourage fox activity in the immediate area.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	Caves and mines (SS Policy). Occupies a variety of xeric to mesic habitats, including coniferous forests, juniper woodlands, deciduous forests, basins, and desert shrublands, and is absent only from the most extreme deserts and highest elevations. Requires caves or abandoned mines for roost sites during all seasons and stages of its life cycle.	S	NI	Availability of roost sites is unknown, but foraging habitat is present. Ongoing livestock grazing unlikely to affect prey abundance or availability of foraging habitat. Daytime pipeline construction will not affect this species.
Plants				
Limber Pine (<i>Pinus flexilis</i>)	High-elevation pine, often marking the tree line either on its own, or with Whitebark Pine (<i>Pinus albicaulis</i>), either of the Bristlecone pines, or Lodgepole Pine (<i>Pinus contorta</i>). Found in steeply-sloping, rocky and windswept terrain in the Rocky Mountains.	NP	NI	Habitat not present
Porter's sagebrush (<i>Artemisia porteri</i>)	Sparsely vegetated badlands of ashy or tufaceous mudstone and clay slopes 5300-6500 ft.	NP	NI	Habitat not present
William's wafer parsnip (<i>Cymopterus williamsii</i>)	Open ridgetops and upper slopes with exposed limestone outcrops or rockslides, 6000-8300 ft.	NP	NI	Habitat not present

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
<p>Presence K - Known, documented observation within project area. S - Habitat suitable and species suspected, to occur within the project area. NS - Habitat suitable but species is not suspected to occur within the project area. NP - Habitat not present and species unlikely to occur within the project area.</p> <p>Project Effects NI - No Impact. MIIH - May Impact Individuals or Habitat, but will not likely contribute to a trend towards Federal listing or a loss of viability to the population or species. WIPV - Will Impact Individuals or Habitat with a consequence that the action may contribute to a trend towards Federal listing or cause a loss of viability to the population or species. BI - Beneficial Impact</p>				

Table 4. Summary of Threatened and Endangered Species Habitat and Project Effects

Common Name (scientific name)	Habitat	Presence	Project Effects	Rationale
Endangered				
Black-footed ferret (<i>Mustela nigripes</i>)	Black-tailed prairie dog colonies or complexes > 1,000 acres.	NS	NE	Land in the southeastern portion of the allotment, including the pipeline project area, overlaps the Arvada prairie dog complex, which is of sufficient size to provide ferret habitat. However, no ferrets have been observed in the area and the U.S. Fish & Wildlife Service has provided block clearance for black-footed ferret in this region of Wyoming.
Threatened				
Ute ladies'-tresses orchid (<i>Spiranthes diluvialis</i>)	Riparian areas with permanent water	NP	NE	Habitat not present
Candidates for listing				
Greater sage-grouse (<i>Centrocercus urophasianus</i>)	Basin-prairie shrub, mountain-foothill shrub (SS Policy). Also includes wet-moist meadows, and alfalfa and irrigated meadows when adjacent to sagebrush (WGFD CWCS).	K	MIIH	Eleven leks are within four miles of the allotment. There is one lek within the allotment boundaries. BLM land provides suitable wintering, nesting, and brood-rearing habitat. Incubating female, eggs, and/or chicks may occasionally be trampled. Ongoing livestock operations are not likely to change current use of this area by nesting sage-grouse. Pipeline construction may temporarily disturb individuals, but surface disturbance will be completed outside of the nesting season and sagebrush removal will be minimal. Wildlife escape ramps will be placed in all stock tanks to reduce the threat of mortality from drowning.
<p>Presence K - Known, documented observation within project area. S - Habitat suitable and species suspected, to occur within the project area. NS - Habitat suitable but species is not suspected to occur within the project area. NP - Habitat not present and species unlikely to occur within the project area.</p> <p>Project Effects LAA - Likely to adversely affect NE - No Effect NLAA - May Affect, not likely to adversely affect individuals or habitat. NLJ - Not likely to jeopardize continued existence MIIH - May impact individuals and habitat NP - Habitat not present and species unlikely to occur within the project area.</p>				

Greater Sage-grouse

This environmental assessment discusses Greater sage-grouse in more detail because they are classified as a candidate species, warranted for listing under the Endangered Species Act (USFWS 2010) and are thus of heightened management concern in the Buffalo Field Office. Sage-grouse are also a Wyoming BLM sensitive species and a Wyoming Game & Fish Department (WGFD) Species of Greatest Conservation Need.

Greater sage-grouse habitat is present at the site of the proposed pipeline and throughout the Olsen Draw allotment. Habitat models indicate that BLM lands within the allotment contain high quality winter and nesting/brood-rearing habitat (Doherty et al. 2007, Doherty 2008). The allotment and proposed pipeline are located within a State of Wyoming Sage-grouse Connectivity Area as well as a BLM Sage-grouse Focus Area. The North Buffalo Creek lek is located on the far northern edge of the allotment, and ten additional leks lie within four miles of the allotment: Dexter, Hanging Woman--Main Fork, Hanging Woman--South Middle Prong, Jacobs, Kendrick, Kendrick II, Leiter, PK, Sheridan Ranches, and Weller. Three adult male sage-grouse flushed from the 2-track approximately 2 miles west of the proposed pipeline in March 2011, and a hen with a brood was seen along the pipeline route in July 2011.

