

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ENVIRONMENTAL ASSESSMENT

SITLA INDEMNITY SELECTION
SURFACE AND MINERAL ESTATE
SERIAL NUMBER UTU-90091

DOI-BLM-UT-G010-2014-0142-EA

June 2018

Location:

Uintah County, Utah
T. 11 S., R. 25 E., Salt Lake Meridian
Sec. 5, SW $\frac{1}{4}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ SW $\frac{1}{4}$;
Sec. 6, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$;
Sec. 8, W $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$.

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BLM



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DOI-BLM-UT-G010-2014-0142-EA

1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of the SITLA Indemnity Selection - Surface and Mineral estate as proposed by the State of Utah. The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI). A FONSI statement documents the reasons why implementation of the selected alternative would not result in "significant" environmental impacts (effects) beyond those already addressed in the Vernal Field Office Resource Management Plan (RMP) approved October 2008. If the decision maker determines that this project has "significant" impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record may be signed for the EA approving the selected alternative, whether the proposed action or another alternative.

BACKGROUND

If the lands are classified and the application is approved, the lands and minerals would be transferred subject to all valid existing rights. This proposed classification is pursuant to Title 43, Code of Federal Regulations, Subpart 2450.

Disposal of the in lieu parcel would also fulfill the intent of the Utah enabling act to support the state's schools through the land grant managed by the state, and would support the local economy and community growth through state school funding.

PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose and need for the action is established by the BLM's responsibility under the Utah Enabling Act and associated regulations to respond to selections of vacant, unappropriated, surveyed public lands within the State of Utah to fulfill the remaining entitlement due to the State.

Based on the NEPA analysis, the BLM will decide whether to transfer the surface and mineral estate of 440.00 acres of Federal lands located in Uintah County to the State of Utah, or whether to retain these lands in Federal ownership.

SCOPE OF ANALYSIS AND DECISION TO BE MADE

This EA evaluates the proposed action of transferring 440 acres of Federal surface and minerals to SITLA ownership. The scope of analysis in this EIS is limited to the proposed action and how it and its alternatives respond to the Agency's purpose and need. The BLM's decision to be made in this document is whether or not to transfer land and mineral ownership to SITLA.

It has been previously suggested that for several reasons this project is connected to three other projects ongoing near the project area: the Enefit Utility Project, the Enefit Research, Demonstration, and Development (RD&D), and the Enefit South Project. The BLM has reviewed the rationale and made the following determinations:

- **Common proponent:** The proponent for the Indemnity Selection is SITLA. The proponent for the other three projects is Enefit American Oil. There is no common proponent.
- **Common timing:** The Indemnity Selection permit has been submitted to the BLM and is being reviewed under a draft EA. The Utility Project application has already proceeded to a final EIS. The RD&D project has already been approved. The South Project mining plan has not yet been submitted to the State. There is no common timing.
- **Common geography:** The Utility Project is located northeast of the Indemnity Selection. The RD&D project is north of the Indemnity Selection. The South Project abuts the southeastern corner of the Indemnity Selection. Geography is similar, but not the same.
- **Common impacts:** The impacts of the Indemnity Selection are limited to the administrative action of transferring land and mineral ownership to SITLA, as disclosed in this EA. The impacts of the Utility Project result from surface disturbance associated with the installation of five rights of way of up to 19 miles in length. The impacts of the RD&D project result from testing stockpiled oil shale for development potential. The impacts of the South Project result from strip mining and processing of oil shale. The impacts are not the same.
- **Common purpose (meaning proponent purpose):** SITLA's purpose for the Indemnity Selection is to have the lands described in the Indemnity Selection classified or otherwise made available for entry or disposition pursuant to their application. Although Enefit has been in communication with SITLA regarding the 440 acres, this disposal does not guarantee development by Enefit. SITLA would be at liberty to lease the land for oil and gas development, sell it, permit livestock grazing on it, or retain it for future development. Enefit's purposes for the Utility Project is to provide utilities to their private land. Enefit's purposes for the RD&D is to obtain a preferential right lease to oil shale on federal lands. Enefit's purposes for the South Project is to develop minerals on their private land. The purposes for the projects are not the same.
- **Cumulative Actions:** 40 CFR 1508.25(a)(2) defines cumulative actions as proposed actions which potentially have a cumulatively significant impact together with other proposed actions and should be discussed in the same NEPA document. Impacts that accumulate with the Indemnity Selection are disclosed in this EA.

The BLM has determined that the Utility Project, RD&D, and South Project are not connected actions to the Indemnity Selection. All four projects are proceeding independently because they do not require the approval of any of the other projects to proceed as proposed. Also, all four projects are subject to different authorities: the Indemnity Selection is subject to 43 CFR 250, the Utility

Project is subject to 43 CFR 2800, the RD&D is subject to 70 FR 33753, and the South Project is subject to State of Utah permitting, not BLM regulations.

CONFORMANCE WITH BLM LAND USE PLAN(S)

The EA is in conformance with the Vernal Field Office Resource Management Plan (RMP) approved October 2008. The following plan provisions apply:

Goals and Objectives (p. 86)

Process applications, permits, operating plans, mineral exchanges, leases, and other use authorizations for public lands in accordance with policy and guidance. Give land exchanges with the state of Utah priority consideration to resolve inholding issues.

Management Decisions

LAR-2 (p. 86) - acquisitions, exchanges, easements, or disposals will be considered, using land tenure adjustments (LTA) criteria on a case-by-case basis, between willing buyers and sellers.

LAR-7 (p. 87) - public lands within the VFO will be considered for disposal through methods such as sale, exchange, state indemnity selection, airport and airway improvement act, color-of-title act, state selections under the enabling act, recreation and public purpose act patent, other lesser-used authorities, or as directed by special regulation.

LAR-20 (p. 89) for land tenure adjustments (LTAs), land ownership changes will be considered on lands not specifically identified in the approved RMP (Figure 6a) for disposal or acquisition if the changes are in accordance with resources management objectives and other RMP decisions, determined to be in the public interest. The proposal must meet at least one of the five criteria. State indemnity selection would meet criteria 1,

1. The changes are determined to be in the public interest. The public will benefit from land resources coming into public ownership, while at the same time accommodating the needs of local and state governments, including the needs for public purposes, community growth and the economy.

The disposal map (figure 6a) in the RMP does not include the selected lands in sections 5, 6, & 8 T. 11 S., R. 25 E. It is unclear why those lands were not included on the disposal map, as they appear to meet the disposal criteria identified in the RMP. However, those lands would still be available for state selection under management decisions LAR 2, 7, & 20.

The BLM will further examine these lands for evidence of prior valid rights or other statutory constraints that could affect classification and disposal. This proposed classification is pursuant to Title 43, Code of Federal Regulations, Subpart 2450.

The proposed selection meets the above-listed LTA criteria and is consistent with the RMP goals and objectives. Disposal of the in lieu parcel would also fulfill the intent of the Utah enabling act to support the state's schools through the land grant managed by the state, and would support the local economy and community growth through state school funding. Access to the in lieu parcel is via a Uintah County Class B and D road across private lands.

It has been determined that the proposed action and alternative(s) would not conflict with other decisions throughout the plan.

RELATIONSHIP TO STATUTES, REGULATIONS, OR OTHER PLANS

This EA was prepared by the BLM in accordance with NEPA of 1969 and in compliance with all applicable regulations and laws passed subsequently, including the President's Council on Environmental Quality regulations, and U.S. Department of Interior requirements and guidelines, as listed in the BLM NEPA Handbook H-1790-1

SCOPING, PUBLIC INVOLVEMENT, AND ISSUES

The proposed action was posted to the public BLM E-Planning website with its assigned NEPA number on April 30, 2014.

Public notification to interested parties was initiated by mailing the proposed classification decision on April 28, 2014. Notices of the proposed classification decision were published in the two local newspapers; the Vernal Express on May 13, 20, 27, June 3 and 10th, 2014 and the Uintah Basin Standard on May 13, 20, 27, June 3 and 10th, 2014.

Issues identified by BLM Specialists are documented in Appendix A, Interdisciplinary Team Checklist. Resources which could be impacted to a level requiring further analysis are described in Chapter 3 and impacts on these resources are analyzed in Chapter 4 below.

SUMMARY

This chapter has presented the purpose and need of the proposed project, as well as the relevant issues, i.e., those elements of the human environment that could be affected by the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has considered and/or developed a range of action alternatives. These alternatives are presented in Chapter 2. The potential environmental impacts or consequences resulting from the implementation of each alternative considered in detail are analyzed in Chapter 4 for each of the identified issues.

2.0 DESCRIPTION OF ALTERNATIVES

This EA focuses on the Proposed and No Action Alternatives for the proposed In Lieu Selection. Only the Proposed and No Action Alternatives were analyzed since no unresolved conflicts have been identified. The No Action Alternative is considered and analyzed in order to provide a baseline for comparison of the impacts of the proposed action.

2.1 INTRODUCTION

2.1.1 ALTERNATIVE A – PROPOSED ACTION

The State of Utah, School & Institutional Trust Lands Administration (State or SITLA) has filed a Petition for Classification and an Application for Indemnity Selection, serial number UTU-90091, with the Bureau of Land Management (BLM) Utah State Office, pursuant to sections 6 and 13 of the Utah Enabling Act of July 16, 1894, and in accordance with regulations under 43 CFR Part 2621. The Petition for Classification of these lands for disposal under the above cited authorities is processed in accordance with regulations under 43 CFR Part 2400.

The Utah Enabling Act granted the State of Utah four sections of land in each township upon admission to the Union for the support of common schools. A portion of these lands were encumbered or reserved at the time of statehood and, therefore, could not pass to the State. In this case the State is allowed to select other lands, in-lieu of the lands not transferred, within the State of Utah from the unappropriated public lands of the United States under the direction of the Secretary of the Interior.

The application proposes that the BLM transfer the surface and mineral estate of 440.00 acres of Federal land located in Uintah County to the State (See Appendix B, Map of Selected Parcel). The State has selected these lands in lieu of certain school lands granted to the State under the Utah Enabling Act of July 16, 1894, because some of the lands granted under the Enabling Act were encumbered or reserved at the time of statehood and, therefore, could not pass to the State. The lands would be transferred in fulfillment of the remaining entitlement due to the State.

The selected lands are surrounded by private lands. Transfer of the selected lands would create a block of state lands, approximately 440.00 acres in size, which would be utilized to meet SITLA's mandate to manage their lands to optimize financial returns for Utah's schools. SITLA realizes this mandate by the sale or rent of these lands for various purposes including but not limited to mineral development, residential development, farming and grazing.

If approved, the lands would be transferred subject to all valid existing rights. The State would honor all existing rights-of-way, leases and permits through their existing terms at which time new terms would be negotiated with the State. State procedures provide for the offering to holders of BLM grazing permits, licenses, or leases the first right to lease lands that are transferred to the State. The State in the management of these lands would be subject to all existing applicable laws for the protection of cultural and wildlife resources, and their own policies and procedures.

2.1.2 ALTERNATIVE B – NO ACTION

The Petition for Classification and Application for Indemnity Selection would be denied. The lands and minerals would remain in Federal ownership, and would be managed for multiple-use within the limitations created by the selected lands isolated nature from other BLM administered lands.

The obligation of the United States to convey lands to the State in lieu of unavailable base lands is required by law. The No Action alternative denies the State's current selection and the legal obligation to transfer land would remain. It would be reasonable to expect that eventually the State would select other lands for the fulfillment of the identified obligation.

