



United States Department of the Interior



BUREAU OF LAND MANAGEMENT
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In Reply Refer To:
AZ-110: 1020

June 22, 2011

NOTICE OF AVAILABILITY

Little Warren Fence, Pipeline and Cattleguards EA

Dear Interested Party:

Please be advised that an Environmental Assessment (EA) was prepared (DOI-BLM-AZ-A010-2011-0011-EA) for the proposed Little Warren fence, pipeline and cattleguards. This EA is a public document, and is available for your review and comment.

This EA analyzes the proposed fence, pipeline and cattleguards at Little Warren pasture of the Clayhole Allotment, which would divide and separate one very large pasture into three segments, thus providing better livestock control and continue to better implement the deferred rotational grazing system. Livestock which are supposed to be confined to the Little Warren pasture tend to drift to the southwest portion of the pasture causing distribution in the pasture to not be uniform. The ranchers gather the cattle and move them to the north and east portions of the pasture, but the cattle drift back to the soft low bottoms of the southwest part of the pasture within one or two days. The pipelines to four new reliable waters would help improve livestock distribution and utilization, while providing dependable waters for wildlife yearlong.

The fence specification proposed to be used is 4 strands, 42-inches high with smooth bottom wire spaced 16 inches off the ground-in response to wildlife habitat objectives mandated in the Clayhole Habitat Management Plan (HMP) and to ensure that pronghorn could cross the fence when necessary and have adequate freedom of movement.

The proposed action is in conformance with the decisions contained in the Arizona Strip Resource Management Plan (January 2008) and includes mitigation measures to prevent any unnecessary excavation or construction other than installing the fenceline, pipeline and cattleguards. No construction debris would be left on site, and wildlife escape ramps would be installed on all new drinkers. In addition, any sub-surface archaeological, historical, or paleontological remains discovered during use shall be left intact: all work in the area shall stop immediately and the field manager shall be notified immediately.

For more information the EA has been posted on the Arizona Strip Field Office's web home page at http://www.blm.gov/az/st/en/fo/arizona_strip_field.html

For questions or EA requests please contact Kevin Schoppman at (435)688-3220. The deadline for receipt of comments is July 22, 2011. This allows for 30 days for public review and comments. Public comments are welcome and encouraged.

By law, the names and addresses of those commenting are available for public review during regular business hours. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. All comments from organizations or businesses will be available for public inspection in their entirety.

Sincerely,

Lorraine M. Christian
Arizona Strip Field Office Manager

Date

ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED
LITTLE WARREN FENCE, PIPELINE AND CATTLEGUARDS
ON THE ARIZONA STRIP, MOHAVE COUNTY, ARIZONA
(DOI-BLM-AZ-A010-2011-0011-EA)

Prepared for

U.S. Department of the Interior
Bureau of Land Management
Arizona Strip Field Office
345 East Riverside Drive
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June 22, 2011

Chapter 1

INTRODUCTION

1.1 Background

The Arizona Strip Field Office (ASFO) of the Bureau of Land Management (BLM) and the Heaton Cattle Company, the ranchers who hold the grazing permit, have been working cooperatively to improve grazing management, watershed conditions and rangeland health within the Clayhole Allotment. An Allotment Management Plan (AMP) is in effect which identifies the need for additional facilities and improved grazing management. Priority areas are defined as watersheds or areas of special environmental sensitivity or having soil, water, or related natural resource concerns. The proposed project area is within the area encompassed by the Clayhole Habitat Management Plan (HMP). This plan outlines cooperative BLM-Arizona Game and Fish Department (AGFD) objectives and initiatives.

For cooperative resource conservation, enhancement and management objectives, construction of 7.25 miles of wildlife passable fencing and 5.5 miles of water line is proposed in the Little Warren pasture. The project would be funded by the Heaton Cattle Company and through a grant from the National Resource Conservation Service as part of an overall cooperative management program.

1.2 Purpose and Need

The Little Warren pasture consists of 21,983 acres, of which 6,080 acres are state lands. The state lands lie mostly in the northern part of the pasture. While containing excellent forage, these lands lie slightly higher and are rougher than the public lands lying to the south and west. Because of this condition cattle, when placed in the Little Warren pasture, tend to drift to the southwest portion of the pasture causing distribution in the pasture to not be uniform. The ranchers gather the cattle and move them to the north and east portions of the pasture, but the cattle drift back to the soft low bottoms of the southwest part of the pasture within one or two days. This becomes very time consuming for the ranchers. They have therefore proposed the construction of a fence and pipeline to separate the pasture into three segments, thereby providing better livestock control in the southwestern part of the pasture.

The rangeland health assessment for this allotment was completed in 2008. The assessment identified desired plant community objectives for the Little Warren Pasture and determined that these objectives were partially met – the grass composition at 38% was slightly below the objectives (of between 40 and 70%). Separating the pasture into three segments would result in more uniform utilization of forage, which should help achieve the desired grass composition objective.

The proposed action would also provide an additional water source for wildlife (including mule deer and pronghorn). This would result in improving water distribution and improving habitat use by these species.

1.3 Conformance with Land Use Plan

The proposed action described in Chapter 2 is in conformance with the Arizona Strip Field Office Resource Management Plan (RMP) approved on January 29, 2008 (BLM 2008a). The proposed action is consistent with the following decisions contained within this plan (see Section 1.3.1). It has also been determined that the proposed action would not conflict with other decisions throughout the plan.

1.3.1 Conformance with Arizona Strip Field Office RMP

The following decisions are from Table 2.3 in the RMP (2008a) regarding Vegetation and Fuels Management:

- DFC-VM-04: Ecological processes and functions will be protected, enhanced, and/or restored by allowing tools that are necessary and appropriate to mitigate adverse impacts of allowable uses and undesirable disturbances, and contribute to meeting the Standards for Rangeland Health.
- MA-VM-14: Construction equipment, fire vehicles, and/or vehicles from outside the Arizona Strip Field Office used to implement authorized projects and/or uses, will be required to be cleaned (using air, low-pressure/high volume, or high-pressure water) prior to initiating the project. Vehicles leaving the area and later returning to continue the project will require re-cleaning.

The following decisions are from Table 2.4 in the RMP (2008a) regarding Wildlife and Fish Management.

- DFC-WF-03: Forage, water, cover, and space will be available to wildlife of sufficient quality and quantity to support productive and diverse wildlife populations.
- DFC-WF-04: All waters will be safely available to wildlife.
- DFC-WF-05: Fences will be minimum necessary for effective livestock control or other administrative purposes. Fences will be wildlife passable, consistent with the species found in the area.

1.4 Relationship to Statutes, Regulations, or Other Plans

This environmental assessment (EA) has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) and any additional Federal, State, and local statutes that may be relevant to the proposed action, such as those cited below.

The proposed action is consistent with the Fundamentals of Rangeland Health (43 Code of Federal Regulations [CFR] 4180.1) and Arizona's Standards and Guidelines, which were developed through a collaborative process involving the Arizona Resource Advisory Council and the BLM State Standards and Guidelines Team. The Secretary of the Interior approved the Standards and Guidelines in April 1997. These standards and guidelines address watersheds, ecological condition, water quality, and habitat for sensitive species. These resources are addressed later in this document.

The proposed action is consistent with the President's National Energy Policy and would not have adverse energy impacts. The proposed action would not deny energy projects, withdraw lands, close roads, or in any other way deny or limit access to mineral materials to support energy actions.

The proposed action is consistent with the Arizona Strip Interdisciplinary Mule Deer Management Plan (AGFD 2010), which states (on pages 10-11) that "Perennial [water] sources are generally lacking, and man-made sources such as livestock tanks, water catchment facilities and spring developments provide the bulk of water sources available for mule deer. It has been demonstrated on the Arizona Strip that improving water distribution improves distribution and habitat use by mule deer and has positive impacts on populations. There are areas of the Arizona Strip that would benefit from increased water availability, and better distribution."