The sage-grouse population within northeast Wyoming is exhibiting a steady long term downward trend (WGFD 2010, USFWS 2010). The figure below illustrates a ten-year cycle of periodic highs and lows. Each subsequent population peak is lower than the previous peak. Long-term harvest trends are similar to that of lek attendance (WGFD 2010). Habitat fragmentation is the primary attributor to these declines (USFWS 2010). However research also points to a synergy between habitat fragmentation and West Nile Virus (WNV) outbreaks that are detrimental to sage-grouse. (Naugle et al. 2011, Walker et al. 2011 and 2007, Holloran 2005, Clark et al. 2006, Zou et al. 2006)

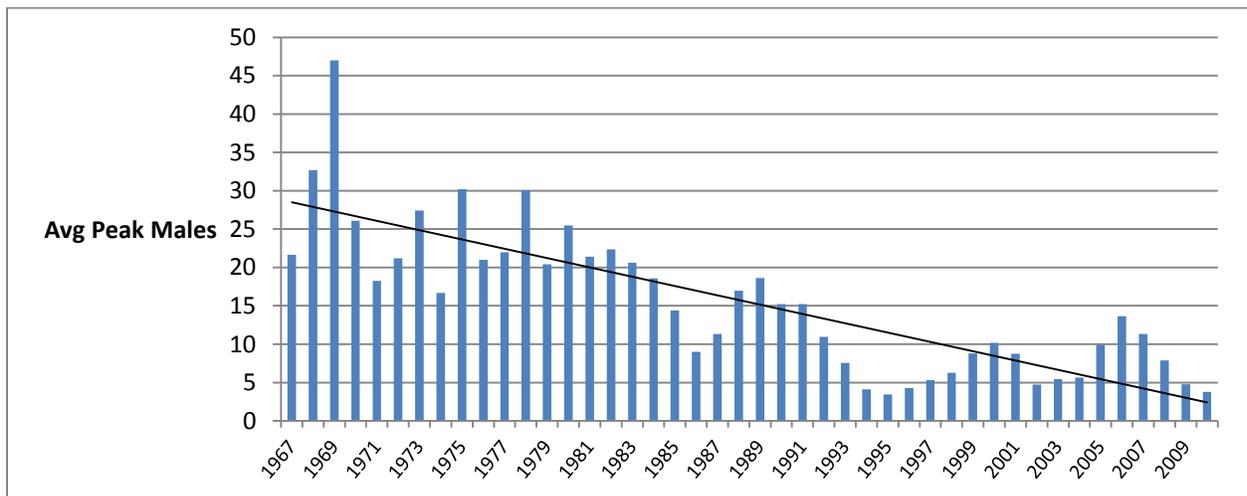


Figure 1
Average peak number of male sage-grouse per active lek and trend line within the BFO 1967-2010

3.5.1 Big Game

Big game species occurring within the Olsen Draw allotment include pronghorn and mule deer. WGFDD data indicate that the allotment contains yearlong pronghorn and winter yearlong mule deer range. Yearlong use is when a population makes general use of suitable documented habitat sites within the range on a year-round basis, but animals may leave the area under severe conditions. Winter-yearlong use is when a population or a portion of a population of animals makes general use of the documented suitable habitat sites within this range on a year-round basis, but during the winter months there is a significant influx of additional animals into the area from other seasonal ranges. Elk also inhabit the Olsen Draw Allotment on occasion. A group of about 15 individuals, consisting of mature females and calves, was observed within 1.5 miles of the allotment's northern boundary on July 7, 2011.

3.5.2 Raptors

Raptors use the Olsen Draw allotment for breeding, foraging, wintering, and migration. Common raptor species frequenting the allotment include golden eagle, northern harrier, red-tailed hawk, Swainson's hawk, American kestrel, short-eared owl, and great-horned owl. Less common species that may use habitats in the area include bald eagle, rough-legged hawk, and merlin. Bald eagles occasionally roost in cottonwood galleries along Buffalo Creek and other nearby riparian areas (primarily Powder and Tongue Rivers, Clear and Crazy Woman Creeks) in the winter and forage throughout the area.

Raptors generally prey upon small mammals, reptiles, and fish. Their survival and reproductive success depends, in part, upon the availability and abundance of these food sources. The closest known raptor nest is a red-tailed hawk (BLM ID# 513) located one mile to the south and west of the project area. An immature bald eagle was observed in the allotment on July 26, 2011. An adult American Kestrel and fledged chick were also observed.

3.5.3 West Nile Virus

West Nile virus (WNV) is a mosquito-borne disease that can cause encephalitis or brain infection. Mosquitoes spread this virus after they feed on infected birds and then bite people, other birds, and animals. WNV is not spread by person-to-person contact, and there is no evidence that people can get the virus by handling infected animals.

WNV firmly established and spread across the United States since its discovery in 1999 in New York. Birds are the natural vector host and serve not only to amplify the virus, but to spread it. Though less than 1% of mosquitoes carry WNV, they still are effective in transmitting the virus to humans, horses, and wildlife. *Culex tarsalis* appears to be the most common mosquito to vector WNV.

The human health issues related to WNV are well documented and appear to have leveled off. Historic data collected by the CDC, published by the USGS at: www.westnilemaps.usgs.gov, and are summarized in Table 5. Reported data from the Powder River Basin (PRB) includes Campbell, Sheridan and Johnson counties.

Table 5. Historical West Nile Virus Information

Year	Total WY Human Cases	PRB		
		Human Cases	Equine Cases	Bird Cases
2001	0	0	0	0
2002	2	0	15	3
2003	392	85	46	25
2004	10	3	3	5
2005	12	4	6	3
2006	65	0	2	2
2007	155	22	Unk	1
2008	10	0	0	0
2009	10	1	1	No record
2010	6	0	0	0

Source: Wyoming Department of Health, www.badskeeter.org/detections.html.