2.1.3 ALTERNATIVES CONSIDERED BUT ELIMINATED

There were no other alternatives identified aside from the Proposed Action and No Action Alternatives that would meet the purpose and need of this project.

3.0 AFFECTED ENVIRONMENT

This chapter presents the potentially affected existing environment (i.e., the physical, biological, social, and economic values and resources) of the impact area as identified in the Interdisciplinary Team Checklist found in Appendix A. This chapter provides the baseline for comparison of impacts/consequences described in Chapter 4.

3.1 GENERAL SETTING

The proposed SITLA In-Lieu selection is located in Eastern Uintah County, Utah, approximately 50 miles southeast of Vernal Utah.

The latitude/longitude of the parcel is: 109°8'58.374"W 39°53'4.678"N.

The legal description of the parcel is:

Salt Lake Meridian

T. 11 S., R. 25 E.,
Sec. 5, SW $\frac{1}{4}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ SW $\frac{1}{4}$;
Sec. 6, SE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$;
Sec. 8, W $\frac{1}{2}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$.

3.2 RESOURCES/ISSUES BROUGHT FORWARD FOR ANALYSIS

3.2.1 GEOLOGY/MINERALS/ENERGY PRODUCTION

The federal government currently owns all mineral rights associated the 440 acres. Seven oil and gas fields have been identified to occur in the surrounding area of the parcel. The oldest field being the Oil Springs field discovered in 1963, the youngest is the Kicker field discovered in 2001 and has since been abandoned. Although abandoned, the Kicker field produced significant quantities of gas.

Oil shale is found in the Green River Formation in the Uinta Basin, this formation lies in this parcel. The In Lieu selection project area has areas where the overburden above the oil shale resource is less than or equal to 500 feet, which makes it a geologically prospective oil shale area. The shale under this parcel contains 30 – 40 feet thick of 35 gallons per ton of shale oil (Vanden Berg 2008) (Perkes 2018). The lands were classified as mineral lands by the USGS in 1916, but there is no

finding of “Mineral in Character”¹ and there is no Known Oil Shale Leasing Area” established, therefore the BLM does not accept the 1916 mineral land classification. In addition, the In Lieu selection area was not identified in the Programmatic Oil Shale ROD (BLM 2013) as being available for oil shale development. The In Lieu selection area is completely surrounded by land and minerals that are privately owned (see the map in Appendix B). The owner of those lands and minerals has expressed interest in permitting an oil shale strip mine and processing plant through the State of Utah.

The Uinta A formation, which contains the building stone, has been identified in the western most part of the parcel. There have been no sales on the parcel so it is unknown if the building stone exists as would be required by commercial dealers. However, areas for collecting building stone are numerous in the area.

3.2.2 LIVESTOCK GRAZING/RANGELAND HEALTH

The project is proposed within the Watson BC Allotment. The allotment is managed by the VFO for winter sheep use only. Large portions of the sheep allotment are comprised of private and state lands. Privately owned lands (not owned by the permittee) within allotments are grazed by agreements between the land owner and permittee. The preference on the current permittee is based on forage available on 8,790 Federally managed surface acres. The current preference is 1,258 Sheep AUMS for use between November 15th and April 30th of each year. Use has been authorized and taken regularly on the allotment for the last decade. The current authorization for grazing use is held by the Chacon Sheep Company.

¹ It is my professional opinion that oil cannot be commercially produced from this parcel’s oil shale for the following reasons.

- 1) There is no commercial production of oil from oil shale currently in the United States including Utah, Colorado and Wyoming.
- 2) The Rand Corporation, under contact with the U.S. Department of Energy, estimated surface retorting plants (including mining and processing) would unlikely be profitable unless crude oil prices were \$70 to \$95 per barrel (Bartis, 2005). The BLM used the inflator calculator from the Bureau of Labor and Statistics to inflate these 2005 dollars to \$91 to \$123 (BLS, 2018). In March 2018 the price of oil in 2018 has been between \$58 and \$72 per barrel per the NASDAQ, 2018).
- 3) The size of the parcel would not allow independent development because of the lack of reserves to offset necessary financial investment. At a moderate size facility (25,000 barrels per day) there is only about four years’ worth of shale oil resource in the ground of this parcel. The four years estimate does not account for mining and processing losses or for the ramp and box cut that would be necessary to remove the 300 foot overburden but would also substantially reduce the amount of oil shale that could be extracted. Further the four years estimate assumes that processing would happen offsite to avoid a large capital investment because it would not by itself justify expenditures for construction of a primary and secondary treatment facility to remove nitrogen from the shale oil to reach the specifications for conventional oil.

Based on these factors the 440 acres is **not** “Mineral in Character” for oil shale.

Perkes, 2018

3.2.3 PLANTS: BLM SENSITIVE

The plant species oilshale catseye/Barneby's cryptantha (*Cryptantha barnebyi*), designated as a BLM Sensitive plant species in Utah, has been previously documented near the Project Area. Oilshale catseye occurs in pinyon-juniper and shadscale communities on the gently sloping white shale knolls of the Green River formation where oil shales are present, at elevations from 1850-2400 meters (NatureServe 2014). Although the species has not been identified within the Project Area itself, potential habitat is present.

Suitable habitat for the following Utah BLM Sensitive plant species is present in the Project Area: Graham's catseye (*Cryptantha grahamii*), Utah columbine (*Aquilegia scopulorum* var. *goodrichii*) Untermann's daisy (*Erigeron untermannii*), Goodrich's blazingstar (*Mentzelia goodrichii*), Argyle Canyon phacelia (*Phacelia argylensis*), and Green River greenthread (*Thelesperma caespitosum*). These species are associated with Green River formation shale in mixed desert shrub, sagebrush, pinyon-juniper or mountain brush communities, and this habitat is present in the Project Area. However, these species have not been documented in Uintah County, where the Project Area is located. Therefore, although it is unlikely that instances of these species would occur, it is possible.

3.2.4 PLANTS: THREATENED, ENDANGERED, PROPOSED, OR CANDIDATE

Potential habitat for the following Federally proposed threatened plant species has been documented within the Project Area: Graham's beardtongue (*Penstemon grahamii*) and White River beardtongue (*Penstemon scariosus* var. *albifluvis*). A small section of the Project Area (approximately 6.9 acres) is currently proposed as Critical Habitat for White River beardtongue. This section represents approximately 0.1 percent of the total area proposed as Critical habitat for this species. However, neither the Graham's beardtongue or White River beardtongue has been documented in the Project Area.

3.2.5 WATER: FLOODPLAINS

This project takes place in an area that sees periodic fluctuations in precipitation rates. Most of the precipitation in this zone ends up in surrounding Evacuation Creek Floodplain if the extent of the flood reaches channel capacity. When it reaches this status, water breaches the banks of the usually dry ephemeral drainages in the area and ends up diffused out in a floodplain type environments. A floodplain is a depositional feature that are subject to wetting by flows in excess of stream channel capacity. Floodplains can be but are not necessarily wetlands.

The vegetation on floodplains is often associated with a high water tables. Vegetation helps regulate high flows, providing increased retention time for surface to ground water infiltration, and decreasing downstream flood stage. Floodplains are critical recharge zones for streams, and are vital physical components of channels. This is true whether a channel has continuous perennial surface flow, interrupted perennial surface flow, continuous intermittent flow, interrupted intermittent flow, or even ephemeral flow. (While not normally found, the presence of floodplains on an ephemeral channel is a strong indicator that the channel has degraded). While infiltration rates are frequently lower, ephemeral channels can also have direct flow paths to ground water storage reservoirs of larger intermittent and perennial channels. Therefore, the distinction in values between ephemeral and non-ephemeral streams is not clear-cut. Floodplains in the

proposed area are typically from ephemeral channel erosion, this erosion is more difficult to manage in ephemeral channels due to the lack of bank stabilizing riparian vegetation.

Approximately 16,000 acres of floodplains area found along the Green and White Rivers, Bitter Creek, Evacuation Creek, Sweetwater, and Willow Creeks in the Book Cliffs area. Flooding of perennial streams in the Colorado Plateau typically occurs during spring runoff period. The ecological condition of the wetland and riparian areas along these drainages is considered to be threatened by flow alterations, non-native plant species, and grazing (BLM, 2008).

3.2.6 WATER: GROUNDWATER QUALITY

Key aquifers in the basin include the alluvium, the Uinta-Duchesne Aquifer, the Parachute Creek Member of the Green River Formation (including the “Bird’s Nest Aquifer”), and the Douglas Creek Aquifer of the Green River Formation. The alluvial aquifers are recharged by infiltration of surface water and by discharge of bedrock aquifers. The average thickness of the alluvial fill in the White River and Evacuation Creek drainages is 30 ft. Maximum well yields are less than 1,000 gpm. Water type is typically sodium sulfate, and TDS concentrations vary from 480 to 27,800 mg/L.

The Parachute Creek Aquifer is recharged by stream infiltration and leakage from the overlying Uinta Formation. It discharges to Bitter Creek and the White River. The aquifer thickness ranges from 90 to 205 ft. Water generally moves to the west from recharge areas along Evacuation Creek, and from the south and north toward the lower reaches of Bitter Creek. The “bird’s nest” zone is named because in outcrops it resembles a wall of sparrows’ nests. This zone contains solution cavities up to 2 ft in diameter caused by the natural removal of soluble nahcolite. Connection of the cavities has resulted in a highly permeable zone within the Parachute Creek Member. Properties of the Parachute Creek Aquifer vary greatly with location and the degree of dissolution of the nahcolite. Well yields vary also and are as high as 5,000 gpm. Water type is generally sodium sulfate to sodium bicarbonate. TDS levels range from 870 to 5,810 mg/L (Holmes and Kimball 1987).

The Douglas Creek Aquifer receives recharge mainly by infiltration of precipitation and surface water in its outcrop area, with little leakage from underlying bedrock aquifers. It discharges locally to springs in the outcrop area and to alluvium along major drainageways such as the Green and White Rivers. In the study area, flow is generally to the north and northwest. The unit is roughly 500 ft thick, although in the center of the Uinta Basin it is as thick as 1,000 ft. Maximum well yields are less than 500 gpm. Water type is typically sodium sulfate to sodium bicarbonate. TDS levels range from 640 to 6,100 mg/L (Holmes and Kimball 1987). Groundwater in Utah is classified according to total dissolved solids concentration and contaminant concentration (UDEQ 2018). Class IA groundwater is pristine, with TDS levels less than 500 mg/L and no contaminant exceedances. Class IB groundwater is irreplaceable as a public supply source because it is a sole source of adequate quality, quantity, and economics. Class IC is ecologically important groundwater that discharges to a wildlife habitat. Class II is drinking water quality, with TDS between 500 and 3,000 mg/L and no contaminant exceedances. Class III is limited-use groundwater, with TDS between 3,000 and 10,000 mg/L and one or more contaminants exceeding groundwater quality standards. Class IV groundwater is saline, with TDS above 10,000 mg/L.

Lindskov and Kimball (1984) estimated the recoverable groundwater in storage in three main aquifers (alluvium, Parachute Creek, and Douglas Creek) in the broader southeastern Uinta Basin

(an area two to three times the size of the study area) to be 18 million ac-ft. They also estimated the practical limit to groundwater withdrawal in this area as about 20,000 ac-ft/yr.