The project area is located in Mohave County, Arizona. The proposed action is consistent with the Mohave County General Plan (adopted September 1994 and revised December 5, 2005). While the type of action proposed in this EA is not specifically addressed in the County Plan, management of public lands are addressed in Goal 12, Policy 12.1 (page 85), which states in part: "Mohave County shall cooperate with those public agencies charged with managing properties in the public ownership, in order to achieve the goals of the County and these other agencies." The proposed action does not conflict with decisions contained within the Plan.

In addition, the proposed action would comply with the following laws and/or agency regulations, other plans, and are consistent with applicable Federal, State and local laws, regulations, and plans to the maximum extent possible.

- Federal Land Policy and Management Act of 1976 (43 United States Code [USC] 1707 et seq.)
- Endangered Species Act of 1973 (ESA), as amended
- Section 106 of the National Historic Preservation Act of 1966, as amended

- Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001-3013; 104 Stat. 3048-3058)
- National Environmental Policy Act of 1969
- Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

1.6 Identification of Issues

Identification of issues for this assessment was accomplished by considering the resources that could be affected by implementation of one of the alternatives. A summary of the issues and the rationale for analysis are given below.

- **Vegetation:** Disturbance to vegetation could occur during construction, including the potential loss of shrubs, grasses, and forbs along the footprint of the fence and pipeline. Maintenance could also result in minor trampling along the fence and pipeline.
- **Wildlife:** Disturbance to wildlife, including migratory birds and sensitive species, could occur during construction caused by the potential short-term loss of vegetation for food and cover, and short-term noise and soil compaction from construction. Long-term effects to wildlife could result from having to navigate an additional fence and having four new reliable sources of water.
- **Livestock Grazing:** Disturbance to livestock could occur during construction if in fact livestock are present at the time of construction caused by noise, short-term loss of vegetation for food and cover from the fence and pipeline. Long-term effects to livestock could result from having to navigate an additional fence and having four new reliable water sources.

Chapter 2

PROPOSED ACTION AND ALTERNATIVES

This EA focuses on the proposed action and no action alternatives. The no action alternative is considered and analyzed to provide a baseline for comparing the impacts of the proposed action. One additional alternative was considered, but eliminated from further analysis. It is described in Section 2.3 along with rationale for not being further considered.

2.1 Alternative A - Proposed Action

Under this alternative seven and a quarter miles of type "A" fence would be constructed. A type "A" fence is a 42-inch high, four wire strand, wildlife passable fence. Wire heights from the ground up would be 16-22-30-42 inches. As recommended by AGFD and BLM wildlife specifications, the bottom strand would consist of twisted barbless wire to facilitate pronghorn passage. The other three strands would be barbed wire. The fence would have 16 ½ -foot spacing between steel posts with 2 metal stays between posts. Wooden braces would be installed at each end of the fence, at fence corners, and at quarter mile intervals along the fenceline. Three and a quarter miles of the fence would cross public lands while four miles would be on state lands.

To facilitate the fence installation, a pick-up truck would be driven overland along the fence route to deliver fencing materials (posts, wire, braces and workers) and facilitate stretching the fence. A posthole digger mounted on a rubber-tired tractor would be used to dig holes for the wooden brace posts. Access into the fence line route would be by road and any overland travel would be limited to a 15 foot wide path along the fence line. Any removal of brush along the fenceline would be done by hand and limited to that directly on the fenceline. Steel posts would be driven approximately 14" into the ground by workers using hand held post pounders. The holes for the brace posts would be eight inches in diameter and 30 to 36 inches deep. Three fourteen foot cattleguards would be installed in the road crossings on the north and east sides of section 8 and the southwest side of section 9 to maintain present vehicle access. The cattleguards (or grids) would be installed by digging a trench approximately eight feet wide and two to three feet deep directly across the road with a backhoe. Cement bases 15 feet long would be set on each side of the trench and a 15 foot grid would be placed on them. The cattleguard would be attached to the fence by triangular shaped end wings fastened to the base of the grid on each end and attached to the top of a wooden post in the fenceline. This would all be done in the road right-of-way with little or no removal or trampling of vegetation alongside the road.

Two and a quarter miles of this fence would traverse the southeast edge of T.38 N. R. 7 W. section 1 for a quarter of a mile (a BLM section), and all of the south edge of T.38 N. R 6 W. sections 5, and 6, (both state sections), then turn south at the southwest corner of section 4 and southeast corner of section 5 and run due south for three miles along the west edges of section 9 (BLM), section 16 (state), and section 21 (BLM), to the northwest corner of section 28 and the

northeast corner of section 29. This fence would divide the southwestern portion of the pasture containing roughly eight and one half sections of BLM land from the middle portion containing one state section and three sections of BLM land. An additional fence would start at the northwest corner of section 16 (state) and run due east for two miles across the top of sections 16 and 15 (BLM). This fence would form the boundary between the middle and north portions of the pasture. See Appendix B Little Warren Pasture map for location of proposed fence.

This alternative also includes construction of five and a half miles of pipeline using 1 ¼" high density polyethylene pipe buried 18" to 24" deep using a ripper tooth attached to a bulldozer. The line would begin at an existing pipeline on state land in T 38 N., R. 6 W. Section 4. Two miles of the pipeline would cross BLM lands, extending along the west edge of section 9 and the north edge of section 15, both located in T.38 N. R. 6 W. Gila & Salt River Base Meridian.

The pipeline would be installed by driving a crawler tractor with the ripper tooth attached and lowered into the ground across the route of the pipeline, then back to the start. This would loosen the soil and allow for the pipe to be more easily installed as the tractor makes its third pass along the line. The pipeline would be installed along the same 15 foot wide path as the fence line. Also one large drainage in Section 15 that has vertical sides approximately eight to ten feet high would require the use of a backhoe to dig into the banks in order to place the pipe. Then the soil would be replaced over the pipe in the drainage banks.

Four new water troughs would be placed in a large fenced in area known as water lots in sections 4, 6, 11, and 16 all on state land. All these waters will be available for wildlife yearlong. See Appendix B Little Warren Pasture map for location of the pipeline and water lots.

The proposed action includes future maintenance activities for the life of the project, which is expected to be at least 20-50 years. The exact maintenance requirements are not known but are expected to include annual inspections using ATVs or pick-up trucks along the route for minor repairs to the posts, wire and stress panels and hand digging to find and repair leaks in the pipe. No onsite camping by the construction crew would be necessary.

2.1.1 Best Management Practices

The following best management practices (BMPs) are included in the proposed action in an effort to minimize the impacts of the proposed action to social and natural environmental resources. The following are practices to be implemented along the pathway of the fence and pipeline.

- Construction would be limited to daylight hours to minimize impacts to wildlife.
- Construction activities would be limited to periods when the soil and ground surface are not wet in order to avoid soil compaction.
- Construction activities would be conducted in a manner that would minimize disturbance to existing vegetation by limiting vegetation thinning and restricting construction activities to a 15 foot wide path.