Human cases of WNV in Wyoming occur primarily in the late summer or early fall. There is some evidence that the incidence of WNV tapers off over several years after a peak following initial outbreak. If this is the case, occurrences in Wyoming may exhibit a gradual decline in the number of reported cases.

Although most of the attention focuses on human health issues, WNV has an impact on vertebrate wildlife populations. At a recent conference at the Smithsonian Environmental Research Center, scientists disclosed WNV was detected in 157 bird species, horses, 16 other mammals, and alligators (Marra et al 2003). In the eastern US, avian populations incurred very high mortality, particularly crows, jays and related species. Raptor species also appear to be highly susceptible to WNV.

Researchers documented that 36 raptors died from WNV in Wyoming in 2003. These included golden eagle, red-tailed hawk, ferruginous hawk, American kestrel, Cooper's hawk, northern goshawk, great-horned owl, prairie falcon, and Swainson's hawk (Cornish et al. 2003). Actual mortality is likely to be greater. Population impacts of WNV on raptors are unknown at present. The Wyoming State Vet Lab determined 22 sage-grouse in one study project (90% of the study birds), succumbed to WNV in the PRB in 2003. While birds infected with WNV have many of the same symptoms as infected humans, they appear to be more sensitive to the virus (Rinkes 2003, Holloran 2005, Clark 2006, Walker 2011, 2007).

Mosquitoes can potentially breed in any standing water that lasts more than 4 days. In the PRB there is generally increased surface water availability associated with coal bed natural gas development. This increase in potential mosquito breeding habitat provides opportunities for mosquito populations to increase (Zou 2006). Preliminary research conducted in the PRB indicates WNV mosquito vectors were notably more abundant on a developed CBNG site than 2 similar undeveloped sites (Walker et al. 2003). Reducing the population of mosquitoes, especially species that are apparently involved with bird-to-bird transmission of WNV, such as *Culex tarsalis*, can help to reduce or eliminate the presence of virus in a given geographical area (APHIS 2002). The most important step any property owner can take to control such mosquito populations is to remove all potential man-made sources of standing water in which mosquitoes might breed (APHIS 2002).

The most common pesticide treatment is to place larvicidal briquettes in small standing water pools along drainages or every 100 feet along the shoreline of reservoirs and ponds. It is generally accepted that it is not necessary to place the briquettes in the main water body because wave action prevents this environment from being optimum mosquito breeding habitat. These treatment methods seem to be effective when focused on specific target areas, especially near communities, however they have not been applied over large areas nor have they been used to treat a wide range of potential mosquito breeding habitat such as that associated with CBNG development or range improvement projects.

4.0 ENVIRONMENTAL EFFECTS

This section describes the environmental effects of the no action alternative (Alternative A), Alternative B, and those of the proposed action, Alternative C. The effects analysis addresses the direct and indirect effects of implementing the proposed action, the cumulative effects of the proposed action combined with reasonably foreseeable federal and non-federal actions, identifies mitigation measures, and discloses any residual effects.

4.1 Direct and Indirect Effects

4.1.1 Cultural Resources

Alternative A- Deny Transfer & Lease Issuance, Deny Pipeline Construction

Deny Lease Issuance:

The absence of grazing will not result in impacts to cultural resources.

Deny Pipeline:

The absence of the pipeline will not result in impacts to cultural resources.

Alternative B- Authorize Transfer & Lease Issuance, Deny Pipeline Construction

Authorize Lease Issuance:

Any activity that removes vegetation or leads to soil erosion can cause impacts to cultural resources. Livestock concentration areas (such as those that form near water sources, supplemental feeding areas, fence corners, etc.) and livestock trail formation may result in impacts to cultural resources. According to the State Protocol Agreement between the Wyoming BLM and the Wyoming SHPO, grazing lease renewals that do not include seasonal grazing changes or changes in livestock types are exempt from case-by-case review. As per Appendix B item #27 and following section IV(A)(3) of the Wyoming State Protocol, on August 11, 2011 the Bureau electronically notified the Wyoming State Historic Preservation Office (SHPO) of this grazing lease renewal.

Deny Pipeline:

The absence of the pipeline will not result in impacts to cultural resources.

Alternative C-Authorize Transfer & Lease Issuance, Authorize Pipeline Construction

Authorize Lease Issuance:

Any activity that removes vegetation or leads to soil erosion can cause impacts to cultural resources. Livestock concentration areas (such as those that form near water sources,

supplemental feeding areas, fence corners, etc.) and livestock trail formation may result in impacts to cultural resources. According to the State Protocol Agreement between the Wyoming BLM and the Wyoming SHPO, grazing lease renewals that do not include seasonal grazing changes or changes in livestock types are exempt from case-by-case review. As per Appendix B item #27 and following section IV(A)(3) of the Wyoming State Protocol, on August 11, 2011 the Bureau electronically notified the Wyoming State Historic Preservation Office (SHPO) of this grazing lease renewal.

Authorize Pipeline:

No historic properties will be impacted by the proposed project. Following the Wyoming State Protocol Section VI(A)(1) the Bureau of Land Management electronically notified the Wyoming State Historic Preservation Officer (SHPO) on 08/11/11 that no historic properties exist within the APE. If any cultural values [sites, artifacts, human remains (Appendix L PRB FEIS)] are observed during operation of this lease/permit/right-of-way, they will be left intact and the Buffalo Field Manager notified. Further discovery procedures are explained in the Standard COA (General)(A)(1).