Groundwater quality in the Uinta Basin decreases with increased travel distance from recharge locations and with increasing depth. Concentrations of TDS in the Basin show a range that affects the potential use of the water. In many locations, the water is marginally useful or even unsuitable for domestic use or irrigation.

3.2.7 WATER: HYDROLOGIC CONDITIONS

The proposed project takes place in an area that is mainly dry ephemeral washes that tend to exhibit flash flood events when channel capacities are reached. The Evacuation Creek drainage is the main drainage point for water falling with this proposed project area. This watershed drains into the Lower White River, which then connects with the Green River further downgradient. These hydrologic conditions are essential for transport of water during flood events and the transport of eroded soils.

Soils affect functioning conditions in floodplains and other similar environments like wetlands and riparian zones. Most of the proposed area drains through a very channery loam soil type. These soils are usually derived from the weathering of surrounding sandstone and shale type layers. Since these soils are well drained because of the type of soils, water can flow through these systems at higher rates than if it were all bedrock or clay type soils.

Since the soils are very low in storage capacity due to the high infiltration rates, flash events that happen in the proposed area will be very rapid and carry lots of sediment. The perimeters of these channels are normally saturated at some shallow depth beneath the surface, if not to the surface. How far this saturated zone extends varies by watershed; however the function is similar for all drainage systems (whether ephemeral, perennial, or otherwise). This saturated zone represents a direct hydrologic connection between surface and ground waters in a stream channel, this zone is called the hyporheic zone.

If a stream is ephemeral, it means the water table (if any) is normally below the rooting depths of natural vegetation. If it is perennial, it means the water table is normally high enough to support native vegetation. During snowmelt and precipitation events, the water table extends laterally as well as vertically. The greatest lateral extent of saturation by the water table is the actual distance which must be protected alongside streams. This width is established by the wet season water table, is not arbitrary, and may be determined by physical measurements.

3.2.8 WATER: SURFACE WATER QUALITY

The proposed project takes place in an area that is mostly dry ephemeral washes that tend to transport water during flood events that can be fast and short lived depending on the meteorological systems moving through the basin. According to the NRCS soil survey (NRCS 2014) the proposed area is mainly channery loams with unweathered bedrock showing up around 20 inches in the soil profile. These soils tend to be moderately high to high in the capacity to transmit water. All this water that flows through the proposed area ends up in the White River and then the

Green River, which later flows into the Colorado River. These are perennial surface waters and the quality of that water fall under protection of section 404 of the Clean Water Act.

The main tributary in the proposed area in the Evacuation Creek drainage. Flow patterns in Evacuation Creek are more complex compared to the White River and show several variations over time. Much of the flow in the Evacuation Creek is from surface runoff from strong storm events and during seasonal snowmelt. Groundwater expressions contribute less water in the system than surface water, which can be between 10–40% according to sources (VTN,1977). This is consistent source of flow in the Evacuation Creek, but depends on many other factors that affect water amounts. Peak flows are usually related to rainfall events as stated. There are two distinct periods of flow, a low flow (from August to sometime in February) in which most of the flow seen during these times is from ground water expressions in the area, and a high period where surface runoff and snowmelt increase flow significantly. This time frames can fluctuate depending on the climate patterns and other global trends. Average flow in the creek has been estimated around 1.3 cfs, increasing to 2.1 cfs during snowmelt and spring precipitation events.

Evacuation Creek has been assessed by the Utah Department of Environmental Quality in the Utah's Final 2016 Integrated Report (UDWQ 2016) as being Category 5 (not supporting its designated use). It's impaired beneficial uses include agricultural use (impaired by boron and total dissolved solids) and warm water aquatic life (impaired by selenium and temperature). White River has been assessed in the 2016 Report as being Category 3 (insufficient data exists to make a use support determination). Green River (Price River confluence to Duchesne River confluence) has been assessed in the 2016 report as being Category 3 (insufficient data).

3.2.9 WATER: WATERS OF THE U.S.

The proposed project takes place in an area that is mostly dry ephemeral washes inside the Evacuation Creek and Lower White River Hydrologic Unit Boundaries. Any water that flows through Sections 5, 6, and 8 in T11S R25E will end up in the White River which is considered a Water of the U.S. and is protected under section 404 of the Clean Water Act.

3.2.10 WILDLIFE: MIGRATORY BIRDS (INCLUDING RAPTORS)

The Migratory Bird Treaty Act (MBTA) was implemented for the protection of migratory birds. Unless permitted by regulations, the MBTA makes it unlawful to pursue, hunt, kill, capture, possess, buy, sell, purchase, or barter any migratory bird, including the feathers or other parts, nests, eggs, or migratory bird products. In addition to the MBTA, Executive Order 13186 sets forth the responsibilities of Federal agencies to further implement the provisions of the MBTA by integrating bird conservation principles and practices into agency activities and by ensuring that Federal actions evaluate the effects of actions and agency plans on migratory birds.

The Utah Partners In Flight (UPIF) has prioritized migratory birds that are considered “most in need of conservation action, or at least need to be carefully monitored throughout their range within Utah.” These are also the species “that will be most positively influenced by management as well as those species with the greatest immediate threats” according to UPIF (Parrish et al. 2002).

Numerous species may migrate through, or nest within the project area. This section identifies migratory birds that may inhabit the project area such as those that are classified as High-Priority birds by Partners in Flight*, according to the habitat types found within the project area:

- Sagebrush-Steppe: horned lark, sage sparrow, sage thrasher*, Brewer's sparrow*, western kingbird, Say's phoebe, prairie falcon, green-tailed towhee*, and Swainson's hawk.
- Pinyon-Juniper Woodlands: black-chinned hummingbird*, gray flycatcher*, gray vireo*, Lewis' woodpecker, Clark's nutcracker, pinyon jay, western scrub jay, black-throated gray warbler, bushtit, juniper titmouse*, northern shrike, Virginia's warbler*, broad-tailed hummingbird*, mountain bluebird*, and Say's phoebe.

Raptors: Some of the more visible birds in and near the project area include golden eagles and red-tailed hawks. The BLM raptor database was reviewed and there are no known nests within the project area. Habitats in and around the project area provide diverse breeding and foraging habitat for raptors. These habitats include rocky outcrops, pinyon-juniper woodlands, and sagebrush shrub lands.

3.2.11 WILDLIFE: NON-USFWS DESIGNATED

Mule deer are the primary big game species found within the project area. Use typically occurs from winter to spring, when deer utilize the project area for winter foraging, thermal cover and escape cover. Mule deer have an extremely variable diet and therefore live in a variety of habitats. They consume a combination of grasses, forbs, and shrubs. Food consumption is also related to the season of use (UDWR 2014). During winter, deer typically move down into the Evacuation drainage. Crucial deer winter range habitat has been designated within the project area.

Rocky Mountain bighorn sheep crucial year-long habitat has also been identified within the project area. The Evacuation creek drainage has been identified as potential habitat because of the habitat characteristics within the drainage. No big horn sheep are currently utilizing the habitat.

These habitat designations were made in the Vernal Field Office RMP (BLM, 2008).

3.2.12 WILDLIFE: GREATER SAGE-GROUSE (BLM SENSITIVE)

The Greater Sage-Grouse (GRSG) is an important game bird found in Utah. These birds inhabit sagebrush plains, foothills, and mountain valleys. Sagebrush is the predominant plant component for quality habitat and composes over 95% of their diet. Factors involved with the decline in both the distribution and abundance of GRSG include permanent loss, degradation, and fragmentation of sagebrush-steppe habitat throughout the western states, including Utah (Braun 1998). Documented severe population declines (approximately 80%) occurred from the mid-1960s to mid-1980s. Research and conservation efforts in the last 20 years have helped stabilize and recover many populations. Populations appear to have taken a positive turn in recent years (Nielson et al. 2015).

The Uintah population of GRSG sits in the northeastern corner of Utah and borders Wyoming to the north and Colorado to the east (Map 1). This population is part of the WAFWA MZ II management zone called the Wyoming Basin (Stiver et al. 2006). The Utah portion of this area encompasses approximately 59,000 acres, ranging from the Green River Valley (5,000 feet elevation) up to the high-elevation Yampa and Blue Mountain Plateaus (8,000 feet elevation). This

population is a largely undisturbed area with minimal threats relative to other populations in the region. Based on the last 10 years of lek counts (2008 – 2017), the Uintah population of GRSG have been on an upward trend. In 2017 there were a total of 80 occupied leks within the Uintah population with over 800 males counted at leks. Overall the trend for GRSG is steady and consistent with expected levels of male attendance at leks.

The project is within a General Habitat Management Area (GHMA) for BLM as per the Utah Greater Sage-Grouse Approved Resource Management Plan Amendment (ARMPA, BLM 2015). The area is considered historically occupied GRSG habitat, however according to the Utah Division of Wildlife Resources (UDWR) GRSG have not been observed within this area for many years. Although the area still maintains some sagebrush across the 440 acres there is a cheatgrass understory and several cheatgrass monocultures present. The nearest occupied lek is over 15 miles west of the property boundary.

4.0 ENVIRONMENTAL IMPACTS

This chapter describes the direct, indirect, and cumulative effects to affected environment (Chapter 3) that are anticipated under each alternative. Direct effects are caused by the action and occur at the same time and place. Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Cumulative effects are the effects from each alternative added to past, present, and reasonably foreseeable effects in the cumulative impact area.

4.1 PROPOSED ACTION DIRECT/INDIRECT IMPACTS

The following are the impacts expected from the implementation of the Proposed Action to the resources of concern.

4.1.1 GEOLOGY/MINERALS/ENERGY PRODUCTION

The federal government currently owns all mineral rights associated the 440 acres. Under the proposed action alternative, those mineral rights would automatically transfer to the State. Under this alternative, SITLA may make the In Lieu selection area available for oil and gas, oil shale, or building stone leasing or sale and development. No mineral development is currently reasonably foreseeable since no leases or sale contracts exist in the project area.

4.1.1.3 MITIGATION MEASURES

None.

4.1.1.4 RESIDUAL IMPACTS

Residual impacts are as described in the impact section above, because there is no mitigation identified.

4.1.2 LIVESTOCK GRAZING/RANGELAND HEALTH

The proposed project entails the transfer of approximately 440 acres of federally managed grazing lands within the Watson BC Allotment. The preference for the sheep AUMs within the allotment is 1,258. On average the allocation is 7 acres of forage per AUM; therefore, there is a direct loss of approximately 63 AUMs in the proposed action alternative. The loss of AUMs is directly associated with the exchange of land to the State of Utah for future management. The State of Utah determines whether or not grazing may be authorized on those lands pending the full surface development for mineral extraction activities. It is the responsibility of the permittee to pursue such use with SITLA directly.

Under the proposed action alternative, the Chacon Sheep Company will be issued a Decision reducing the AUMs on their grazing permit. Notice of the potential reduction was given on August 2, 2016. If grazing is allowed to continue, SITLA will give the existing permittees first right to the State permits. Other impacts associated with the proposed project may include further fragmentation of the allotment, disturbance to the livestock by noise, dust, and increased vehicle traffic and the occurrence and/or spread of invasive and noxious weed species. Economic impacts to the permittee are attributed to a lower number of permitted sheep; the loss of which lowers the value of the allotment permit and may impact the sheep company long term.

4.1.2.1 MITIGATION MEASURES

None

4.1.2.2 RESIDUAL IMPACTS

Residual impacts are as described in the impact section above, because there is no mitigation identified.