- At no time would vehicle or equipment fluids (including motor oil and lubricants) be dumped on public lands. All accidental spills would be reported to the authorized officer and be cleaned up immediately, using best available practices and requirements of the law, and disposed of in an authorized disposal site. All spills of federally or state listed hazardous materials which exceed the reportable quantities would be promptly reported to the appropriate state agency and the authorized officer.
- Vehicles and equipment would be power washed off-site before construction activities begin to minimize the risk of spreading noxious weeds. This would include cleaning all equipment before entering the Arizona Strip. The project area would be monitored for noxious weeds for two years following completion of the project.
- Soil disturbance associated with construction activities would be limited to the 15 foot wide fence and pipeline route.
- During construction vehicular traffic would be restricted to existing roads and along the 15 foot wide fence and pipeline route.
- The project site would be cleaned up at the end of each day the work is being conducted (e.g., trash removed, scrap materials picked up) to minimize the likelihood of condors visiting the site. BLM staff may conduct site visits to the area to ensure adequate clean-up measures are taken.
- Any cultural (historic/prehistoric site or object) or paleontological resource (fossil remains of plants or animals) discovered along the route would immediately be reported to the Arizona Strip Field Office Manager or her designee. All operations in the immediate area of the discovery shall be suspended until written authorization to proceed is issued. An evaluation of the discovery shall be made by a qualified archaeologist or paleontologist to determine appropriate actions to prevent the loss of significant cultural or scientifically important paleontological values.
- If in connection with this work any human remains, funerary objects, sacred objects, or objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (Public Law 101-601; 104 Stat. 3048; 25 U.S.C. 3001) are discovered, operations in the immediate area of the discovery would stop, the remains and objects would be protected, and the BLM would be immediately notified. The immediate area of the discovery would be protected until notified by the Arizona Strip Field Office Manager that operations may resume.
- The work crew chief must notify the BLM wildlife team lead if California condors visit the worksite while construction is underway. Project activities would be modified or delayed where adverse effects to condors may result.

- If an active bird nest is located along the fenceline/pipeline route or at the water lot sites, the Arizona Strip Field Office Manager (or her designee) would be immediately notified in order to develop appropriate measures to avoid disturbance to the nesting birds.
- No hazing or harassment of wildlife is permitted.

2.1.2 Monitoring

Monitoring under the proposed action would consist of a BLM staff member inspecting the project site during the construction phase of the project to ensure compliance with the BMPs listed in Section 2.1.1. Monitoring for the invasion of noxious weeds would continue for a minimum of two years following completion of the project by BLM personnel. The project would be monitored on a yearly basis by the grazing permittee to ensure the fence and pipelines are functioning properly.

2.2 Alternative B - No Action

Under the no action alternative, the pasture division fences and pipeline extension would not be installed on BLM administered lands. Grazing would continue in the Little Warren pasture with the southwest portion of the pasture receiving a disproportionately large share of livestock grazing use while the rest of the pasture would receive little use. The ranchers would continue to gather the cattle from the southwest area and move them to other areas of the pasture, but the cattle would continue to drift immediately back to the southwest. However, overall utilization (within the pasture) would not exceed 50%. Also, it is likely that a pasture division fence and pipeline would be installed on state and private lands. This would create one extra pasture and develop some new waters, but would not entirely help with the southwest portion of the pasture receiving most of the use while other areas would still be receiving little use. This part of the project on state/private lands would not resolve the distribution and utilization problems.

2.3 Alternatives Considered but Eliminated from Detailed Analysis

2.3.1 Construct Pasture Fence Diagonally Across Section 10 from Northwest to Southeast

Under this alternative a portion of the fence would extend across the south edge of section 4 and diagonally across T.38 N. R. 6 W. Section 10 from northwest to southeast instead of building the fence along the proposed pipeline route which is the north edge of section 16 and 15 to the corner of sections 10, 11, 14, and 15. This alternative would lengthen the amount of fence needed by approximately a half mile. It would also increase the expenses, labor and materials used because of the increased number of drainages to cross due to the rough, incised nature of the land in section 10. Thus the difficulty of constructing the fence and the impacts to vegetation and soils would be increased. Also an additional two and a half miles of fence would be built away from the pipeline route. This alternative would make the pasture segments of more uniform size, but the environmental impacts to the soils and vegetation would be much greater over a larger area due to the additional acres of disturbance along the fenceline, separate from the pipeline.

CHAPTER 3

AFFECTED ENVIRONMENT

The purpose of this chapter is to describe the existing environment potentially affected by one of the alternatives in order to assist the reader in understanding the existing situation. The affected environment of this EA was considered and analyzed by an interdisciplinary team of resource specialists. The resources identified below include the relevant physical, social and biological conditions that may be impacted with implementation of the proposed action, and provides the baseline for comparison of impacts described in Chapter 4.

3.1 General Setting

The fence traverses three and a quarter miles of public lands and four miles of state lands in the Wildband Valley. The pipeline traverses two miles of public land and approximately three and a half miles of state land. The project area is located in the Plains Grassland Ecological Zone. The terrain is relatively flat consisting of sparse grasslands interspersed with desert shrubs and dissected by drainages that carry runoff waters during periods of short, but intense rain.

3.2 Elements/Resources of the Human Environment

The BLM is required to consider many authorities when evaluating a Federal action. Those elements of the human environment that are subject to the requirements specified in statute, regulation, or executive order, and must be considered in all EAs (BLM 2008b) have been considered by BLM resource specialists to determine whether they would be potentially affected by the proposed action. These elements are identified in Table 3.1, along with the rationale for determination on potential effects. If any element was determined to potentially be impacted it was carried forward for detailed analysis in this EA. If an element is not present or would not be affected, it was not carried forward for analysis. Table 3.1 also contains other resources/concerns that have been considered in this EA. As with the elements of the human environment, if these resources were determined to be potentially affected, they were carried forward for detailed analysis in this document.

Table 3.1. Summary Evaluation of Elements/Resources of the Human Environment

Resource	Determination*	Rationale for Determination
*NP=Not present in area impacted by proposed action NI=Present, not affected to degree requiring detailed analysis PI=Present with potential for impact: analyzed in detail in the EA		
Air quality	NI	Air quality in the general area is good, although windblown dust can be a minor source of pollution. The fence and pipeline are within an attainment area for all National Ambient Air Quality Standards. The proposed action would result in temporary, localized deterioration of air quality because of the operation of equipment, particularly the crawler tractor while installing the

		pipe. These emissions would be temporary and would cease once the pipeline, cattleguards, water troughs, and fence are installed.
Areas of Critical Environmental Concern	NP	None of the proposed range facilities are located within an Area of Critical Environmental Concern
Cultural Resources	NI	A BLM archaeologist has surveyed the proposed route. No cultural resources were encountered during this survey. If cultural resources are encountered during construction the fence and pipeline route would be altered to avoid impacting them.
Environmental Justice	NI	The proposed action would have no disproportionately high or adverse human health or other environmental effects on minority or low-income segments of the population. The proposed action would have no effect on low-income or minority populations because none exist on or near this project.
Prime or Unique Farmlands	NP	There are no prime or unique farmlands within the project area.
Floodplains	NI	One fifty-foot segment of the fence and pipeline cross the bottom of a drainage, which floods on occasions of local intense rainstorms. Flooding may cause that segment of fence or pipeline to break, thus requiring some maintenance. However, no actions are proposed that would result in permanent fills or diversions, or affect the function of the floodplains within the project area.
Invasive, Non-Native Species	NI	The invasive annual grass, <i>Bromus tectorum</i> , is common throughout the region and the noxious weed, <i>Halogeton glomeratus</i> , is found in the Little Warren pasture, however, not along the route of the proposed fence and pipeline. Measures to prevent the spread of invasive and noxious weeds have been built into the proposed action. No impacts from the proposed action are therefore anticipated.
Native American Religious Concerns	NI	The proposed action would not limit access to any ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners, or significantly adversely affect the physical integrity of such sacred sites.
Threatened, Endangered or Candidate Plant Species	NP	No threatened, endangered, or candidate plant species occur along the path of the proposed fence and pipeline on public lands. The State land department has surveyed the State land routes and have determined no species exist.
Threatened, Endangered, or Candidate Animal Species	NI	<p>The proposed project area does not lie within any critical habitat that has been designated or proposed under the ESA. The California condor may occasionally fly over or feed in this allotment at any time of year. California condors are federally listed as endangered and a population of these condors was reintroduced on the Arizona Strip in 1996. This population is designated as experimental non-essential under Section 10(j) of the Endangered Species Act.</p> <p>Condors are strictly scavengers and prefer to eat large, dead animals such as mule deer, elk, pronghorn, bighorn sheep, cattle, and horses. Condors range widely, easily covering over 100 miles in a day, and their current range includes the entire Arizona Strip. Although condors may either fly over or feed within the allotment, they have not been observed doing so. In addition, stipulations are incorporated into the proposed action (concerning site clean-up and no harassment of wildlife) that would minimize the likelihood of impacts to condors.</p>