4.1.2 Livestock Grazing

Alternative A- Deny Transfer & Lease Issuance, Deny Pipeline Construction

Deny Lease Issuance:

The Federal Land Policy and Management Act of 1976 (FLPMA) requires the BLM to manage public lands and resources according to the principals of multiple use and sustained yield and recognizes the Nation's need for domestic sources of minerals, food, timber, and fiber. FLPMA also requires the BLM—except in cases of emergency—to give 2 years' notification when an authorization for domestic livestock grazing is cancelled, in whole or in part, to devote the associated lands to another public purpose, including disposal.

The Buffalo RMP states as a resource management decision that *livestock grazing is allowed on all public lands in the resource area except on about 6,000 acres where it has been determined to be incompatible with other resource uses or values.*

There are no fences or natural barriers separating BLM and non-BLM lands. At this time, fencing out the public lands is not practical or cost effective. If extraordinary circumstances arise, such as the identification of an endangered plant or damageable cultural resource on the site, fencing may be a greater priority, and the BLM will address the matter in a separate EA. If the public lands are not leased, and subsequently not fenced, any livestock use occurring thereon is unauthorized. Selecting this alternative will affect how the adjacent private and state lands are grazed because the operator must keep livestock off public lands through herding or fencing, or else be in violation of federal grazing regulations. The mixed ownership pattern in the BFO resource area makes herding difficult, in addition to the fact that herding does not ensure that public lands are not grazed. A rider needs to remain with livestock at all times. Because it is not economically feasible for the BLM to fence all federal land parcels, fences will likely be constructed on private land, fragmenting the area and making BLM unable to stipulate wire spacing to facilitate wildlife movement. Most four-strand fences on private land have a top wire of 46-48 inches with 10-12 inch wire spacing and all wires are barbed. In the absence of fences, the BLM must constantly supervise the public lands to assure they are not being grazed.

No adverse resource impacts resulting from livestock grazing have been identified which would warrant cancellation of all grazing on this allotment. The Buffalo RMP allows for adjustment of forage allocation based on an evaluation of monitoring, field observations, or other data as needed. Additionally, changes in grazing practices can be effective in mitigating impacts without a corresponding reduction in forage allocation.

Deny Pipeline:

Denying construction of the proposed pipeline would not have an impact on current livestock grazing on the public lands in this allotment.

Alternative B- Authorize Transfer & Lease Issuance, Deny Pipeline Construction

Authorize Lease Issuance:

Rangeland vegetation inventory (MRB, 1957) data indicates an adequate amount of forage is available to support the proposed number of livestock and for wildlife use and the effects of that use within this allotment. An on-site visit in May 2011 confirmed that adequate forage is available to support current use levels. The new grazing lease authorizes the same numbers and kind of livestock and season of use as the existing lease. The BLM does not expect the issuance and transfer of the grazing lease to have any effects on range management.

Deny Pipeline:

Denying construction of the proposed pipeline would not have an impact on current livestock grazing on the public lands in this allotment.

Alternative C-Authorize Transfer & Lease Issuance, Authorize Pipeline Construction

Authorize Lease Issuance:

Rangeland vegetation inventory (MRB, 1957) data indicates an adequate amount of forage is available to support the proposed number of livestock and for wildlife use and the effects of that use within this allotment. An on-site visit in May 2011 confirmed that adequate forage is available to support current use levels. The new grazing lease authorizes the same numbers and kind of livestock and season of use as the existing lease. The BLM does not expect the issuance and transfer of the grazing lease to have any effects on range management.

Authorize Pipeline:

Construction of the proposed pipeline would provide new water sources within the Olsen Draw Allotment. These troughs would allow more sophisticated grazing management by creating mechanisms to distribute livestock throughout the pastures. Use around existing water sources would decrease, reducing trampling and colonization by noxious weeds. Constructing the pipeline and water sources will allow the livestock operator to manage time, timing, and distribution more effectively. The troughs will also encourage livestock to move out of the more fragile draw bottoms and forage on higher ground. Because the allotment falls into the BLM's "Custodial" management category, and due to its small amount of public land, any new pasture rotation systems and watering plans will be managed privately by the landowner and not regulated by BLM. The BLM will allow operator flexibility by not restricting season of use. Any future changes to this practice will be addressed in a separate EA.

4.1.3 Invasive Species/Noxious Weeds

Alternative A- Deny Transfer & Lease Issuance, Deny Pipeline Construction

Deny Lease Issuance:

Removing livestock grazing from the public land can promote growth—and potential overgrowth—of perennial grasses and forbs, thus crowding out or reducing the potential for invasion of noxious and/or invasive species. However, the overgrowth of vegetation increases the availability of fine fuels, which also increases the risk of wildfire. These fires would also be more intense, allowing opportunistic noxious and invasive species to colonize the public lands. Cooperative weed control efforts could discourage overgrowth of vegetation and decrease the fire return interval.

Deny Pipeline:

If the proposed pipeline and troughs are not constructed, livestock will continue to use water at the existing wells. The area around these water sources will receive more concentrated use and trampling than they would if additional tanks were constructed, which may present an opportunity for weed invasion.

Alternative B- Authorize Transfer & Lease Issuance, Deny Pipeline Construction

Authorize Lease Issuance:

Implementing appropriate grazing use, as described in the Proposed Action, along with ongoing cooperative weed control efforts, benefits the health of the native plant community. A healthy native plant community often provides competition against the establishment and/or spread of noxious weeds. Issuing the grazing lease will not result in any additional impacts in relation to the spread of noxious weeds.

Deny Pipeline:

If the proposed pipeline and troughs are not constructed, livestock will continue to use water at the existing wells. The area around these water sources will receive more concentrated use and trampling than they would if additional tanks were constructed, which may present an opportunity for weed invasion.