4.1.3 PLANTS: BLM SENSITIVE

The proposed action would transfer ownership of the land from BLM to the State. The State would then have the option to develop or sell the parcel as they see fit. Since plant species designated as BLM Sensitive would not receive protection on State lands, development of the Project Area could result in detrimental effects on populations or individuals of BLM Sensitive plant species in the area, including suitable habitat loss and fragmentation, impacts from dust due to vehicle traffic, and invasions of non-native plant species and noxious weeds.

4.1.3.1 MITIGATION MEASURES

No mitigation measures are identified under this alternative.

4.1.3.2 RESIDUAL IMPACTS

As no mitigation measures were identified, residual impacts would be the same as those disclosed in the analysis above.

4.1.4 PLANTS: THREATENED, ENDANGERED, PROPOSED, OR CANDIDATE

Under this alternative, there would be a direct transfer of up to 440 acres of vegetation to state ownership, some of which is potential habitat for Graham's beardtongue and White River

beardtongue, and 6.9 acres of which is currently proposed as Critical Habitat for White River beardtongue. Although no individuals or populations of either species have been identified in the Project Area, both have been documented nearby. Since the two species are currently proposed as Threatened under the Endangered Species Act but are not yet listed, it is possible that should the Proposed Action Alternative be selected these species would not be granted the same level of protection on State land as would listed species.

4.1.4.1 MITIGATION MEASURES

No mitigation measures are identified under this alternative.

4.1.4.2 RESIDUAL IMPACTS

As no mitigation measures were identified, residual impacts would be the same as those disclosed in the analysis above.

4.1.5 WATER: FLOODPLAINS

Under the proposed action the act of transferring the land and minerals has no effect on the floodplains in the area. However the State would then have the option to develop or sell the parcel as they see fit. Development could have potential impacts to the floodplains and the function of those within this High Desert Ecosystem. When floodplains are not functioning properly, the associated stream channel is destabilized and subject to excessive bank erosion. The aerial extent of surface protection which a stream system requires to protect floodplain function and prevent water pollution is not fixed, but varies from stream to stream. Material displaced by development could be transported by precipitation events into the Evacuation Creek 100 year floodplain and potentially even further into the hydrologic system, such as into the lower White River and Green River floodplains. Sedimentation affects the functionality of those systems by changing channel dynamics and hyporheic zones along the many ephemeral washes.

4.1.5.1 MITIGATION MEASURES

No mitigation measures are identified under this alternative.

4.1.5.2 RESIDUAL IMPACTS

As no mitigation measures were identified, residual impacts would be the same as those disclosed in the analysis above.

4.1.6 WATER: GROUNDWATER QUALITY

Under the proposed action the act of transferring the land and minerals has no effect on groundwater quality in the area. However the State would then have the option to develop or sell the parcel as they see fit. If the lands are made available for mining, groundwater could be affected depending on the depth to groundwater in the area. The area occupied by the wet season water table is an area which is particularly vulnerable to water quality contamination from spills or development waste leaching into the groundwater. Future development would be subject to the State of Utah's rules designed to prevent, minimize, or respond to spills or waste issues.

4.1.6.1 MITIGATION MEASURES

None were identified.

4.1.6.2 RESIDUAL IMPACTS

As no mitigation measures were identified, residual impacts would be the same as those disclosed in the analysis above.

4.1.7 WATER: HYDROLOGIC CONDITIONS

The proposed action of transferring land and mineral ownership will not directly or indirectly affect hydrologic conditions within the proposed area. However the State would then have the option to develop or sell the parcel as they see fit. Typical development impacts to hydrologic conditions are usually the blocking of channels through increases in sedimentation from surface disturbance if proper sediment containment barriers are not utilized properly. Changes in flow paths both on the surface and subsurface can alter how and when surface water reaches main drainage sinks like the White and Green Rivers in the area. This could also impact the amount of water reaching these rivers which rely on inputs from watersheds like the Evacuation Creek area and its surrounding tributaries. Although the amount of water provided by the Evacuation Creek watershed is low based on the size of the watershed, it still serves a functional role in transport of fresh water into these major rivers.

4.1.7.1 MITIGATION MEASURES

None were identified.

4.1.7.2 RESIDUAL IMPACTS

As no mitigation measures were identified, residual impacts would be the same as those disclosed in the analysis above.

4.1.8 WATER: SURFACE WATER QUALITY

The proposed action of transferring land and mineral ownership will not directly or indirectly affect surface water quality in the area since most of the area is dry ephemeral washes that see periodic flow. However the State would then have the option to develop or sell the parcel as they see fit. Typical development impacts to surface water quality from include increased salts in the hydrologic system which could decrease suitability of water beneficial uses. Decreased water quality in Evacuation Creek, White River or Green River may affect their beneficial uses. Salt load in surface waters can decrease habitat quality for the macro and micro invertebrates in the downstream rivers.

4.1.8.1 MITIGATION MEASURES

None were identified.

4.1.8.2 RESIDUAL IMPACTS

As no mitigation measures were identified, residual impacts would be the same as those disclosed in the analysis above.

4.1.9 WATER: WATERS OF THE U.S.

The proposed action of transferring land and mineral ownership will not directly or indirectly affect waters of the U.S. However the State would then have the option to develop or sell the parcel as they see fit. The White River is approximately 5 miles to the north of the project area. Typical impacts to waters of the U.S. associated with development would be as previously described in sections 4.1.5 through 4.1.8. Development within waters of the U.S. would require the issuance of a section 404 permit from the Army Corp. of Engineers under Section 401 of the Clean Water Act, and would include a state water certification. The Section 401 certification requires any activity affecting waters of the U.S. be in compliance with all applicable water quality standards, limitations, and restrictions.

4.1.9.1 MITIGATION MEASURES

None were identified.

4.1.9.2 RESIDUAL IMPACTS

As no mitigation measures were identified, residual impacts would be the same as those disclosed in the analysis above.

4.1.10 WILDLIFE: MIGRATORY BIRDS (INCLUDING RAPTORS)

The proposed action of transferring land and mineral ownership will not directly or indirectly affect migratory birds. However the State would then have the option to develop or sell the parcel as they see fit. Development may remove vegetation from the 440 acre parcel. This would equate to a loss of nesting and foraging habitat. Depending on the timing of development, migratory species could be present during the breeding/nesting season of March 1 - August 31. If development were to take place during the breeding/nesting season, individual bird species would be impacted. Impacts may include; destruction of nests, eggs, and nesting habitat, fragmentation of habitat, reduction of habitat patch size, increase in human presence, and nest abandonment. Impacts would be the same for nesting raptor species.

4.1.10.1 MITIGATION MEASURES

None were identified.

4.1.10.2 RESIDUAL IMPACTS

Residual impacts are disclosed in the analysis above.

4.1.11 WILDLIFE: NON-USFWS DESIGNATED

The proposed action of transferring land and mineral ownership will not directly or indirectly affect migratory birds. However the State would then have the option to develop or sell the parcel as they see fit. Development would result in loss or fragmentation of crucial mule deer habitat, and Rocky

Mountain bighorn sheep crucial yearlong habitat. Bighorn sheep are not common in the project area but have been documented near the White River corridor. However, the Evacuation Creek drainage is highly used by mule deer during the winter months. If project operations were to take place during the winter months, mule deer would experience increased stress from habitat loss and human activity. Habitat fragmentation and associated displacement of deer would result in a reduction in habitat use near the disturbed areas (a loss of habitat value), increased deer densities on adjoining habitat (which may be of poorer quality), increased stress from both intra- and interspecific competition and increased human-induced harassment, particularly along disturbed areas. The project area consists of open sagebrush habitat types. Mule deer avoidance would be greater in the more open habitats, such as sagebrush, and less in denser cover, such as pinyon-juniper woodlands.

4.1.11.1 MITIGATION MEASURES

None were identified.

4.1.11.2 RESIDUAL IMPACTS

Residual impacts are disclosed in the analysis above.

4.1.12 WILDLIFE: GREATER SAGE-GROUSE (BLM SENSITIVE)

The proposed action of transferring land and mineral ownership will not directly or indirectly affect greater sage-grouse. However the State would then have the option to develop or sell the parcel as they see fit. Under this alternative, there would be a direct transfer of 440 acres of BLM designated GHMA to state ownership. If development were permitted by SITLA, the loss or modification of sagebrush communities would not regain any shrub-land character for 20–30 years, following reclamation, or longer depending on length of occupation. Invasive vegetation species can affect sagebrush systems through habitat losses and conversions. Invasive plants species establish viable populations and even dominate ecosystems, and their interactions with native species can trigger changes in community structure and function. GRSG have not been documented utilizing the 440 acres for many years. The habitat may be suitable for winter use, but is unlikely to be used for nesting or brood-rearing habitat because the nearest lek is over 15 miles away and most GRSG will choose nest sites within 3.1 miles of a lek. The UDWR supports that GRSG or sign have not been observed within this area for a many years and the loss of these GHMA managed acres would not have a negative impact on the Uintah grouse population.

Currently, the 440 acres of GHMA are managed under MA-SSS-5 of the ARMPA (BLM 2015). This management action includes mitigation for habitat loss and degradation, buffers for leks within GHMA, and required design features for site-specific developments to reduce impacts on GRSG. Removing these lands from BLM GHMA would be a direct impact by removing these management actions, however this area has no occupied leks and mitigation will occur for the removal of this habitat from GHMA. Indirect impacts could include displacement from foraging and cover areas and reduced protections for GRSG if these lands become developed. Depending on timing of operations and potential increased vehicle traffic, wintering individuals could be lost to direct mortality.

4.1.12.1 MITIGATION MEASURES

To address the loss of GHMA designed habitat, SITLA will comply with applicant committed mitigation measures (Appendix C).

4.1.12.2 RESIDUAL IMPACTS

Adherence to the mitigation measure would ensure negative impacts to GRSG are minimized and positive benefit to the Uintah GRSG population are realized.

4.1.13 MONITORING AND/OR COMPLIANCE

None was identified.

4.2 ALTERNATIVE B – NO ACTION

The following are the impacts expected from the implementation of the No Action Alternative to the resources of concern.

4.2.1 GEOLOGY/MINERALS/ENERGY PRODUCTION

Under the No Action Alternative, the BLM would retain control of the surface and mineral ownership of the 440 acre project area. No mineral development is foreseeable because no applications, leases, or permits exist for the project area. Any future development would be subject to the RMP and site specific NEPA review.

4.2.2 LIVESTOCK GRAZING/RANGELAND HEALTH

Under the No Action Alternative, the livestock grazing operation would continue to operate on the Watson BC Allotment in accordance with the current grazing permit authorization.

4.2.3 PLANTS: BLM SENSITIVE

Under the No Action Alternative, the In Lieu selection area would continue to be federally managed. Plant species designated as BLM Sensitive would continue to be managed under the current measures of protection.

4.2.4 PLANTS: THREATENED, ENDANGERED, PROPOSED, OR CANDIDATE

Under the No Action Alternative, the In Lieu selection area would continue to be federally managed. Plant species designated as Threatened, Endangered, Proposed, or Candidate under the Endangered Species Act would continue to be managed under the federal levels of protection.

4.2.5 WATER: FLOODPLAINS

Under the No Action Alternative, floodplains in the project area would remain the same as they currently are.

4.2.6 WATER: GROUNDWATER QUALITY

Under the No Action Alternative, groundwater resources in the project area would remain the same as they currently are.