		Thus, no effect to this species is expected from the proposed action. No other federally listed species are known or suspected to occur in the area.
Wastes (hazardous or solid)	NP	Measures to prevent the spillage of hazardous materials have been built into the proposed action (see Section 2.1.1 on pages 6-7). No hazardous materials issues are therefore anticipated.
Water Quality (drinking/ground)	NI	The proposed pipeline would carry water from a spring located on private land to livestock/wildlife drinking troughs on state land. This water would not be used for human consumption. The spring is protected and already developed so actions proposed in this EA would not alter current water quality.
Wetlands/Riparian Zones	NP	There are no wetlands/riparian zones in the project area.
Wild and Scenic Rivers	NP	There are no wild and scenic river segments classified as designated, eligible, or suitable within the project area.
Wilderness	NP	The proposed project is not located within designated wilderness.
Livestock grazing	PI	The purpose of the proposed action is to provide more uniform distribution of livestock and utilization of forage throughout the Little Warren Pasture. This issue is therefore analyzed in detail in this EA.
Woodland/Forestry	NP	There are no woodlands or forestry products in the proposed project area. The proposed action would not alter or impair the availability of, or access to, any of these products.
Vegetation	PI	Impacts to vegetation along the route of the proposed fence and pipeline would occur during installation of the proposed project. Some brush would be crushed as vehicles travel along the route and some plants would be torn up by the ripper tooth as the pipe is placed in the ground. This issue is therefore analyzed in detail in this EA.
BLM Sensitive Plants	NP	No BLM Sensitive Plant species are known to occur in the project area.
Wildlife (including sensitive species and migratory birds)	PI	Short term disturbance to wildlife could occur during construction and maintenance activities caused by noise, presence of humans, impacts to vegetation causing the loss of food and shelter to small rodent and reptile populations, and destruction of burrows caused by the installation of the pipeline. Long term impacts would consist of the existence of a fence which antelope and mule deer would have to navigate when traversing the Little Warren Pasture. This issue is therefore analyzed in detail in this EA.
Soils	NI	Soils are mostly loamy upland to basalt upland, derived from alluvium or colluvium parent material or basalt geologic formation. Passage of rubber tires and cleats from the crawler tractor could cause some soil compaction in the short term. However, since construction activities would be limited to periods when the soil is dry, soil compaction in the project area is not anticipated to occur. The ripper tooth would loosen soil along the route of the pipeline for a width of four inches up to two feet. After one or two years the original vegetation should be regrown, which would protect soils from erosion.
Recreation	NI	Disturbance to the recreating public (including displacement of users) is unlikely as this area is not a popular area for tourists or the recreating public and is out of view of any major travel corridors.
Visual Resources	NI	The project area is within a Class III Visual Resource Management area. The objective of this class is to partially retain the existing

		character of the landscape with no more than moderate changes to the landscape. Management activities may attract attention but should not dominate the view of the casual observer. Once the proposed project would be completed a fence would be visible across seven miles of gently undulating terrain, and the route of the pipeline would be visible (due to the removal of vegetation) in the short-term, until vegetation becomes re-established. However, the 4-strand wire fence would not dominate the view of the casual observer, nor would be pipeline (in the long-term) or water troughs.
Geology/Mineral Resources/Energy Production	NI	The proposed action would not affect geology, mineral resources, or energy production as it would not close any areas to mineral development or alter any known geological feature.
Paleontology	NP	No paleontological resources are known to occur in the project area.
Fuels/Fire Management	NI	No hazardous fuels reduction or fuels management projects are proposed for the project area. Installation of the fence and pipeline would not affect fire management.
Lands/Access	NI	Access to public lands would not be altered or impaired by implementation of the proposed action. No other land issues have been identified in connection with the proposed action.
Socioeconomic Values	NI	The economic base of the Arizona Strip is mainly ranching with a few gypsum/selenite mines and uranium operations. Nearby communities are supported by tourism (including outdoor recreation), construction, and light industry. The social aspect involves remote, unpopulated settings with moderate to high opportunities for solitude. Construction of the proposed fence and pipeline would have little impact on the local economy or social aspect of the region since there would be no displacements or disruption to established businesses or uses of the area. Two or three people could receive employment to install the fence and pipeline. However, the project would not affect the economy overall.
Wild Horses and Burros	NP	The proposed action is not located in a wild horse or burro management area.
Wilderness Characteristics	NP	The proposed action is not located within an area containing the 3 wilderness characteristics of naturalness, solitude, or outstanding opportunities for primitive and unconfined recreation.

3.2 Resources Brought Forward for Analysis

3.2.1 Vegetation

The proposed project is located within the Plains Grassland Ecological Zone. Vegetation consists of mostly open grassland consisting of blue grama, black grama, galleta, Indian ricegrass, sand dropseed and various annual and perennial forbs. Shrubs scattered throughout the area include winterfat, shadscale, fourwing saltbush, Mormon tea, and spiny hopsage.

As described on page 1 of this EA, the rangeland health assessment completed for the Clayhole Allotment was completed in 2008. This assessment indicated that trend in the Little Warren Pasture was up. However, the grass composition was slightly less than the desired objective identified (composition was at 38% while the grass DPC was set at 40-70%). One reason for this

is likely the uneven distribution of livestock in the pasture. Distribution of livestock in the Little Warren Pasture could therefore be improved since some of the pasture does not get utilized, while the middle portion receives most of the use. The shrubs and forb composition objectives are currently being met.

3.2.2 Wildlife Including Mule Deer, Pronghorn, Migratory Birds, and Sensitive Species

Wildlife populations at the project site are typical of the Plains Grassland biotic community. Mammals that use the area include jackrabbits, coyote, mule deer, pronghorn, and various bat species. Birds include golden eagle, red tailed hawk, ferruginous hawk, peregrine falcon, western burrowing owl, a variety of ducks and geese using livestock ponds during certain periods of the year, and a variety of song birds.

3.2.2.1 Mule Deer

Mule deer (*Odocoileus hemionus*) can be found throughout the Arizona Strip. They are generally found in association with more open habitats. Mule deer are primarily browsers, feeding on a wide variety of plant species. They are capable of altering plant communities through heavy browsing. Mule deer consume leaves, stems, and shoots of woody plants most often during summer and fall, while grasses and forbs compose the bulk of spring diets. Some of the most common foods include: rabbitbrush (*Chrysothamnus* spp.), mountain mahogany (*Cercocarpus* spp.), snowberry (*Symphoricarpos* spp.), buffaloberry (*Shepherdia* spp.), ceanothus (*Ceanothus* spp.), rose (*Rosa* spp.), serviceberry (*Amelanchier* spp.), sagebrush (*Artemisia* spp.), sumac (*Rhus* spp.), willow (*Salix* spp.), Gambel oak (*Quercus gambellii*), cliffrose (*Purshia mexicana*), mariposa (*Calochortus* spp.), juniper (*Juniperus* spp.), yucca (*Yucca* spp.), euphorbia (*Euphorbia* spp.), manzanita (*Arctostaphylos* spp.), milkvetch (*Astragalus* spp.), and dandelion (*Taraxacum officinale*). Grasses include bluegrasses (*Poa* spp.), wheatgrasses (*Agropyron* spp.), and bromes (*Bromus* spp.).

Water sources can have a major influence on the distribution and movements of deer in semi-arid environments (Watkins, et al. 2007), particularly in summer. Mule deer do not typically use only one water source within their home ranges. Mule deer in arid or semi-arid desert environments will freely move 1.5 miles to find water, but as you move away from the water sources, the deer are found at decreasing densities (Heffelfinger et al. 2006; Wood et al. 1970). Thus, it is a benefit to have more than one reliable water within a 3-mile radius so that they can utilize different portions of the habitat throughout the year. Mule deer are particularly dependent on reliable water during fawning and lactation periods. During summer, does are often distributed closer to water than bucks, presumably because of their increased need for water during lactation. Water developments appear to increase mule deer populations.