Alternative C-Authorize Transfer & Lease Issuance, Authorize Pipeline Construction

Authorize Lease Issuance:

Implementing appropriate grazing use, as described in the Proposed Action, along with ongoing cooperative weed control efforts, benefits the health of the native plant community. A healthy native plant community often provides competition against the establishment and/or spread of noxious weeds. Issuing the grazing lease will not result in any additional impacts in relation to the spread of noxious weeds.

Authorize Pipeline:

A 10-foot corridor will be disturbed along the length of the proposed pipeline when it is buried. Minimizing the area of surface disturbance reduces the chance of colonization by invasive species. Small areas near the proposed tanks will suffer livestock trampling due to the concentration of animals near the water source. This could allow for invasion by noxious weeds. However, noxious weeds are not abundant within the allotment. In addition, the construction of the 2 new tanks should decrease livestock concentration at the existing wells, dispersing the

effects of trampling. By increasing distribution, a more uniform grazing pattern throughout the pastures will help native plants thrive and reduce the possibility of weed establishment.

4.1.4 Wildlife, Threatened & Endangered, Proposed, Candidate, and Sensitive Species **Alternative A- Deny Transfer & Lease Issuance, Deny Pipeline Construction**

Deny Lease Issuance:

Denial of the lease would have no effect to threatened or endangered species. Sensitive species that would benefit from denial of the lease include most of the sagebrush obligates such as brewers sparrow and greater sage-grouse. Species that would be adversely impacted are those associated with grazed or barren ground such as mountain plover, burrowing owl, black-tailed prairie dog. The severity of impact would be minimal considering the limited BLM administer surface.

Deny Pipeline:

Denying the pipeline would have no effect to threatened, endangered, proposed, candidate, and sensitive species.

Alternative B- Authorize Transfer & Lease Issuance, Deny Pipeline Construction

Authorize Lease Issuance: Approval of the lease would have no effect to threatened or endangered species. Sensitive species that would benefit from authorization of the lease are those associated with grazed or barren ground such as mountain plover, burrowing owl, black-tailed prairie dog. Species that would be adversely impacted include most of the sagebrush obligates such as brewers sparrow and greater sage-grouse. The severity of impact would be minimal considering the limited BLM administer surface.

Increased grazing flexibility, enabled by construction of the pipeline, holding tank, and stock tanks, will allow the producers to rotate pastures and rest areas that are currently not rested. A rest-rotation grazing system may benefit sage-grouse.

As noted in BLM WY-IM-2010-012, domestic livestock grazing has occurred in and around this allotment and “within the range of sage-grouse for over 150 years and is the most common and widespread use of rangelands in the western United States. Livestock grazing practices may affect herbaceous composition, cover, and height and has a potential to impact sagebrush habitats. WY BLM has standards and guidelines to ensure proper livestock grazing management on public lands which can help maintain healthy rangeland conditions and provide functional habitat for sage-grouse. However, poor livestock grazing practices can have long-term negative impacts on sage-grouse habitat by degrading sagebrush, meadow, and riparian communities (Bohne et al. 2007).”

Deny Pipeline:

Denying the pipeline would have no effect to threatened, endangered, proposed, candidate, and sensitive species.

Alternative C-Authorize Transfer & Lease Issuance, Authorize Pipeline Construction

(See tables in Section 3.5)

Authorize Lease Issuance:

See effects described in Alternative B

Authorize Pipeline:

Authorization of the pipeline would have no effect on threatened or endangered species. Sensitive species present in the project area would experience a short-term impact while equipment and workers are constructing the lines. Construction during the late summer and fall will minimize impacts to sensitive species. By August, most nesting birds will have fledged young. Late nests, or re-nesting birds, may have nests destroyed by pipeline construction.

4.1.4.1 Big Game

Alternative A- Deny Transfer & Lease Issuance, Deny Pipeline Construction

Deny Lease Issuance:

If the BLM denies the permit, winter browse conditions for big game, the most likely resource that could limit big game, would not change. Encroaching herbaceous species may ultimately out-compete shrub species, resulting in a reduction in quality of big game winter range (Smith 1949). Additionally, livestock would not remove unpalatable standing dead material, resulting in unimproved forage.

Deny Pipeline:

There would be no effect to big game if the BLM denied the pipeline permit.

Alternative B- Authorize Transfer & Lease Issuance, Deny Pipeline Construction

Authorize Lease Issuance:

By managing land to meet Rangeland Health Standards and improving overall rangeland condition, forage for deer and pronghorn will improve.

Forage resources on winter ranges typically limit mule deer populations (Clements and Young 1997). Livestock grazing tends to favor shrubs over grasses, and thus may provide more desirable winter browse conditions on the allotments (Austin and Urness 1996, Austin et al. 1986, Smith 1949).

Livestock grazing may enhance big game forage by reducing unpalatable standing dead material (Short and Knight 2003). Big game and cattle may compete for forage on a minor level. There is very little dietary overlap between cattle, pronghorn, and deer during spring and early summer, since cattle feed primarily on grasses while pronghorn and deer select mostly forbs and some grasses. Cattle begin to use more forbs in late summer and fall, potentially increasing competition. Pronghorn and deer increase the amount of shrubs in their diet in fall and winter, thus reducing competition during those seasons (Anderson and McCuiston 2008).

Livestock grazing has occurred historically on this allotment and the BLM expects no additional impacts, other than those that have already taken place as a result of long-term use, from implementation of the proposed action.

Deny Pipeline:

There would be no effect to big game if the BLM denied the pipeline permit.

Alternative C-Authorize Transfer & Lease Issuance, Authorize Pipeline Construction

Authorize Lease Issuance:

See effects described in Alternative B.