4.2.7 WATER: HYDROLOGIC CONDITIONS

Under the No Action Alternative, hydrologic conditions in the project area would remain the same as they currently are.

4.2.8 WATER: SURFACE WATER QUALITY

Under the No Action Alternative, surface water resources in the project area would remain the same as they currently are.

4.2.9 WATER: WATERS OF THE U.S.

Under the No Action Alternative, waters of the U.S. would remain the same as they currently are.

4.2.10 WILDLIFE: MIGRATORY BIRDS (INCLUDING RAPTORS)

Under the No Action Alternative, there would be no impacts to migratory bird species or raptors. The habitat would remain in its current state.

4.2.11 WILDLIFE: NON-USFWS DESIGNATED

Under the no action alternative, there would be no impacts to mule deer, or their habitat. The habitat would remain in its current state, which is high quality mule deer winter habitat. The potential Big Horn Sheep habitat would also still be intact. Mining activities on the adjoining private lands would still pose a threat to mule deer and their habitat.

4.2.12 WILDLIFE: GREATER SAGE-GROUSE (BLM SENSITIVE)

Under the no action alternative, there would be no impacts to greater sage-grouse on the BLM parcel. The 440 acres of GHMA would remain in federal ownership and would still be winter habitat for sage-grouse.

4.2.13 MONITORING AND/OR COMPLIANCE

None was identified.

4.3 CUMULATIVE IMPACTS

A cumulative impact is defined in CEQ regulations (40 CFR §1508.7) as “the impact on the environment that results from the incremental impact of the action when added to other past,

present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.” Cumulative impacts can result from individually minor but collectively major actions taking place over a period of time. The cumulative impact area varies by resource.

4.3.1 GEOLOGY/MINERALS/ENERGY PRODUCTION

The cumulative impact area for impacts for the oil and gas and building stone resources is the 440 acres of the proposed action. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include livestock grazing and traffic on existing roads. No oil and gas, oil shale, or building stone development is reasonably foreseeable since no leases or sale contracts exist for the area. The proposed action would transfer ownership of the land and minerals to the state. No mineral development would occur as a result of the ownership transfer, however the SITLA would have the option to issue mineral leases or sell mineral permits upon receipt of title to the lands and minerals. Under the No Action Alternative, impacts would not accumulate because no oil and gas leases or building stone permits exist in the project area.

The cumulative impact area for impacts to the oil shale resource is the “Most Geologically Prospective Oil Shale Resource” area in Utah as illustrated in Figure 5 of the Programmatic Oil Shale ROD (BLM 2013). Past, present, and reasonably foreseeable activities ongoing in this cumulative impact area include livestock grazing, traffic on existing roads, recreation, oil and gas development, and installation and maintenance of public or private utilities such as power lines and pipelines. Cumulative impacts include surface disturbance and mineral development. The proposed action would transfer ownership of the land and minerals to the state. No oil shale development would occur as a result of the ownership transfer, however the SITLA would have the option to lease or sell the oil shale in the project area upon receipt of title to the lands and minerals. Under the No Action Alternative, impacts would not accumulate because the land would not be available for oil shale development.

4.3.2 LIVESTOCK GRAZING/RANGELAND HEALTH

The cumulative impact area is the Watson BC Allotment boundary. The Watson BC Allotment continues to be impacted by past, present and reasonably foreseeable mineral extraction and recreational antler hunting activities. The largest impact has been attributed to increases in vehicle traffic and the speeds associated with the traffic. Direct losses of sheep occur annually due to vehicle collision. Impacts associated with surface pipeline placement occurs when lambs attempt to cross and cannot; therefore, they are often left to starve on the opposite side of large pipelines away from their mother ewes. The presence and spread of halogeton throughout the allotment is a direct threat to both the livestock and the overall rangeland health of the allotment. The species is poisonous to sheep and displaces desirable forage species as soil is disturbed. To date reclamation efforts have not been successful in the Watson area. The proposed action would add the loss of 63 AUMs, should SITLA decide to terminate the grazing privilege. The No Action Alternative would not result in an accumulation of impacts.

4.3.3 PLANTS: BLM SENSITIVE

The cumulative impact area is the range of the Graham's and White River beardtongues, which share habitats with the Barnaby's cryptanth. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and oil shale (South Project) and other mineral development, livestock grazing, and recreational activities such as hunting. Cumulative impacts include disturbance to vegetation communities and loss or fragmentation of habitats, including an unknown number of acres of suitable habitat for BLM Sensitive plant species. Increased human activity in the area would cause further manipulation of the surrounding habitats by increasing the presence of non-native invasive plant species and dust. Further introduction of non-native invasive plant species could have significant adverse impacts on BLM Sensitive plant species that may be out competed. In general such an environmental shift would probably have negative impacts on BLM Sensitive plant species and would favor non-native and readily adaptive species. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result in an accumulation of impacts to the species and its habitat from surface disturbing activities. The No Action Alternative would not result in an accumulation of impacts.

4.3.4 PLANTS: THREATENED, ENDANGERED, PROPOSED, OR CANDIDATE

The cumulative impact area is the range of the Graham's and White River beardtongues. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and South Project oil shale and other mineral development, livestock grazing, and recreational activities such as hunting. Cumulative impacts include disturbance to vegetation communities and loss or fragmentation of habitats, including an unknown number of acres of suitable habitat for Threatened, Endangered, Proposed, or Candidate species. Increased human activity in the area would cause further manipulation of the surrounding habitats by increasing the presence of non-native invasive plant species and dust. Further introduction of non-native invasive plant species could have significant adverse impacts on BLM Sensitive plant species that may be out competed. In general such an environmental shift would probably have negative impacts on Threatened, Endangered, Proposed, or Candidate species and would favor non-native and readily adaptive species. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result in an accumulation of impacts to the species and its habitat from surface disturbing activities. The No Action Alternative would not result in an accumulation of impacts.

4.3.5 WATER: FLOODPLAINS

The cumulative impact area is the lower White HUC 8 unit boundary because it contains the entire project area, including downstream to the White River. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and South Project oil shale and other mineral development, livestock grazing, and recreational activities such as hunting. Cumulative impacts include sedimentation and leaching of salts and chemicals into floodplain environments. The salts and chemicals could potentially pollute important water sources like the White and Green Rivers. Increased sedimentation into a floodplain may change the overall

function of active floodplains. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result in an accumulation of impacts to the floodplains from surface disturbing activities and development related spills or waste disposal. The No Action Alternative would not result in an accumulation of impacts.

4.3.6 WATER: GROUNDWATER QUALITY

The cumulative impact area is the lower White HUC 8 unit boundary because it contains the entire project area, including downstream to the White River. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and South Project oil shale and other mineral development, livestock grazing, and recreational activities such as hunting. Cumulative impacts include sedimentation and leaching of salts and chemicals into groundwater. The salts and chemicals could potentially pollute groundwater sources. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result in an accumulation of impacts to the floodplains from surface disturbing activities and development related spills or waste disposal. The No Action Alternative would not result in an accumulation of impacts.

4.3.7 WATER: HYDROLOGIC CONDITIONS

The cumulative impact area is the lower White HUC 8 unit boundary because it contains the entire project area, including downstream to the White River. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and South Project oil shale and other mineral development, livestock grazing, and recreational activities such as hunting. Cumulative impacts could include increases in sedimentation from surface disturbing activities and the leaching of salts and chemicals from human activity and mineral development into the hydrologic system in the area. The salts and chemicals could potentially pollute important water sources like the White and Green Rivers. Too much sediment into a system can change fluvial dynamics to a point that affects how and when certain perennial waters in the area like the White River receive inputs into the system. If dynamics in the fluvial environment change above natural regimes it could alter aquatic systems for the long term. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result in an accumulation of impacts to the hydrologic condition of the area from surface disturbing activities and development related spills or waste disposal. The No Action Alternative would result in a continuation of the existing situation because the minerals would not be available for oil shale leasing and development.

4.3.8 WATER: SURFACE WATER QUALITY

The cumulative impact area is the lower White HUC 8 unit boundary because it contains the entire project area, including downstream to the White River. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and South Project oil shale and other mineral development, livestock grazing, and recreational activities such as hunting. Cumulative impacts could include increased sedimentation, and the leaching of salts and chemicals into the surface water system. The salts and chemicals could potentially pollute important water sources like the White and Green Rivers. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result in an accumulation of impacts to the hydrologic condition of the area from surface disturbing activities and development related spills or waste disposal. The No Action Alternative would result in a continuation of the existing situation because the minerals would not be available for oil shale leasing and development.

4.3.9 WATER: WATERS OF THE U.S.

The cumulative impact area is the lower White HUC 8 unit boundary because it contains the entire project area, including downstream to the White River. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and South Project oil shale and other mineral development, livestock grazing, and recreational activities such as hunting, fishing, and boating. Cumulative impacts could include increases in sedimentation and the leaching of salts and chemicals into the Waters of the U.S. that are down gradient from this project area. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result in an accumulation of impacts to the hydrologic condition of the area from surface disturbing activities and development related spills or waste disposal. The No Action Alternative would result in a continuation of the existing situation because the minerals would not be available for oil shale leasing and development.

4.3.10 WILDLIFE: MIGRATORY BIRDS (INCLUDING RAPTORS)

The cumulative impact area is UDWR's Bitter Creek wildlife management unit, which encompasses the entire project area and surrounding wildlife habitat. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and South Project oil shale and other mineral development, livestock grazing, and recreational activities such as hunting. Cumulative effects included individual bird disturbance from human presence and activities and fragmentation and destruction of habitats from surface disturbance and increased non-native invasive plant species. Further introduction of non-native invasive plant species could have significant adverse impacts on migratory birds that are dependent upon prevalent species for their survival. In general such an environmental shift would probably have negative impacts on migratory birds and raptors and would favor non-native and readily adaptive species. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result

in an accumulation of impacts to the hydrologic condition of the area from surface disturbing activities and development related spills or waste disposal. The No Action Alternative would result in a continuation of the existing situation because the minerals would not be available for oil shale leasing and development.

4.3.11 WILDLIFE: NON-USFWS DESIGNATED

The cumulative impact area is UDWR's Bitter Creek wildlife management unit, which encompasses the entire project area and surrounding wildlife habitat. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and South Project oil shale and other mineral development, livestock grazing, and recreational activities such as hunting. Cumulative effects included individual wildlife disturbance from human presence and activities and fragmentation and destruction of habitats from surface disturbance and increased non-native invasive plant species. Further introduction of non-native invasive plant species could have adverse impacts on big game species that are dependent upon native vegetation species for their survival. In general such an environmental shift would favor non-native and readily adaptive species. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result in an accumulation of impacts to the hydrologic condition of the area from surface disturbing activities and development related spills or waste disposal. The No Action Alternative would result in a continuation of the existing situation because the minerals would not be available for oil shale leasing and development.

4.3.12 WILDLIFE: GREATER SAGE-GROUSE (BLM SENSITIVE)

The cumulative impact area is UDWR's Bitter Creek wildlife management unit, which encompasses the entire project area and surrounding wildlife habitat. Past, present and reasonably foreseeable activities ongoing in this cumulative impact area include right of way development, oil and gas and South Project oil shale and other mineral development, livestock grazing, and recreational activities such as hunting. Cumulative effects of include individual grouse disturbance from human presence and activities in the area with continued fragmentation and manipulation of the surrounding habitats including from increased presence of non-native invasive plant species. Further introduction of non-native invasive plant species could have adverse impacts on sage grouse that are dependent upon native species for their survival. In general such an environmental shift would favor non-native and readily adaptive species. The Proposed Action would not contribute to these impacts because it is a proposal to transfer the In Lieu selection lands and minerals to State ownership. However, if the State were to allow for development of the project area, any surface disturbance related to the development would result in an accumulation of impacts to the hydrologic condition of the area from surface disturbing activities and development related spills or waste disposal. The No Action Alternative would result in a continuation of the existing situation because the minerals would not be available for oil shale leasing and development.