The Clayhole Valley area provides a mix of year-round and limited habitat for mule deer; the project area occurs within limited habitat. While no population estimates are available specifically for the Clayhole Valley area (population estimates are made for an entire game management unit), the population in this area is believed to be stable.

3.2.2.2 Pronghorn

Pronghorn (*Antilocapra americana*) are found in the Clayhole, Mainstreet, Hurricane, and House Rock areas of the Arizona Strip. The Clayhole Valley area contains a mosaic of high, medium, and low-quality habitat for pronghorn; the project area is within moderate and low quality habitat. Pronghorn typically prefer open landscapes consisting of level to rolling topography, with less than five to ten percent slope. Pronghorn diet generally varies with seasonality and consists of young green grasses during the spring then shifts to forbs and cactus during the summer. During the fall, a shift toward browse species occurs. During winter, browse is likely the dominant part of a pronghorn's diet.

As described above for mule deer, pronghorn benefit from reliable water sources spaced less than 3 miles apart. Water use is highest in conditions exhibiting high temperatures, dry forage, dry atmospheric conditions, and lack of snow in winter months. During dry periods, pronghorn tend to remain close to available water. During summer, does are often distributed closer to water than bucks, presumably because of their increased need for water during lactation. Most observations of pronghorns in Arizona and New Mexico are usually within 2 miles of water (Ockenfels et al. 1994, Clemente et al. 1995, Authenrieth et al. 2006).

As described above for mule deer, no population estimates are available specifically for the Clayhole Valley area (population estimates are made for an entire game management unit). The pronghorn population in this area is believed to be stable.

3.2.2.3 Migratory Birds

The Migratory Bird Treaty Act (MBTA) protects against the take of migratory birds, their nests, and eggs except as permitted by regulations. Various migratory birds use the project area for foraging. Executive Order 13186 requires the BLM and other Federal agencies to work with the US Fish and Wildlife Service to provide protection for migratory birds. These species are protected by legislation and it is important to maintain habitat for these species so migratory patterns are not disrupted. Additional protection is provided by the Neotropical Migratory Bird Conservation Act of 2000 (16 USC Chapter 80). Avian species protected by these acts can be any species from the western hemisphere that migrates across its range during part of the year.

3.2.2.4 Sensitive Species

Sensitive species are usually rare within at least a portion of their range. Many are protected under certain State and/or Federal laws. Species designated as sensitive by the BLM must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either:

1. There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species

2. The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk.

All federally-designated candidate species, proposed species, and delisted species in the 5 years following delisting are included as BLM sensitive species.

Based on the presence of suitable habitat and/or historical records of occurrence, the following BLM sensitive species may occur in the vicinity of the project area: western burrowing owl, Allen's big-eared bat, spotted bat, peregrine falcon, golden eagle, bald eagle, and ferruginous hawk.

Western Burrowing Owl

Burrowing owls (*Athene cunicularia hypugea*) inhabit open areas, such as grasslands, pastures, coastal dunes, desert scrub, and the edges of agricultural fields, and wherever there is sufficient friable soil for a nesting burrow at elevations between 650 and 6,140 feet in Arizona. The presence of other nesting burrows (such as that of a badger, prairie dog, tortoise or other animal) seems to be a requirement for the species; a decline in the population of burrowing mammals may adversely affect owls through a lack of available burrows (Haug et al. 1993). Unlike other owls, burrowing owls are active during the day, especially in the spring when they gather food for their large broods. Burrowing owls eat small mammals such as moles and mice during late spring and early summer. Later they switch to insects, especially grasshoppers and beetles. Burrowing owls are also known to eat birds, amphibians and reptiles. Observed causes of mortality include human disturbance through agricultural and construction activities and collisions with vehicles (the owls habitually sit and hunt on roads at night). Human activities that reduce quality of prey habitat and thus lower food supplies result in poorer reproductive success in females (Haug et al. 1993). Burrowing owls have been observed in Wild Band Valley, in close proximity to the project area (Christian 2011).

Allen's Big-eared Bat

Allen's big-eared bats (*Idionycteris phyllotis*) usually inhabit forested areas of the mountainous southwest and are relatively common in pine-oak forested canyons and coniferous forests; however, they also may occur in non-forested, arid habitats. At most sites where this species occurs, cliffs, outcroppings, boulder piles, or lava flows are found nearby. Day roosts may include rock shelters, caves, trees and mines. Seasonal movements and winter whereabouts and activities are unknown (Best et al. 2007). Their elevational distribution ranges from 1,320 to 9,800 feet, and their main food source is small moths gleaned from surfaces or in flight (AGFD 2001). The bats are known to use stock ponds as water and food sources (Herder 1996).

Spotted Bat

Spotted bats (*Euderma maculatum*) have been found from low desert in southwestern Arizona to high desert and riparian habitats in northwestern Arizona and Utah to conifer forest in northern

Arizona and other western state. They are found in desert scrub, riparian, pinyon-juniper, and montane coniferous forests at elevations up to 8,670 feet. They roost in small cracks found in cliffs and stony outcrops. Yellowstone Mesa (near to, but outside of, the project area) may contain suitable roosting habitat; the project area is used only for foraging activities. These bats forage on large flying insects, primarily moths (AZGD 2003b).

Peregrine Falcon

The peregrine falcon (*Falco peregrines*) was delisted in October 1999. However, there are monitoring requirements developed by the USFWS to assess the status of the species regionally, so historic and active nests are monitored annually on the Arizona Strip District. Peregrine falcons have the potential to occur throughout the Arizona Strip, and are known to nest on cliffs in several locations, although none are known to nest in the vicinity of the project area (the nearest potential nesting habitat is approximately two miles away). Optimum peregrine falcon habitat is considered to be steep cliffs overlooking woodlands, riparian habitats or other areas supporting abundant avian prey species. Peregrines return to breeding areas in Arizona from mid-February to mid-March. Egg laying occurs from mid-March through mid-May, and the young can fledge from May through August.

Golden Eagle

Golden eagles (*Aquila chrysaetos*) are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) as well as the Migratory Bird Treaty Act. They range from sea level to several thousand feet, occupying most of the open terrain of deserts, mountains, plateaus, and steppes in the Northern Hemisphere. Golden eagles prey mostly upon medium-sized rodents, rabbits, and other mammals up to the size of mule deer fawns and coyote pups, but also on birds, especially game birds, reptiles, and carrion. Most prey is taken on the ground from a low flight, but they are fast enough to take birds in flight. Some golden eagle pairs will hunt together. Golden eagles build stick nests on cliffs or in large trees. Some pairs use the same nest every year or alternate among a few nest sites in their territory. Incubation generally begins around mid-February, with fledging occurring in mid July to August. Young eagles do not reach adulthood for about 5 years. Golden eagles nest in cliffs and other steep habitat throughout the Arizona Strip and may forage over wide areas; they are year-round residents. There is a known nest site approximately three miles from the proposed project area.

Bald Eagle

Bald eagles (*Haliaeetus leucocephalus*) were delisted from the Federal ESA on August 9, 2007. They are, however, protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d) as well as under the Migratory Bird Treaty Act. Bald eagles are not known to nest anywhere on the Arizona Strip District, although it may occur as a transient across the Arizona Strip. Bald eagles are seasonal (winter) migrants that may roost in the large trees near riparian areas (such as the Virgin River) and along highways where they feed on road kill deer. These eagles are both scavengers and predators.