Authorize Pipeline:

Forage in some areas may be slightly reduced due to a redistribution of cattle use throughout the pasture, specifically into upland areas.

4.1.4.2 Raptors

Alternative A- Deny Transfer & Lease Issuance, Deny Pipeline Construction

Deny Lease Issuance:

Under the no-grazing alternative, occasional trampling of nests by livestock would not occur. Livestock grazing would not alter habitats, thus benefitting some raptor species while negatively affecting others (Bock et al. 1993).

Deny Pipeline:

There will be no effect to raptors if BLM denies the pipeline permit.

Alternative B- Authorize Transfer & Lease Issuance, Deny Pipeline Construction

Authorize Lease Issuance:

Results from research and monitoring studies suggest that livestock grazing is likely to impact some species of raptors while favoring others (Bock et al. 1993). Livestock grazing may cause the direct impacts of nest and egg destruction of ground-nesting species due to trampling by livestock, or nest abandonment by birds intolerant of disturbance. Grazing management practices can change vegetation composition, leading to the indirect impacts of changing prey composition and availability. Continued livestock grazing will favor those species that benefit from the alterations in habitat that occur in response to grazing (Bock et al. 1993).

The following table (Table 6) lists grassland- and shrub-steppe-dependent raptor species not discussed elsewhere in this document that were reported in Bock et al. (1993) to be impacted either positively or negatively by livestock grazing.

Table 6. Grazing Impacts on Grassland- and Shrub-steppe-dependent Raptors

Response	Species	Habitat
Negative	Northern harrier	Grassland, Shrub-steppe
	Red-tailed hawk	Shrub-steppe
	Short-eared owl	Grassland, Shrub-steppe
	Swainson’s hawk	Shrub-steppe
Positive	Golden eagle	Shrub-steppe

A recent study to assess the impacts of rotational cattle grazing on rodents and raptors suggests that raptor use and prey availability can be affected by livestock grazing. In comparisons between grazed and ungrazed areas, raptor use declined by 15% in the grazed area, but increased by 63% on the ungrazed area. Rodent abundance declined and remained lower in the grazed area for the duration of the study (Johnson and Horn 2008).

Livestock grazing has occurred historically on this allotment and the BLM expects no additional impacts, other than those that have already taken place as a result of long-term use, from implementation of the proposed action. Appropriate grazing management could maintain or improve nesting habitats for ground-nesting raptor species and improve prey abundance and availability by enhancing habitat conditions.

Deny Pipeline:

There will be no effect to raptors if BLM denies the pipeline permit.

Alternative C-Authorize Transfer & Lease Issuance, Authorize Pipeline Construction

Authorize Lease Issuance:

See impacts described in Alternative B.

Authorize Pipeline:

There will be no effect to raptors if the BLM authorizes the construction of the pipeline.

4.1.4.3 West Nile Virus

Alternative A- Deny Transfer & Lease Issuance, Deny Pipeline Construction

Deny Lease Issuance:

Cancelling livestock grazing on the allotment will have no impact on WNV.

Deny Pipeline:

Denying construction of the proposed pipeline will not impact WNV.

Alternative B- Authorize Transfer & Lease Issuance, Deny Pipeline Construction

Authorize Lease Issuance:

Transferring the grazing preference and issuing a new grazing authorization will have no impact on WNV.

Deny Pipeline:

Denying construction of the proposed pipeline will not impact WNV.

Alternative C-Authorize Transfer & Lease Issuance, Authorize Pipeline Construction

Authorize Lease Issuance:

Transferring the grazing preference and issuing a new grazing authorization will have no impact on WNV.

Authorize Pipeline:

Construction of the proposed pipeline will result in new sources of standing surface water which may increase mosquito breeding habitat. However these small areas of standing water are not

likely to greatly affect the overall amount of mosquito habitat in the area. Full stock tanks represent only marginally suitable mosquito breeding habitat. There are many sources of standing water throughout the PRB, including CBNG discharges, natural flows, and coal mining operations. There is no evidence that treatment through the use of larvicides or malathion will have any effect on the overall spread of WNV. The BLM will continue monitoring this issue and consulting with state agencies and researchers to stay abreast of the most current information and potential mitigation measures associated with WNV.

4.2 Cumulative Effects

Cumulative effects are those resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions. Identified actions include noxious weed control and sage-grouse protection. If future assessments reveal that rangeland health standards are not being met due to livestock grazing, the BLM will address these issues before the start of the next grazing season as required by 43 CFR 4180.

The BLM will continue managing the Olsen Draw Allotment to achieve the Wyoming Standards for Rangeland Health. All elements of the environment will benefit from rangelands in good health. With regards to the proposed lease transfer and issuance, the terms and conditions of the lease will remain the same. Thus any cumulative impacts resulting from this part of the proposed action should be minor.

The Olsen Draw Allotment currently has several wells and other water developments distributed throughout its pastures. The majority of these facilities were installed prior to 1980, and all disturbance associated with wells and pipelines has been reclaimed. The proposed action would create an additional 1.77 miles of stock water pipeline and two new troughs within the allotment. The corridor disturbed by pipeline construction is expected to reclaim with native plants within five years, mitigating the disturbance. The disturbance associated with the proposed water troughs would last for the lifetime of the pipeline or as long as livestock are grazed on the allotment.

4.2.1 Noxious Weeds

Noxious weeds/invasive non-native plants are present within the assessment area to varying degrees. Livestock grazing may benefit certain weeds by reducing competition with grasses but may also help control other species through defoliation. Construction of the proposed pipeline will allow for improved time, timing, and distribution management that may result in more dispersed grazing pressure. This may increase the ability of native grasses to outcompete weed species. Currently the BFO is addressing the noxious weed situation by mapping weed locations and treating them with herbicides or bio-controls in conjunction with the local Weed and Pest organizations. Pipeline construction should not create substantial cumulative effects with regard to noxious weeds.