5.0 CONSULTATION AND COORDINATION

INTRODUCTION

The issue identification section of Chapter 1 identifies those issues analyzed in detail in Chapter 4. The issues were identified through the public and agency involvement process described below.

PERSONS, GROUPS, AND AGENCIES CONSULTED

Table 5-1 lists the persons, groups, and agencies that were coordinated with or consulted during the preparation of this project. The table also summarizes the conclusions of those processes.

TABLE 5-1: COORDINATION AND CONSULTATION	
	Name
Utah State Historic Preservation Office (SHPO)	C 8
Native American Tribes	G
Fish and Wildlife Service	E

SUMMARY OF PUBLIC PARTICIPATION

The public was notified of this project by its being posted on the BLM's NEPA Register. A public comment period is pending. Issues were identified by the BLM Interdisciplinary Team as documented in the Interdisciplinary Team Checklist, which is attached to this document as an Appendix. Issues to be analyzed in detail are summarized in chapter 1 and carried forward for detailed description and analysis in Chapters 3 and 4.

LIST OF PREPARERS

The specialists listed in the following table(s) assisted in the preparation of this EA.

TABLE 5-2 BLM PREPARERS		
Name	Title	Responsible for the Following Section(s) of this Document
Margo Roberts	Realty Specialist	Project Lead
Kelly Buckner	NEPA Coordinator	Quality Control
Stan Perkes	Mining Engineer	Geology/Minerals
Dusty Carpenter	Range Conservationist	Livestock Grazing/Rangeland Health
Christine Cimiluca	Botanist	Plants
Dallas Nutt	Geologist	Groundwater
Peter Kauss	Hydrologist	Hydrologic Conditions, Floodplains, Surface Water, Waters of the U.S.
Dixie Sadlier	Wildlife Biologist	Wildlife
Leah Lewis	Wildlife Biologist	Sage Grouse

6.0 REFERENCES, GLOSSARY AND ACRONYMS

INTRODUCTION

The following sections list the references cited within this document, the terms used and their definitions, and the acronyms used and their meanings.

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GLOSSARY OF TERMS

ALLOTMENT: An area of land where one or more individuals graze their livestock.

ANIMAL UNIT MONTH: The amount of dry forage required by one animal unit for one month based on a forage allowance of 26 pounds per day.

AUTHORIZED OFFICER: The decision maker who has the delegated authority to for that decision.

BEST MANAGEMENT PRACTICES: A suite of techniques that guide, or may be applied to, management actions to aid in achieving desired outcomes.

CONDITIONS OF APPROVAL: Conditions or requirements under which a decision is made.

ENVIRONMENTAL ASSESSMENT: A concise public document that analyzes the environmental impacts of a proposed action and provides sufficient evidence to determine the level of significance of the impacts.

ENVIRONMENTAL IMPACT STATEMENT: A detailed written statement of environmental effects of a major federal action significantly affecting the quality of the human environment.

FORAGE: Vegetation eaten by animals, especially grazing and browsing animals.

FRAGMENTATION (HABITAT): The break-up of a large land area (such as a forest) into smaller patches isolated by areas converted to a different land type.

IMPACT: A modification of the existing environment caused by an action (such as construction or operation of facilities).

INTERDISCIPLINARY TEAM: Representatives of various disciplines designated as members of a team which was created to prepare an environmental document.

INVASIVE PLANTS: Plants that are not part of (if exotic), or are a minor component of (if native), the original plant community or communities that have the potential to become a dominant or co-dominant species on the site if their future establishment and growth is not actively controlled by management interventions.

MINIMIZE: To reduce the adverse impact of an operation to the lowest practical level.

MITIGATION: Steps taken to: 1) avoid an impact; 2) minimize an impact; 3) rectify an impact; 4) reduce or eliminate an impact over time; or, 5) compensate for an impact.

MONITORING: The process of collecting and assessing data/information necessary to evaluate the effectiveness of a decision or its conditions of approval.

MULTIPLE USE: The management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people.

NO ACTION ALTERNATIVE: The most likely condition to exist in the future if current management direction were to continue unchanged.

NOXIOUS WEEDS: A plant species designated by Federal or State law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the United States.

OFF-HIGHWAY VEHICLE: Any motorized vehicle capable of or designed for travel on or immediately over land.

PERIOD OF USE: The time of livestock grazing on a range area based on type of vegetation or stage of vegetative growth.

PERMIT: A revocable authorization to use public land for a specified purpose for a specified period of time.

PLAN OF DEVELOPMENT: A plan developed by a project applicant that specifies the techniques and measures to be used during construction and operation of the project

PROJECT AREA: The area of land potentially affected by a proposed project.

PROPERLY FUNCTIONING CONDITION: A measurement that indicates an area's ability to produce desired natural resources in a sustained way.

RANGELAND HEALTH: The degree to which the integrity of the soil, the vegetation, the water, and air as well as the ecological processes of the rangeland ecosystem is balanced and sustained.

REVEGETATION: Re-establishing desirable plants on areas where desirable plants are absent or of inadequate density, by management alone (natural revegetation) or by seeding or transplanting (artificial revegetation).

SCOPING: The process of identifying the issues, management concerns, preliminary alternatives, and other components of an environmental document.

SIGNIFICANCE: A determination of the degree or magnitude of importance of an effect, whether beneficial or adverse.

TIMING LIMITATION: A constraint that prohibits specified activities during specified time periods to protect identified resource values.

UTILIZATION: The proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects).

VALID EXISTING RIGHTS: Rights that existed before a change in law, policy, or plan that would not be altered by that change.

LIST OF ACRONYMS

The below table contains a list of acronyms and their meanings that are frequently used by the BLM and which may have been used in the writing of this document.

TABLE 6-1: ACRONYMS

Acronym	Meaning
ACEC	Area of Critical Environmental Concern
ACEPM	Applicant-Committed Environmental Protection Measure
AO	Authorized Officer
APD	Application for Permit to Drill
APE	Area of Potential Effect
AUM	Animal Unit Month
BCC	Birds of Conservation Concern
BLM	Bureau of Land Management
BMP	Best Management Practice
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CIAA	Cumulative Impact Analysis Area
CO	Carbon Monoxide
COA	Condition of Approval
CWA	Clean Water Act
DAQ	Division of Air Quality
DR	Decision Record
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency

Acronym	Meaning
ESA	Endangered Species Act
FLPMA	Federal Land Policy and Management Act
FO	Field Office
FONSI	Finding of No Significant Impact
GIS	Geographic Information System
HAP	Hazardous Air Pollutants
IDT	Interdisciplinary Team
MBTA	Migratory Bird Treaty Act
NAAQS	National and Utah Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NI	Not Impacted
NP	Not Present
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSO	No Surface Occupancy
OHV	Off-highway Vehicle
Onsite	Onsite Inspections per Onshore Order #1
OSHA	Occupational Safety and Health Act
PAC	Protected Activity Center
PIF	Partners in Flight
PUP	Pesticide Use Proposal
RCRA	Resource Conservation and Recovery Act of 1976
RFD	Reasonable Foreseeable Development
RMP	Resource Management Plan
ROD	Record of Decision
ROW	Right-of-way
SARA	Superfund Amendments and Reauthorization Act
SDR	State Director Review
SHPO	State Historic Preservation Office
SITLA	School and Institutional Trust Lands Administration
SMA	Surface Management Agency
SPCC	Spill Prevention, Control and Countermeasure
SRMA	Special Recreation Management Area

Acronym	Meaning
SUPO	Surface Use Plan of Operations
TDS	Total Dissolved Solids
TSS	Total Suspended Solids
UDOGM	Utah Division of Oil, Gas and Mining
UDWaR	Utah Division of Water Rights
UDWR	Utah Division of Wildlife Resources
USACE	United States Army Corps of Engineers
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VRM	Visual Resource Management
WSA	Wilderness Study Area

APPENDIX A: INTERDISCIPLINARY TEAM CHECKLIST

INTERDISCIPLINARY TEAM CHECKLIST

RESOURCES AND ISSUES CONSIDERED (INCLUDES SUPPLEMENTAL AUTHORITIES APPENDIX 1 H-1790-1)

Project Title: SITLA Indemnity Selection (IL 333) Surface and Mineral estate

NEPA Log Number: DOI-BLM-UT-G010-2014-0142-EA

File/Serial Number: UTU-90091

Project Leader: Margo Roberts

DETERMINATION OF STAFF: *(Choose one of the following abbreviated options for the left column)*

NP = not present in the area impacted by the proposed or alternative actions

NI = present, but not affected to a degree that detailed analysis is required

PI = present with potential for relevant impact that need to be analyzed in detail in the EA

NC = (DNAs only) actions and impacts not changed from those disclosed in the existing NEPA documents cited in Section D of the DNA form. The Rationale column may include NI and NP discussions.

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NI	Air Quality & Greenhouse Gas Emissions	No emissions would occur from transferring ownership of the subject land and minerals to the state of Utah. If future development were to occur on the land once it was transferred, emissions may result, but it is not possible at this time to determine the nature or quantity of emissions under any future potential development scenarios because no applications or permits exist for development on this land. Development would be subject to the State's permitting processes.	Stephanie Howard	5/18/2018
NP	BLM natural areas	None present as per GIS/RMP review.	Rene Arce	2/7/2018
NI	Cultural: Archaeological Resources	The land exchange will result "No Adverse Effect" to cultural resources. Twenty-one percent of the parcel has been previously surveyed and one eligible historic property was recorded. This site will not be affected by the land exchange. In conversation with SITLA, it was confirmed that cultural inventories and additional consultation related to any proposed development will be required after the exchange, pursuant to Utah Code (9-8-404), which states that the State must afford historic properties the same level of protection as would the BLM under Federal law. This was also confirmed with Utah SHPO. A formal letter and cultural literature review will be sent	David Christensen	5/29/2018

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		to SHPO and SITLA describing the undertaking.		
NI	Cultural: Native American Religious Concerns	<p>There are no known Prehistoric or Native American historic sites within the project area. The following Native American tribes were notified of the proposed undertaking via certified letter: Northwest Band of Shoshone Nation, Goshute Tribe, White Mesa Ute Tribe, Laguna Pueblo Tribe, Santa Clara Pueblo Tribe, Navajo Nation, Ute Tribe, Hopi Tribe, Southern Ute Tribe, Ute Mountain Tribe, Zia Pueblo Tribe, and the Eastern Shoshone Tribe. They were asked to identify traditional cultural places or any other areas of traditional cultural importance that need to be considered within the parcel. None of the tribes provided information about known sites or specific religious concerns. However, the Hopi Tribe responded to our inquiry and considers a “exchange of federal lands containing National Register eligible historic properties constitutes an adverse effect” and requests continuing consultation. They would also like to see a cultural survey and report for the proposed area. The Santa Clara Pueblo also responded and would like to be notified if cultural resources will be impacted due to the land exchange. The Ute Tribe responded in a letter dated 8/2/2016 that they did not support the land exchange because the land is within the exterior boundaries of the Uintah and Ouray Reservation and assert ownership of those lands. The exchange was also brought up to the Ute Business Committee on 4/24/2017 and they opposed the idea. Per conversation with SITLA and Utah SHPO, cultural inventories and additional consultation related to any proposed development after the exchange are required, pursuant to Utah Code (9-8-404). The State must afford historic properties the same level of protection as would the BLM under Federal law. However, The State of Utah is not required to conduct Tribal Consultation for State managed lands. A literature review of cultural resources within a one mile buffer of the project undertaking will be sent to the Hopi Tribe, Santa Clara Pueblo, and Ute Tribe.</p>	David Christensen	5/29/2018
NP	Designated Areas: Areas of Critical Environmental Concern	None present as per GIS/RMP review.	Rene Arce	2/7/2018