Ferruginous Hawk

Ferruginous hawks (*Buteo regalis*) are large hawks that inhabit the grasslands, deserts, and open areas of western North America, including the open areas of desert scrub throughout the Arizona Strip. The Arizona Breeding Bird Atlas (Corman and Wise-Gervais, ed. 2005) indicates that ferruginous hawks prefer areas close to slopes or knolls with scattered juniper, although during the breeding season their preference is for grasslands, sage, and other arid shrub country. Nesting occurs in the open areas or in trees (if trees are available). The ferruginous hawk primarily hunts small to medium-sized mammals but will also take birds, reptiles, and some insects. Mammals generally comprise 80 to 90 percent of the prey items or biomass in the diet with birds being the next most common mass component. The diet varies somewhat geographically, depending upon the distribution of prey species (Wikipedia 2011).

3.2.3 Livestock Grazing

The proposed project area is within the Little Warren pasture of the Clayhole grazing allotment. One hundred-eighty-six cattle are allowed to graze the pasture on a yearlong basis. However, under the authority of the Clayhole AMP (BLM 1990), the pasture is grazed by larger numbers of cattle for shorter periods of time each year, and total authorized animal unit months (AUMs) are not exceeded. Thus, the total amount of livestock grazing in the pasture is limited by the number of AUMs allocated for the pasture, which is 2,237 AUMs.

Chapter 4

ENVIRONMENTAL CONSEQUENCES

This section includes a discussion of the environmental consequences (including a description of direct and indirect impacts, and cumulative effects, if any). Impacts are defined as modifications to the existing condition of the environment and/or probable future condition that would be brought about by implementation of one of the alternatives.

Impacts can be direct or indirect; direct impacts are those effects that are caused by the action or alternative and occur at the same time and place, while indirect effects are those effects that are caused by or would result from an alternative and are later in time but that are still reasonably certain to occur. Cumulative effects are generally assessed using the environmental impacts of past, present, or reasonably foreseeable future actions within the project areas.

The impact analyses in the following sections were based on knowledge of the resources and the project area, review of existing literature information provided by experts and other agencies, and professional judgment.

4.1 ENVIRONMENTAL CONSEQUENCES OF PROPOSED ACTION

4.1.1 Vegetation

Construction activities would result in short-term disturbance to approximately three acres of public land. After construction is completed the area of long-term disturbance would be minimal, with only the spot where a steel or wooden post enters the ground, as well as the annual passage of an ATV or pick-up truck passing along the route for maintenance inspection, which could crush vegetation. In most cases, disturbance to vegetation during construction would consist of the removal of shrubs, grasses and forbs directly in line with the four-inch ripper tooth used to install the pipeline. Other vegetation along the route might be trampled by rubber tires or bulldozer tracks. However, vegetation would recover and re-establish after construction is complete.

These impacts would be offset by better control of livestock grazing in the southwest portion of the pasture from the fencing and water developments. This would allow the vegetation in the area to better progress toward its natural potential. Thus, ecological status of this allotment would be maintained and/or improved.

4.1.2 Wildlife, Including Mule Deer, Pronghorn, Migratory Birds, and Sensitive Species

Wildlife populations in general and mule deer, pronghorn, and migratory birds in particular depend on reliable water sources. When ambient temperatures are high, survival and productivity of wildlife could be adversely affected by a lack of water. In semi-arid regions such as the project area, water can be beneficial in combination with adequate foraging areas (Rosenstock et. al.1999). Wildlife will traditionally use man-made water sources during the hottest, driest months of the year when natural water sources may dry up. These proposed waters would be available for wildlife yearlong. The fence would present a long-term obstacle for pronghorn and mule deer to navigate, but being built to wildlife specifications, these species should be able to pass over or under it with little difficulty.

4.1.2.1 Mule Deer

As described in Section 4.1.1 above, construction activities would result in approximately 6 acres of short-term disturbance. After construction is completed, the area of long-term disturbance would be minimal. The proposed improvements have been designed to minimize impacts to vegetation by restricting construction activities to the 15 foot wide route. This is a negligible loss of habitat, compared with the relative amount of habitat available in the surrounding landscape.

Mule deer would likely avoid the construction area and be temporarily displaced during work periods. Construction activities and human presence would result in a localized and temporary increase in noise that would likely cause mule deer to temporarily avoid the vicinity. Although deer would be temporarily displaced, once the pipeline was completed and troughs were installed, the availability of water would be improved and made available yearlong, which would improve distribution and use in the area. The long-term benefits of a more consistent water source for mule deer would outweigh any short-term adverse impacts that could result from construction. Long-term impacts from the project would therefore be increased distribution of water, as well as

the requirement of deer having to navigate a new fence. However, as described above, deer should be able to pass over or under the new fence with little difficulty since it would be built to be wildlife-passable.

4.1.2.2 Pronghorn

As described in Section 4.1.1 above, construction activities would result in approximately 6 acres of short-term disturbance. After construction is completed, the area of long-term disturbance would be minimal. The proposed improvements have been designed to minimize impacts to vegetation by restricting construction activities to the 15 foot wide route. This is a negligible loss of habitat, compared with the relative amount of habitat available in the surrounding landscape.

Pronghorn would likely avoid the construction area and be temporarily displaced during work periods. Construction activities and human presence would result in a localized and temporary increase in noise that would likely cause pronghorn to temporarily avoid the vicinity. Although pronghorn would be temporarily displaced once the pipeline is completed and troughs are installed, the availability of water would be improved (including being available year-long). This would be particularly beneficial to does during fawning and lactation periods when physiological stresses are greatest. Long-term impacts from the project would result from deer having to navigate a new fence. However, the long-term benefits of a more consistent water source for pronghorn would outweigh any short-term adverse impacts that could result from construction.

4.1.2.3 Migratory Birds

Fence and pipeline construction would result in a temporary loss of habitat, soil compaction, and construction noise along the route. Construction activities would result in approximately 6 acres of short-term disturbance while long-term disturbance would be minimal. This is a negligible loss of habitat compared with the relative amount of habitat available in the surrounding landscape. The proposed improvements have been designed to minimize impacts to vegetation by restricting construction activities to a 15-foot wide footprint along the 3.25 miles of fence and 2 miles of pipeline, as well as limiting construction activities to periods when soils are dry (in order to minimize soil compaction and associated potential impacts to plant vigor). Impacts would be mostly to shrubs, forbs, and grasses. The amount of disturbance to vegetation would be negligible and would not hinder migratory birds' ability to forage. The short-term loss of vegetation could result in a short-term reduction of migratory bird habitat. The construction could impact migratory birds that use the project areas for foraging, migration, and breeding by temporarily reducing habitat in the area. However, the area would be so small, relative to the overall foraging, migration, and breeding habitat and range in the ASFO management area, that impacts from construction would be minor. Lastly, upon completion of the pipeline, the birds would benefit long-term by having a reliable water source for drinking and bathing.

If construction occurs in early spring, short-term impacts to migratory birds as a result of human presence and noise could impact individual birds that arrive early to breeding sites and could lead to abandonment of early breeding and/or nesting attempts. Equipment associated with

construction may also generally affect migratory birds as a result of soil-compaction and noise. The increased noise and construction activity would occur only in the short term. In the long term, occasional maintenance would have a negligible impact to migratory birds since these activities would only be occasional and intermittent.

Impacts to migratory birds would be minimized by implementing the best management practices listed in Section 2.1.1. (i.e., measures would be taken to protect active bird nests and activities would be limited to daylight hours). Additionally, by minimizing disturbance to vegetation, migratory birds would have access to the vegetation for cover and as an area to forage once construction is complete.

4.1.2.4 Sensitive Species

In general, as with migratory birds, construction activities and noise would result in a temporary loss of habitat and construction noise along the fence and pipeline route. The proposed improvements have been designed to minimize impacts to habitat (vegetation) by restricting construction to a 15 foot wide footprint along the route.