4.2.2 Greater Sage-grouse

Sage-grouse populations within the Olsen Draw allotment are being impacted by other land uses, the greatest of which is oil and gas development. Approximately 60 percent of the mineral estate underlying the allotment is owned and has been leased for oil and gas development by the federal government.

Recent research suggests that the cumulative and synergistic effects of current and foreseeable oil and gas development within the vicinity of the project area are likely to severely impact the local sage-grouse population, cause declines in lek attendance, and may result in local extirpation. The cumulative effects to sage-grouse from oil and gas development have been analyzed in several NEPA documents for projects near the Olsen Draw allotment.

The approval of the pipeline has the potential to set the conditions fostering synergistic detrimental effects to sage-grouse from WNV, habitat fragmentation, and disturbance (Walker et al. 2011). Standing water from the developments may foster mosquito breeding habitat which support WNV outbreaks, if certain conditions occur (low water levels, seeps or leaks).

The proposed action, as a result of grazing redistribution, may result in an increase in residual grass height in nesting habitat. Increasing residual grass height increases sage-grouse nest success.

4.3 Mitigation Measures Considered

The terms and conditions included as part of the proposed action will mitigate anticipated impacts.

In order to reduce the likelihood that activities associated with noise, construction, and human disturbance will displace nesting sage-grouse, BLM will implement a timing limitation on all surface-disturbing activities within and adjacent to identified nesting habitat. Wildlife escape ramps will be installed in tanks. No other mitigation measures are proposed.

4.4 Residual Effects

A timing limitation does nothing to mitigate loss and fragmentation of habitat or changes in disease mechanisms. There are no other residual impacts associated with the proposed action.

5.0 Tribes, Individuals, Organizations or Agencies Consulted

Brent Winter, Farmland Reserve, Inc.

6.0 List of Preparers

Charlotte Darling, Biological Science Technician

6.1 List of Reviewers, BLM Buffalo Field Office

<u>Name</u>	<u>Title</u>	<u>Responsibility</u>
Janelle Gonzales	Rangeland Management Specialist	Range, Vegetation, Soils
Bill Ostheimer	Wildlife Biologist	Wildlife, Migratory Birds
Seth Lambert	Archaeologist	Cultural Resources
Janelle Gonzales	Rangeland Management Specialist	Invasive Species
Chris Durham	Assistant Field Manager, Resources	Resources
John Kelley	Planning & Environmental Coordinator	NEPA Planning