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NP	Designated Areas: Wild and Scenic Rivers	The proposed project is not in a Wild and Scenic River area per the Green River District, Vernal Field Office RMP/ROD (2008) and the GIS layers database.	Rene Arce	2/7/2018
NP	Designated Areas: Wilderness Study Areas	None present as per GIS/RMP review.	Rene Arce	2/7/2018
NI	Environmental Justice	No minority or low income populations or communities exist in or near the project area, so no impacts would occur.	Stephanie Howard	5/18/2018
NI	Farmlands (prime/unique)	All prime farmlands in Uintah County are irrigated. All unique farmlands in Uintah County are orchards. No irrigated lands or orchards are located in the project area; therefore this resource will not be carried forward for analysis.	Margo Robert	2/1/2018
NI	Fuels/Fire Management	No fuels/fire management projects or needs are present per VFO GIS data base	Margo Roberts	2/1/2018
PI	Geology / Minerals / Energy Production	No valid oil and gas leases are in the project area. Building stone exists in the area, but there are no permits or expressed interest. SW/4 of Section 5 is closed to mineral material disposal. The Green River formation, which underlies the project, contains oil shale.	Stan Perkes	3/1/2018
NI	Soils	Soils: The act of transferring land ownership does not directly impact soils.	Soils: Brian Barnett	Date Updated: 02/05/2018
NI	Invasive Plants / Noxious Weeds / Vegetation	Invasive Plants/Noxious Weeds: Invasive and Noxious weeds are present in and near the Project Area. If the transfer occurs then it is assumed that the State would make the Project Area available for development. An increase in invasive plants/noxious weeds could occur as a result of vehicle traffic and surface disturbance in the area; however, it is assumed that the Project Area would be subject to State regulations for weed control and that any infestations would be contained. Vegetation: No native vegetation removal is proposed. If the transfer occurs then it is assumed that the State would make the Project Area available for development. Development would require the construction of facilities and infrastructure that would remove native vegetation. However, these future actions would be outside the scope of the current proposal.	Christine Cimiluca	2/8/2018
NI	Lands/Access	The proposed In Lieu parcel is surrounded by private lands. It is accessible via Uintah County Class B and D roads. Disposal of these lands would be in conformance with the VFO RMP/ROD approved on October 2008.	Margo Roberts	2/1/2018

Determination	Resource/Issue	Rationale for Determination	Signature	Date
NP	Lands with Wilderness Characteristics	The In-Lieu Selection would be subject to valid and existing rights: Uintah County Road #2447 road #140201.	Rene Arce	2/7/2018
PI	Livestock Grazing & Rangeland Health Standards	Parcel is located within the Watson-BC allotment. The allotment is utilized by sheep during the winter months. The proposed In Lieu parcel is surrounded by private lands; however, it does represent a usable portion of the allotment. It is accessible via a Uintah County Class B road.	Dusty Carpenter	5/18/2014
NP	Paleontology	Spatial analysis of the proposed SITLA INDEMNITY SELECTION SURFACE AND MINERAL ESTATE within T11S R25E, Section 5, SWNW, NWSW, SWSW, Section 6, SENE, NESE and Section 8, N2NW, NWNE, indicates no direct interaction with known paleontological resources. New vertebrate fossil discoveries encountered during all activities should facilitate the cessation of all related activities, followed by immediate notification of the VFO officer for mitigation procedures.	Joseph Islas	2/2/2018
PI	Plants: BLM Sensitive	<p>The following UT BLM Sensitive plant species have been identified in or near the Project Area: <i>Cryptantha barnebyi</i> per BLM GIS review.</p> <p>Suitable habitat for the following UT BLM Sensitive plant species are present or expected to be present in the same or an adjacent subwatershed as the proposed project: <i>Cryptantha grahamii</i>, <i>Aquilegia scopulorum</i> var. <i>goodrichii</i>, <i>Erigeron untermanii</i>, <i>Mentzelia goodrichii</i>, <i>Phacelia argylensis</i>, and <i>Thelesperma caespitosa</i>. However, no populations or individuals have been documented.</p> <p>Plant species designated as UT BLM Sensitive would not be protected on designated SITLA lands. Actions such as mineral development that would potentially occur following a transfer of the land and mineral rights on this parcel to SITLA control have the potential to impact these species. If the lands and minerals were to remain designated BLM these plant species would remain protected.</p> <p>A clearance survey of the Project Area was conducted by BLM botanists on June 29, 2017. No BLM Sensitive plant species or suitable habitat for these species was identified within the specified parcel.</p>	Christine Cimiluca	Date updated: 2/8/2018

Determination	Resource/Issue	Rationale for Determination	Signature	Date
PI	Plants: Threatened, Endangered, Proposed, or Candidate	Potential habitat for the following Federally proposed threatened plant species has been documented within the Project Area (per BLM GIS review): Graham's beardtongue (<i>Penstemon grahamii</i>) and White River beardtongue (<i>Penstemon scariosus</i> var. <i>albifluvis</i>). Several individuals and populations of both species have been previously documented near the Project Area, although no individuals or populations of either species has been documented within the Project Area, per BLM GIS review. Since both species are currently proposed for listing as threatened under the Endangered Species Act, the plants would be afforded less or no protection compared to listed species if the Proposed Action were to occur. If the lands and minerals were to remain under BLM designation the plants would be afforded greater protection. A clearance survey of the Project Area was conducted by BLM botanists on June 29, 2017. No threatened, endangered, candidate or proposed species or suitable habitat for these species was identified within the specified parcel.	Christine Cimiluca	2/8/2018
NI	Recreation	Currently no recreation occurs on the parcel, it is surrounded by private land, without access. Therefore, no impacts to current recreation opportunities would be anticipated.	Rene Arce	2/7/2018
NI	Socio-Economics	No impact to the social or economic status of the County would occur from the transfer of the subject lands and minerals to the State. No development is proposed or occurring in the project area. It is anticipated that if the land is transferred, the land and/or minerals will be made available for lease or sale. Subsequent development that may occur is too speculative to be analyzed at this time. See the minerals section of the EA.	Stephanie Howard	5/18/2018
NI	Soils: Physical/Biological	There would be no direct impacts to the Physical/Biological aspects of soils in the transfer of land ownership.	Brian Barnett	02/05/2018
NI	Visual Resources	VRM III is present, however, disposal would remove VRM classification for this area. There is no surface disturbance that would occur as a result of the transfer of land and mineral ownership.	Rene Arce	2/7/2018
NP	Wastes (hazardous/solid)	This is an In-Lieu selection, proposed by the State of Utah (SITLA). The proposed transfer would not require or generate Wastes (hazardous/solid).	Margo Roberts	2/1/2018

Determination	Resource/Issue	Rationale for Determination	Signature	Date
		No chemicals subject to reporting under SARA Title III in amounts greater than 10,000 pounds would be used, produced, stored, transported, or disposed of annually in association with the proposal.		
PI	Water: Groundwater Quality	No change to groundwater would occur from the transfer of the lands. However, if the lands are made available for development, groundwater could be affected depending on the depth to groundwater in the area.	Dallas Nutt	3/28/2018
PI	Water: Hydrologic Conditions (stormwater)	Hydrologic conditions exist but will not be directly affected by the proposed action of transferring of lands. Conditions that exist are conducive to high desert ecosystems: many dry ephemeral washes, low permeability, and a main perennial river that collects runoff from the dry ephemeral washes. This is according to GIS review and on the ground investigations. If the state makes this area available development, hydrologic conditions in the area may be affected by altering the natural drainage channels or by increasing erosional rates above the average.	Peter Kauss	2/1/2018
NP	Water: Municipal Watershed / Drinking Water Source Protection	GIS review indicates no drinking water source areas or beneficial uses of watersheds from UDEQ-DWQ	Peter Kauss	2/1/2018
PI	Water: Steams, Riparian, Wetlands, Floodplains	The proposed action will not directly affect the Evacuation Creek floodplain in the area. If the state plans on making it available for development, floodplains could be affected by increased sedimentation, which reduces the ecological function of the floodplain environment.	Peter Kauss	2/1/2018
PI	Water: Surface Water Quality	Surface waters exist in the proposed action area. The quality of surface waters will not be affected by the act of transferring surface and lease ownership. However if the state makes this land available for development, increased sedimentation and erosion could occur by exposing disturbed soils to the wind and other erosional factors. Sediment carries with it many constituents like salts that could affect water quality in the area.	Peter Kauss	2/1/2018
NP	Water: Water Rights	The proposed project would not affect any water rights or the ability to use any water rights because none are present. Therefore detailed analysis is not required.	Peter Kauss	2/1/2018
PI	Water: Waters of the U.S.	Waters of the U.S are present near the area of this proposed action and will not see direct effects from the proposed action. Although the act of transferring of lands will not directly affect waters of the U.S., if	Peter Kauss	2/1/2018