Equipment associated with construction may also affect sensitive species as a result of soil compaction and noise. However, construction activities would only occur when soils are dry, which would minimize the potential for soil compaction. The increased noise and construction activity would occur only in the short term. In the long term, occasional maintenance would have a negligible impact to sensitive species since these activities would only be occasional. Impacts to specific sensitive species are detailed below.

Western Burrowing Owl

Western burrowing owl habitat within the project area consists of desert scrub vegetation. Because western burrowing owls forage during the day, when construction activities would most likely occur, the foraging behavior of the owls could be impacted in the short term by the vibration of construction equipment or be destructive to burrows during construction activity; however, the area disturbed would be minimal, compared with the overall range of the owl. In addition, impacts to nesting birds would be minimized by implementing the best management practices listed in Section 2.1.1 (i.e., measures would be taken to protect nesting birds). Construction activity could reduce the availability of prey in the area of the construction, which would further impact the owls. Thus, although the proposed action could have minor short-term impacts to individual western burrowing owls, no long-term impacts to the species (i.e., a trend toward Federal listing or loss of viability) are expected.

Allen's Big-eared Bat

There are no rock shelters, caves, or mines that would be impacted by the proposed project. The presence of water troughs in the foraging habitat of Allen's big-eared bats should enhance the foraging efforts of the species by increasing the amount of moths in the area. Therefore, the

proposed action should have a benefit to the species.

Spotted Bat

As described in Section 3.2.2.4 of this EA, the project site is only used by this species for foraging. It is unlikely that construction of the fence and pipeline, and installation of the water troughs and cattleguards, would impact foraging activities since construction would only take place during daylight hours. The increase in water availability due to construction of the pipeline and installation of the troughs may result in an increase in the population numbers for prey species of spotted bat, which should benefit this species.

Peregrine Falcon

As described in Section 3.2.2.4, the nearest potential nesting site is approximately two miles from the project area. Peregrine falcons may fly over or forage in the vicinity of the project area, but the amount of habitat that would be impacted by construction activities is minimal (compared with the overall range of the species). In addition, this disturbance to habitat would only be temporary, until such time as vegetation along the pipeline and fence route becomes re-established, and would not hinder the peregrine's ability to forage. Impacts may occur to peregrine falcons if construction activity impacts the nesting habitat of the species or causes a reduction in prey abundance through vegetation removal. However, no nesting sites occur within the project area, or would be affected by the project. Although the proposed action could have minor short-term impacts to individual falcons (due to construction activities), no impacts to the species (i.e., a loss of viability) are expected.

Golden Eagle

As described in Section 3.2.2.4, the nearest potential golden eagle nesting site is approximately three miles from the project area. Golden eagles forage throughout the Arizona Strip, and may fly over or forage in the vicinity of the project area. However, the amount of habitat that would be impacted by construction activities is minimal (compared with the overall range of the species). In addition, this disturbance to habitat would only be temporary, until such time as vegetation along the pipeline and fence route becomes re-established, and would not hinder the eagle's ability to forage. Impacts may occur to golden eagles if construction activity impacts the nesting habitat of the species or causes a reduction in prey abundance through vegetation removal. However, no nesting sites occur within the project area, or would be affected by the project. Although the proposed action could have minor short-term impacts to individual eagles (due to construction activities), no impacts to the species (i.e., a loss of viability) are expected.

Bald Eagle

As described in Section 3.2.2.4, bald eagles are not known to nest anywhere on the Arizona Strip; they are seasonal (winter) migrants to the area and roost in large trees near riparian areas and along highways. The proposed project would not remove any roosting habitat for the species, and

no activities would occur in or near potential roosting areas. Thus, bald eagles should not be impacted by any activities proposed in this alternative.

Ferruginous hawk

As described in Section 3.2.2.4, ferruginous hawks may occasionally use the area of the proposed project for foraging. However, the amount of habitat that would be impacted by construction activities is minimal (compared with the overall range of the species). In addition, this disturbance to habitat would only be temporary, until such time as vegetation along the pipeline and fence route becomes re-established, and would not hinder the hawk's ability to forage. Impacts may occur to ferruginous hawks if construction activity causes a reduction in prey abundance through vegetation removal. Although the proposed action could have minor short-term impacts to individual hawks (due to construction activities), no impacts to the species (i.e., a loss of viability) are expected.

4.1.3 Livestock Grazing

Implementation of the proposed action would result in better control of the cattle within the Little Warren Pasture. The fences would provide a barrier to the cattle, keeping them in the desired locations and preventing them from congregating in the southwest portion of the pasture. The pipeline with water troughs would provide reliable sources of water being available at appropriate times for the grazing of livestock, which would help to increase the distribution of the livestock by having the waters scattered throughout and being able to use different portions of the pasture at different times.

4.1.4 CUMULATIVE IMPACTS OF PROPOSED ACTION

“Cumulative impacts” are those impacts 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. This EA attempts to qualify and quantify the impacts to the environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions. These impacts can result from individually minor but collectively important actions taking place over a period of time.

There are other uses and activities occurring on the lands within and adjacent to the project area besides livestock grazing (i.e., recreation, hunting, mining, etc.). Specific actions that are occurring, or are likely to occur in the reasonably foreseeable future is:

- Recreation – Recreation activities occurring throughout the project area involve a broad spectrum of pursuits ranging from dispersed and casual recreation to organized, BLM-permitted group uses. Typical recreation in the region includes OHV driving, scenic driving, hunting, hiking, wildlife viewing, horseback riding, camping, backpacking, mountain biking, geocaching, picnicking, night-sky viewing, and photography. The Arizona Strip is known for its large-scale undeveloped areas and remoteness, which

provides an array of recreational opportunities for users who wish to experience primitive and undeveloped recreation, as well as those seeking more organized or packaged recreation experiences.

- Northern Arizona Proposed Withdrawal – On July 21, 2009, the Department of the Interior published notice of the Secretary of the Interior’s proposal to withdraw approximately 1 million acres of federal locatable minerals in northern Arizona from the location of new mining claims under the Mining Law of 1872 [30 United States Code (USC) 22–54] (Mining Law), subject to valid existing rights. The withdrawal was proposed in response to increased mining interest in the region’s uranium deposits, as reflected in the number of new mining claim locations, and concern over potential impacts of uranium mining to the Grand Canyon watershed, adjacent to Grand Canyon National Park. The project area is included in this proposed withdrawal. Publication of the *Federal Register* notice of the proposed withdrawal had the effect of segregating the lands involved from the location and entry of new mining claims for up to 2 years while the BLM evaluates the withdrawal application. The 2-year time frame is being used to complete various studies and analyses of resources in the segregated area, including environmental review of the proposed withdrawal under NEPA. A decision on whether to withdraw the lands has not yet been made. Leasable and salable mineral resources are not subject to the proposed withdrawal.
- Mining and Mineral Resources – Public lands on the Arizona Strip Field Office are generally open to mineral development (see above for a discussion on the Northern Arizona Proposed Withdrawal). The primary economic mineral resource in the area consists of locatable mineral deposits, including breccia pipe deposits (i.e., vertical collapse features formed from the collapse of karst solution caverns in the underlying Redwall limestone). A variety of precious metals (including copper, gold, and silver) are found within breccia pipes. However, it is the presence of uranium minerals within breccia pipes that has been of the most interest over the past half century. Should the area be withdrawn from locatable mineral entry, only mining development associated with valid claims that existed prior to July 21, 2009 could occur. It is unknown at this time how many valid existing claims occur – a validity determination would be needed to determine this. Should a claim be verified, and subsequently developed, up to 20 acres would be disturbed at each mine site, along with associated infrastructure (powerlines and access roads).

Other potential mineral resources are leasable minerals (including coal, oil and gas, and geothermal resources) and salable minerals (consisting primarily of sand, stone and gravel). The potential for leasable minerals in the vicinity of the project area is moderate; the potential for gravel is low (project area itself) or high (north of the project area). Several existing mineral material pits occur to the north of the project area.