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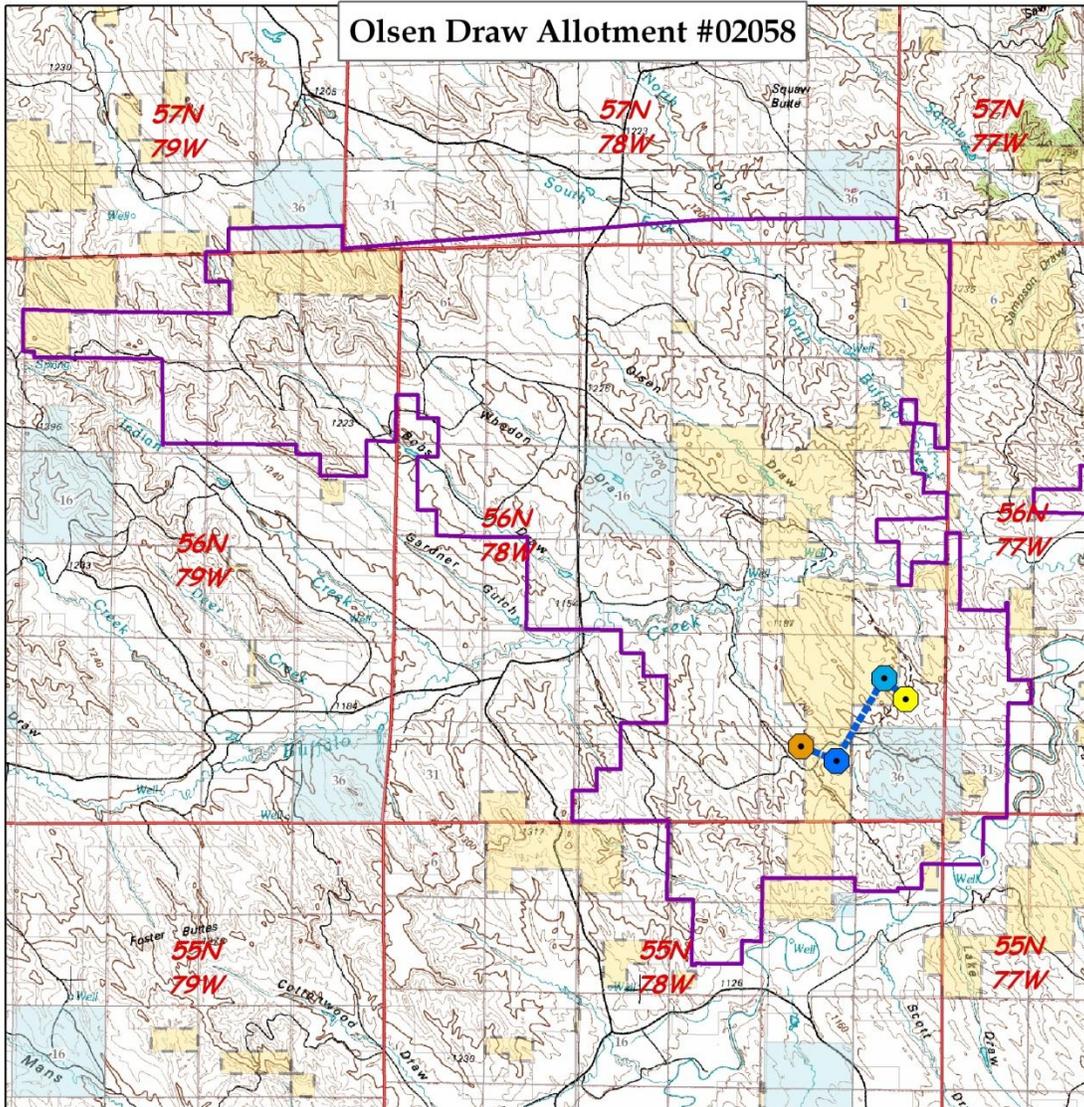
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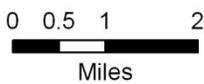
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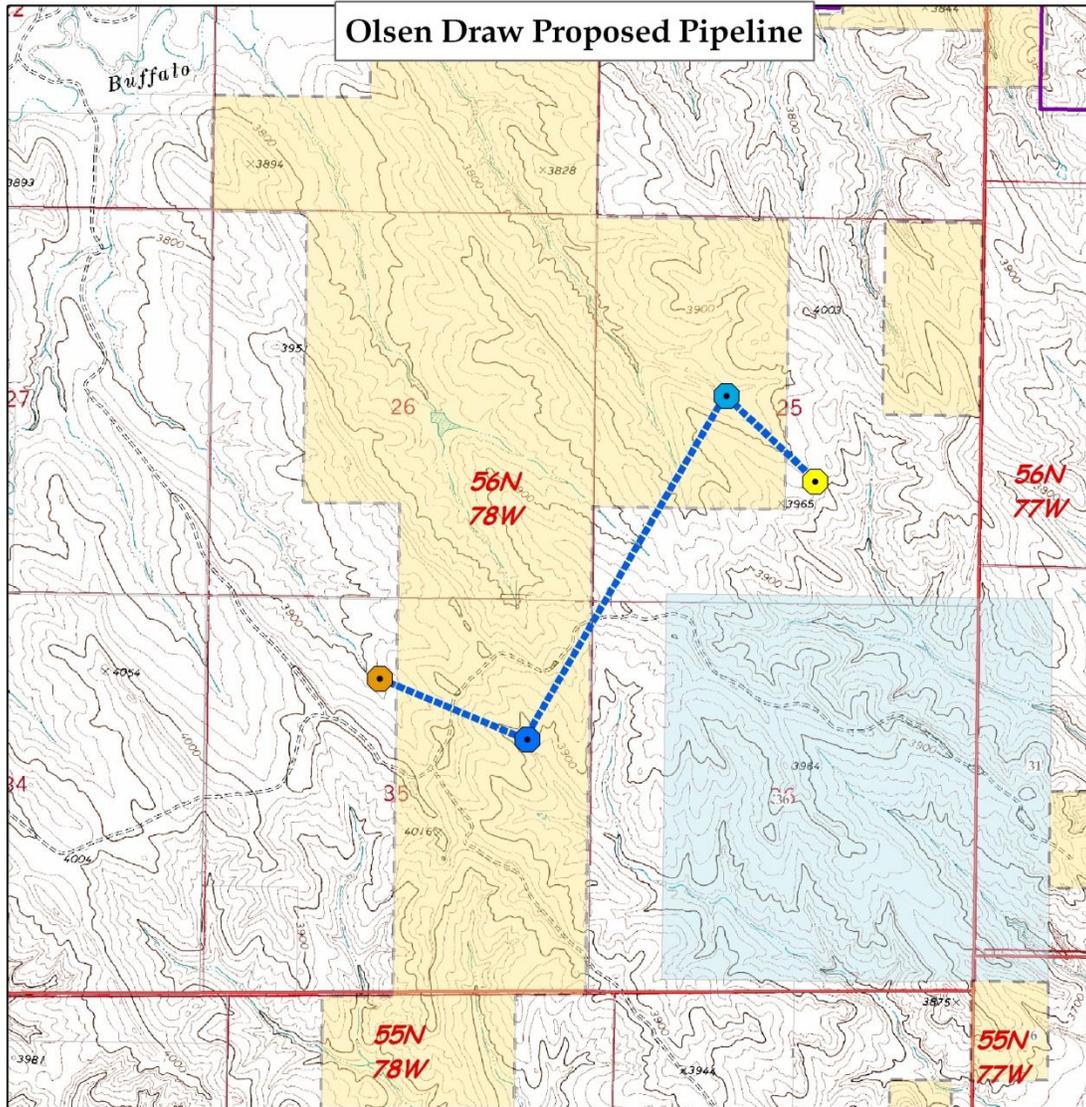
Olsen Draw Allotment #02058	Bureau of Land Management
Proposed Pipeline Project	Forest Service
Buffalo Ck BLM Well #25	Private
E Clear Ck Well #35	State
Proposed Trough: Buffalo Ck Pasture S	
Proposed Trough: E Clear CK N	
Proposed Pipeline	



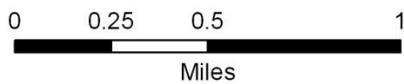
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Olsen Draw Allotment #02058	Bureau of Land Management
Proposed Pipeline Project	Forest Service
Buffalo Ck BLM Well #25	Private
E Clear Ck Well #35	State
Proposed Trough: Buffalo Ck Pasture S	
Proposed Trough: E Clear CK N	
Proposed Pipeline	



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