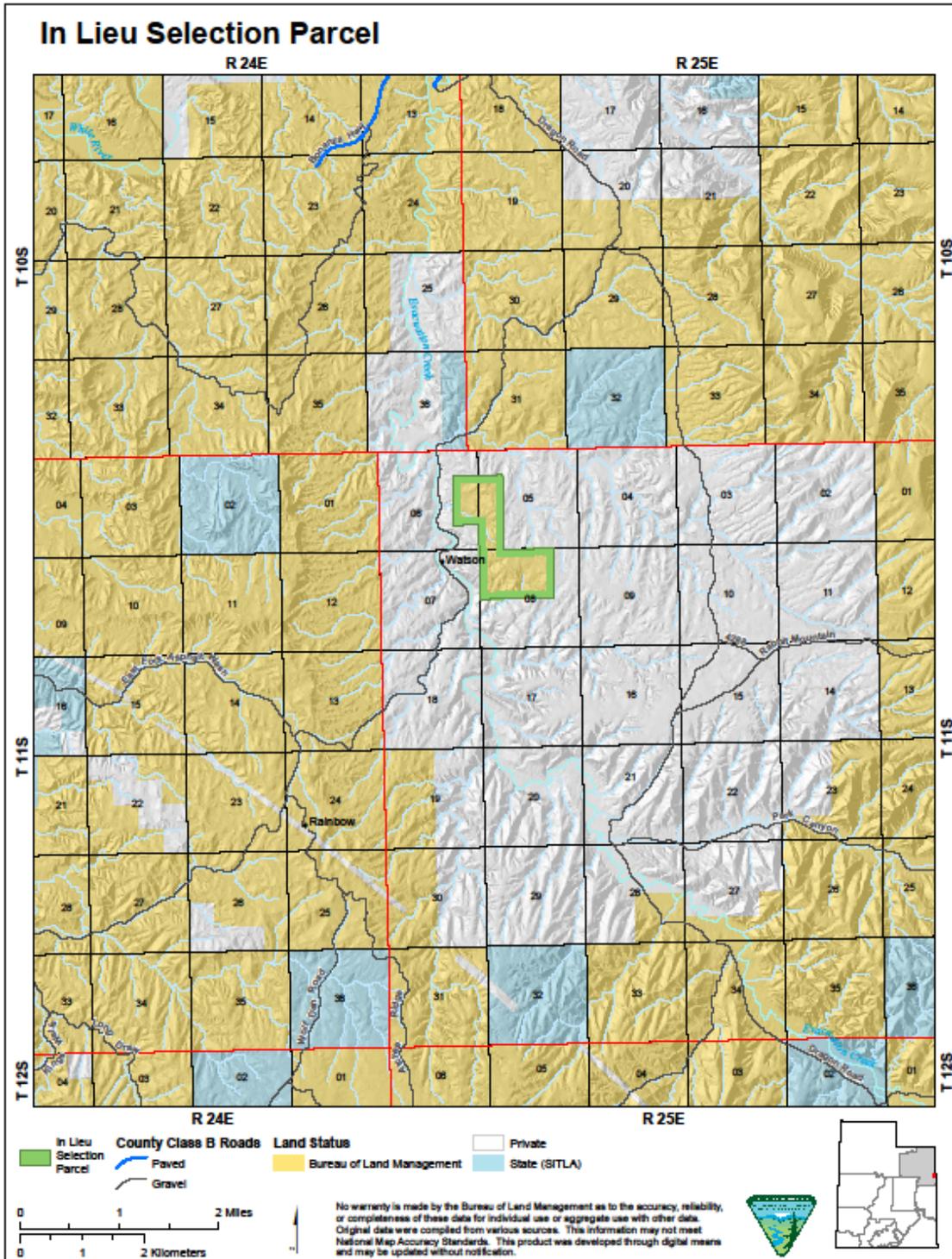
Determination	Resource/Issue	Rationale for Determination	Signature	Date
		the state plans on making this area available for sale or development, increased sedimentation into the perennial waters in the area could occur. Company will have to adhere to section 404 of the Clean Water Act.		
NP	Wild Horses and Burros	No Wild Horse Herd Areas are present in the location of the proposed project	Margo Roberts	2/1/2018
PI	Wildlife: Migratory Birds (including raptors)	If the transfer occurs, the state may make the land and minerals available for development. If the land is disturbed, there could be a loss of nesting habitat.	Dixie Sadlier	2/6/2018
NI	Wildlife: Fish (designated or non-designated)	There are no fish species (including their associated habitats) within the proposed area. Impacts to downstream habitat and water quality for all fish species are adequately addressed in the Surface Water Quality, and the Steams, Riparian, Wetlands, Floodplains sections of this document.	Jerrad Goodell	05/08/18
PI	Wildlife: Non-USFWS Designated	If the transfer occurs, the state may make the land and minerals available for development. If the land is disturbed, there could be a loss of crucial yearlong big horn sheep habitat, and crucial winter habitat for mule deer.	Dixie Sadlier	2/6/2018
NP	Wildlife: Threatened, Endangered, Proposed or Candidate	Office files were reviewed and no wildlife T&E species or habitat exist within the project area.	Dixie Sadlier	2/6/2018
PI	Wildlife: Greater Sage-Grouse (BLM Sensitive Species)	The proposed project is within occupied sage-grouse habitat and a General Habitat Management Area (GHMA). If the transfer occurs the state may make the land and minerals available for development. If the lands are transferred and development occurs, there would a loss of GHMA habitat for sage-grouse.	Leah Lewis	2/2/2018
NI	Woodlands/Forestry	The proposed project is not in a Woodland/Forestry area per Vernal Field Office RMP/ROD (2008) and the GIS layers database.	Margo Roberts	2/1/2018

FINAL REVIEW:

Reviewer Title	Signature	Date	Comments
Environmental Coordinator			
Authorized Officer			

APPENDIX B: IN LIEU SELECTION MAP

Map 1: In Lieu Selection Parcel



APPENDIX C: GREATER SAGE-GROUSE MITIGATION ANALYSIS

This appendix documents the conformance of the proposed action with the Greater Sage-Grouse Environmental Impact Statement Record of Decision (ROD) and Approved Resource Management Plan Amendment (ARMPA) and associated management actions for Utah, approved in September 2015.

SPECIAL STATUS SPECIES DECISIONS

Mitigation

Mitigation will be achieved by first avoiding, then minimizing, and finally compensating for unavoidable impacts associated with actions on the impacted project area (BLM 2015). With the proposed In Lieu selection there is a direct transfer of 440 acres of BLM managed GHMA for GRSG to state ownership. Since these acres will no longer be under BLM management, avoidance and minimization for any future development actions will not apply. However, SITLA has committed to mitigating for the 440 acres by replacing and improving habitat acres within a PHMA that is adjacent to high quality habitat, occupied leks, and is important for nesting, brood-rearing, and wintering habitat for the Uintah GRSG population. This mitigation site will prove to be more beneficial and impactful to the GRSG population when compared to the 440 acres of GHMA because the mitigation site is adjacent to quality habitat currently occupied by a large subpopulation of GRSG on Blue Mountain, whereas the 440 acres of GHMA, and surrounding acres, have not been occupied by grouse for many years. The selected mitigation project and acres will more than compensate for the 440 acres of GHMA as it is within a PHMA where the majority of the Uintah population resides. The treatments will not only improve and create potential habitat for GRSG but will also protect important habitat areas and lek sites from loss to fire.

Timeliness:

The mitigation must be started either before the In Lieu selection is finalized or within one year after the In Lieu has been finalized.

Additionality:

The mitigation project to compensate for the 440 acres of GHMA is the Miners Draw Hazardous Fuels Project. An environmental analysis (EA) can be found within the following document located on the ePlanning website: DOI-BLM-UT-G010-2018-0037-EA (https://eplanning.blm.gov/epl-front-office/eplanning/nepa/nepa_register.do). The project area is within PHMA in Uintah County between the communities of Jensen, UT and Dinosaur, CO. The project area is primarily in the Bourdette Draw and Miners Draw watersheds (MAP 2). The overstory vegetation in the area consists primarily of juniper trees and the brush component is Wyoming big sagebrush. Grasses present include bluebunch wheatgrass (*Pseudoroegneria spicata*), galleta grass (*Hilaria jamesii*), and Sandberg's bluegrass (*Poa secunda*) in the northern areas and cheatgrass (*Bromus tectorum*) in the southern parts of the project area.

The Miners Draw Hazardous Fuels Project includes several treatments across 6,447 total acres: bullhog mastication, slashing, mowing, and seeding. These treatments are designed to reduce the risk of unplanned wildland fires by reducing hazardous fuels and creating fuel breaks in vegetation. The project is designed to benefit GRSG habitat (nesting, brood-rearing, and winter) by reducing pinyon and juniper trees within a sagebrush ecosystem, improving GRSG cover and food availability. Treatment work is expected to occur in the fall, August 31 – December 1. These dates would avoid GRSG brooding and nesting season, deer fawning season, and the elk and deer wintering season. UDWR is in support of the project and assisted in developing the treatment polygons (BLM 2018). Treatment type, acres, and landownership are provided in the table below.

Treatment Acreage by Land Ownership	BLM	SITLA	Private	Total
Bullhog	1,149	12	0	1,161
Slashing	1,765	156	0	1,921
Herbicide	928	0	0	928
Seeding	928	0	0	928
Fuel Breaks: Mowing	559	59	37	655
Fuels Breaks: Herbicide	559	59	37	655
Fuels Breaks: Seeding	559	59	37	655
Total Acres	6,447	345	111	6,903

The project is within a state designated SGMA and BLM designated PHMA. The nearest known lek is within 0.4 miles of the project area. Currently, no leks exist within the treatment polygons. Seasonal nesting, brood-rearing, and winter habitat has been identified within the mastication and slashing treatment polygons and this mitigation project is expected to benefit sage-grouse in the area. The project is consistent with the 2013 Conservation Plan (Utah 2013); Section 2, Habitat Objective Section 2.03 states: enhance an average of 25,000 acres of sage-grouse habitat in sage-grouse management areas annually. The proposed action is also consistent with the ARMPA, MA-VEG-2, which states: “Prioritize treatments closest to occupied GRSG habitats and near occupied leks, and where juniper encroachment is phase I or phase II”.

Durability:

To determine whether the required outcomes of the mitigation project are being achieved, project objectives and before and after baseline data will be collected.

Resources (Required outcomes are being achieved):

The objectives of this project are to maintain GRSG, mule deer, elk, and other sagebrush wildlife species habitat values and also reduce hazardous fuels accumulation across 6,447 acres (Miners Draw Hazardous Fuels Project).

Specific Objectives:

- Maintain areas that provide for important ecological functions and habitat for keystone species such as GRSG.
- Maintain and improve important sagebrush habitat for a variety of wildlife species in the project area.
- Reduce the buildup of hazardous fuels by removing pinyon pine and Utah juniper encroachment into sagebrush communities.
- Reduce the risk of large fire events by creating linear design features using fire breaks.
- Reduce fire behavior characteristics in the area to allow favorable suppression tactics in the event of a wildland fire by changing the arrangement of hazardous fuels.
- Enhance the hydrology condition in the project area.

BLM intends to set up photo points and line point intercept to collect monitoring data before and after the project is implemented (3-5 year intervals). Monitoring of regrowth after the project is completed will help determine whether follow-up treatments are needed for the project area. The treatment site will provide increased forbs, grasses, and shrubs for GRSG and therefore create additional habitat space adjacent to occupied habitat. Currently deployed GPS backpacks on GRSG will also help document use or non-use of these mitigation sites pre and post treatment. This continued monitoring effort will help document and support project durability.

Financial (Finances are sufficient to maintain, monitor, and adapt mitigation project):

To ensure that the financing is sufficient to maintain, monitor and adapt the reasonable mitigation project, the VFO in coordination with UDWR and the local Watershed Restoration Initiative (WRI) project manager have concluded that the monetary amount per acre for mitigation will be \$187.50². This fiscal number will exceed the cost of most mitigation vegetation treatments that may occur on the landscape and also includes administrative costs of processing and funding a project. This cost estimation would allow for the maintenance, monitoring and adaptation (if there is risk of failure) of the mitigation project. The derivation of the \$187.50 is as follows:

Table 1:

Treatment Type	Average Cost/Acre
Lop and Scatter	\$50
Bull Hog	\$380
Seeding	\$140
Herbicide	\$180
Total Average Cost/Acre:	\$187.50 (\$750/4 treatment types)

SITLA has agreed to the mitigation project and will contribute \$82,500 (\$187.50 * 440 acres) to assist in funding the multi-phased restoration treatment. This total amount will be administered through WRI to assist in the implementation of the Miners Draw Hazardous Fuels project (WRI #4721). This mitigation contribution will help implement this multi-phase project and improve a total of 6,447 acres.

² The \$187.50 mitigation cost includes lop and scatter, bull hog mastication, seeds, seeding, archeology, herbicide, and administrative costs (salaries for implementers, motor pool costs, etc.). Note: These average cost estimates may change in the future due to inflation (for other projects or if the mitigation project is not completed in a timely manner).