The proposed action would result in up to 6 acres of disturbance (3 acres on public land and 3 acres on state/private land) along the construction route in the short-term, with long-term disturbance being negligible. Total cumulative impacts would be the addition of seven and a quarter miles of fence spaced from two to five miles from existing fences, also the addition of

four new sources of water in an area that contains only four existing reservoirs collecting temporary storm waters. Wildlife may be affected by these other activities occurring within and adjacent to the project area and occasional conflicts with recreationists could also occur. However, given the relatively limited surface impacts from these activities, it is anticipated that cumulative impacts from past, present, and reasonably foreseeable future actions would be minor at most.

4.2 ENVIRONMENTAL CONSEQUENCES OF THE NO ACTION ALTERNATIVE

4.2.1 Vegetation

Under this alternative, the six acres of ground along the route of the proposed fence and pipeline would receive no additional impacts. No vegetation would be crushed or trampled by rubber tires or cleats from trucks or tractors, and no vegetation would be uprooted by the ripper tooth from pipeline installation. However, the overall condition of vegetation in this pasture may not improve as the same livestock distribution and patterns would persist that currently exist. These impacts would not be offset by better control of livestock grazing in the southwest portion of the pasture from the fencing and water developments. This would not allow the vegetation in the area to better progress toward its natural potential. Thus, ecological status for this pasture would remain the same.

4.2.2 Wildlife, Including Mule Deer, Pronghorn, Migratory Birds, and Sensitive Species

Under the no action alternative, no construction activities and, therefore, no additional ground disturbance would occur. This alternative would therefore have no site-specific impacts to wildlife resulting from construction activities. However, lack of available water due to the unreliability of livestock ponds in the area could adversely impact wildlife dependent on these water sources as they search for water during periods of drought. Presently the existing ponds and reservoirs are not dependable for catching and holding water and most reliable waters are three or more miles away.

4.2.2.1 Mule Deer

Under the no action alternative, no construction activities would occur. Therefore there would be no ground disturbances including noise, fugitive dust, or human presence to disrupt deer. There would also not be a new fence that the deer would have to negotiate when passing through the area.

Lack of available water in the area when the livestock ponds go dry during periods of drought could adversely impact mule deer dependent on them with no other dependable water sources available within three miles.

4.2.2.2 Pronghorn

Under the no action alternative, no construction activities would occur. Therefore there would be no ground disturbances including noise, fugitive dust, or human presence to disrupt pronghorn. There would also not be a new fence that the pronghorn would have to negotiate when passing through the area.

Lack of available water in the area (when the livestock ponds go dry during periods of drought) could adversely impact pronghorn dependent on them with no other dependable water sources available within three miles.

4.2.2.3 Migratory Birds

Under the no action alternative, no construction activities and, therefore, no additional ground disturbance would occur. As a result, there would be no additional loss of habitat. Opportunities for migratory birds to forage, migrate, or breed would not be adversely impacted because no construction activities and associated ground disturbance would occur.

4.2.2.4 Sensitive Species

There would be no construction activities resulting in additional ground disturbance under the no action alternative; therefore, no sensitive species habitat would be directly affected. However, no additional (reliable) water sources would be provided (to enhance the foraging habitat of these species).

Western Burrowing Owl

The no action alternative would have no direct impacts to individual western burrowing owls or to the species (i.e., a trend toward Federal listing or loss of viability) since no construction activities would occur within burrowing owl habitat.

Allen's Big-eared Bat

There are no rock shelters, caves, or mines that would be impacted within the proposed project area. However, no additional (reliable) water sources would be provided (to enhance the foraging habitat of this species). Lack of available water in the area (when livestock ponds go dry during periods of drought) could limit availability of prey in localized areas since their main food source are moths that congregate around water.

Spotted Bat

There is no roosting habitat (i.e., rock shelters, caves, or mines) that would be impacted under this alternative. However, no additional (reliable) water sources would be provided (to enhance the foraging habitat of this species). Lack of available water in the area (when livestock ponds go dry during periods of drought) could limit availability of prey in localized areas since their main food source is moths that congregate around water.

Peregrine Falcon

Since no pipeline/fence construction would occur, there would be no disturbance to foraging falcons or to their prey from implementation of this alternative. In addition, no vegetation crushing would occur, so no impacts to prey habitat would occur beyond current conditions. However, no additional (reliable) water sources would be provided (to enhance the foraging habitat for peregrine falcon prey species). Lack of available water in the area (when livestock ponds go dry during periods of drought) could limit availability of prey in localized area. Thus, no adverse impacts to the species (i.e., a trend toward Federal listing or loss of viability) are expected.

Golden Eagle

Since no pipeline/fence construction would occur, there would be no disturbance to foraging eagles or to their prey from implementation of this alternative. In addition, no vegetation crushing would occur, so no impacts to prey habitat would occur beyond current conditions. However, no additional (reliable) water sources would be provided (to enhance the foraging habitat for golden eagle prey species). Lack of available water in the area (when livestock ponds go dry during periods of drought) could limit availability of prey in localized area. Thus, no adverse impacts to the species (i.e., a trend toward Federal listing or loss of viability) are expected.

Bald Eagle

The no action alternative would not remove any roosting habitat for this species, and no activities would occur in or near potential roosting areas. Thus, bald eagles should not be impacted by any activities proposed in this alternative.

Ferruginous Hawk

Since no pipeline/fence construction would occur, there would be no disturbance to foraging hawks or to their prey from implementation of this alternative. In addition, no vegetation crushing would occur, so no impacts to prey habitat would occur beyond current conditions. However, no additional (reliable) water sources would be provided (to enhance the foraging habitat for ferruginous hawk prey species). Lack of available water in the area (when livestock ponds go dry during periods of drought) could limit availability of prey in localized area. Thus, no adverse impacts to the species (i.e., a trend toward Federal listing or loss of viability) are expected.

4.2.3 Livestock Grazing

Under the no action alternative livestock grazing in the Little Warren pasture would continue as at present. Cattle placed in the pasture would continue to drift to the southwest portion of the pasture, which would in turn continue to receive a disproportionate share of the grazing. Other

areas of the pasture would receive little or no grazing. The ranchers would continue to gather the cattle from the southwest area and move them to other areas of the pasture, but the cattle would continue to drift immediately back to the southwest. This would not allow the vegetation in the area to better progress toward its natural potential (see discussion in section 4.2.1 above).

4.2.4 Cumulative Impacts of the No Action Alternative

As described in Section 4.1.4, other projects that are occurring (or may occur) in the vicinity of the project area include recreation, hunting, the Northern Arizona Proposed Withdrawal, and mining. It is unknown at this time if valid existing mining claims occur in the vicinity of the project area. Wildlife may be affected by these other activities occurring within and adjacent to the project area. However, given the relatively limited surface impacts from these activities, it is anticipated that cumulative impacts from past, present, and reasonably foreseeable future actions would be minor at most.

Chapter 5

CONSULTATION AND COORDINATION

5.1 LIST OF PREPARERS AND CONTRIBUTORS

The following tables list persons who contributed to preparation of this EA.

Table 5.2 List of BLM Preparers/Reviewers

Name	Title	Responsible for the Following Program
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Diana Hawks	Team Lead, Recreation/Wilderness/Cultural Resources	Recreation, Wilderness, Visual, Resources
Ray Klein	GCPNM Supervisory Ranger	Law Enforcement
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Table 5.3. Non-BLM EA Preparers/Reviewers

Name	Agency/Organization	Title
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Kelly Heaton	Rancher	Grazing permittee on Clayhole Allotment
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Chapter 6

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List of Acronyms

AGFD	Arizona Game and Fish Department
AMP	Allotment Management Plan
BLM	Bureau of Land Management
BMP	Best Management Practice
EA	Environmental Assessment
HMP	Habitat Management Plan
NEPA	National Environmental Policy Act
RMP	Resource Management Plan
USC	United States Code