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Bureau of Land Management

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Red Cliffs Warner Valley Land Exchange

Environmental Assessment

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CHAPTER 1. INTRODUCTION

The Bureau of Land Management (BLM) St. George Field Office (SGFO) has prepared this Environmental Assessment (EA) to disclose and analyze the environmental consequences of authorizing a Land Exchange action involving BLM-managed federal lands and private lands in Washington County, Utah with the Washington County Water Conservancy District (WCWCD), referred to as the Red Cliffs Warner Valley Land Exchange (Land Exchange). An Agreement to Initiate (ATI) for the Land Exchange was executed on December 19, 2022 (**Appendix A**). An ATI is a written, nonbinding statement of present intent to initiate and pursue an exchange, which is signed by the parties. An ATI may be amended by consent of the parties or terminated at any time upon written notice by any party. The ATI is entered pursuant to Section 206 of the Federal Land Policy and Management Act of October 21, 1976, as amended (43 U.S.C. § 1716) (FLPMA) between the BLM, acting on behalf of the United States, and Washington County, Utah. Washington County is facilitating the proposed Land Exchange by providing funding towards the processing of the exchange, as well as providing support and expertise throughout the process.

The lands identified for exchange include a 929.14-acre Federal Parcel located within the Sand Mountain Special Recreation Management Area in Warner Valley and an 89.43-acre Non-Federal Parcel located within the Red Cliffs Desert Reserve (Reserve) and Red Cliffs National Conservation Area (NCA) (**Appendix C, Photographs 1 and 2**). The exact acreage to be exchanged will be determined by value equalization after the appraisals of the parcels are completed. The acquisition of the Non-Federal Parcel would further consolidate the federal administration of designated critical habitat for the Mojave desert tortoise (*Gopherus agassizii*), hereafter referred to as tortoise. The tortoise is a listed threatened species under the Endangered Species Act (ESA). The WCWCD has entered into an option agreement to acquire the Non-Federal Parcel. An overview of the parcels is depicted in **Figure 1.1**. Project Area Overview Map. Specific location sites are shown in **Figures 1.2 and 1.3**. The parcels are described in detail in **Section 2.2**.

Figure 1.1. Project Area Overview Map

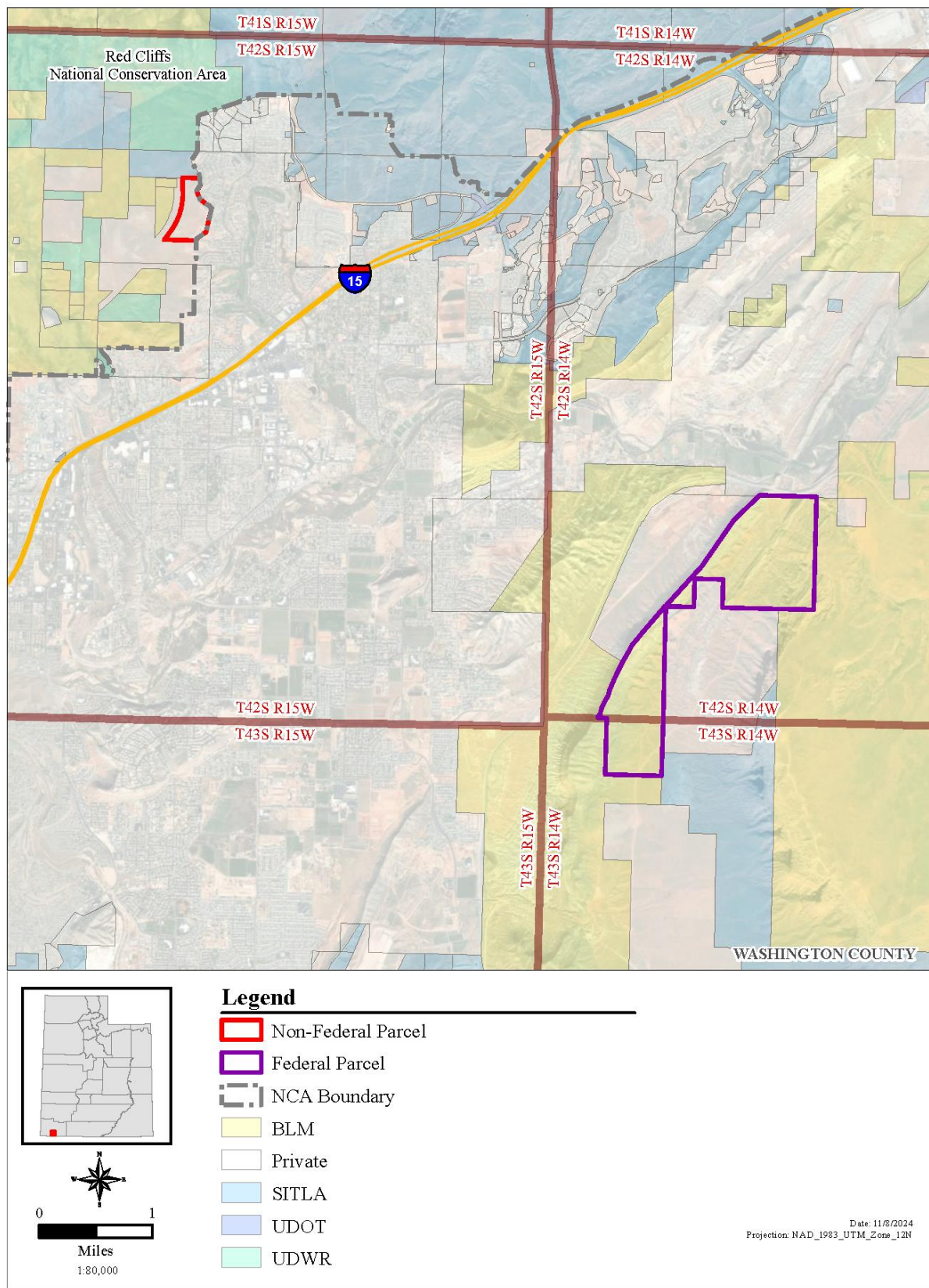


Figure 1.2. Federal Parcel Zoomed Map

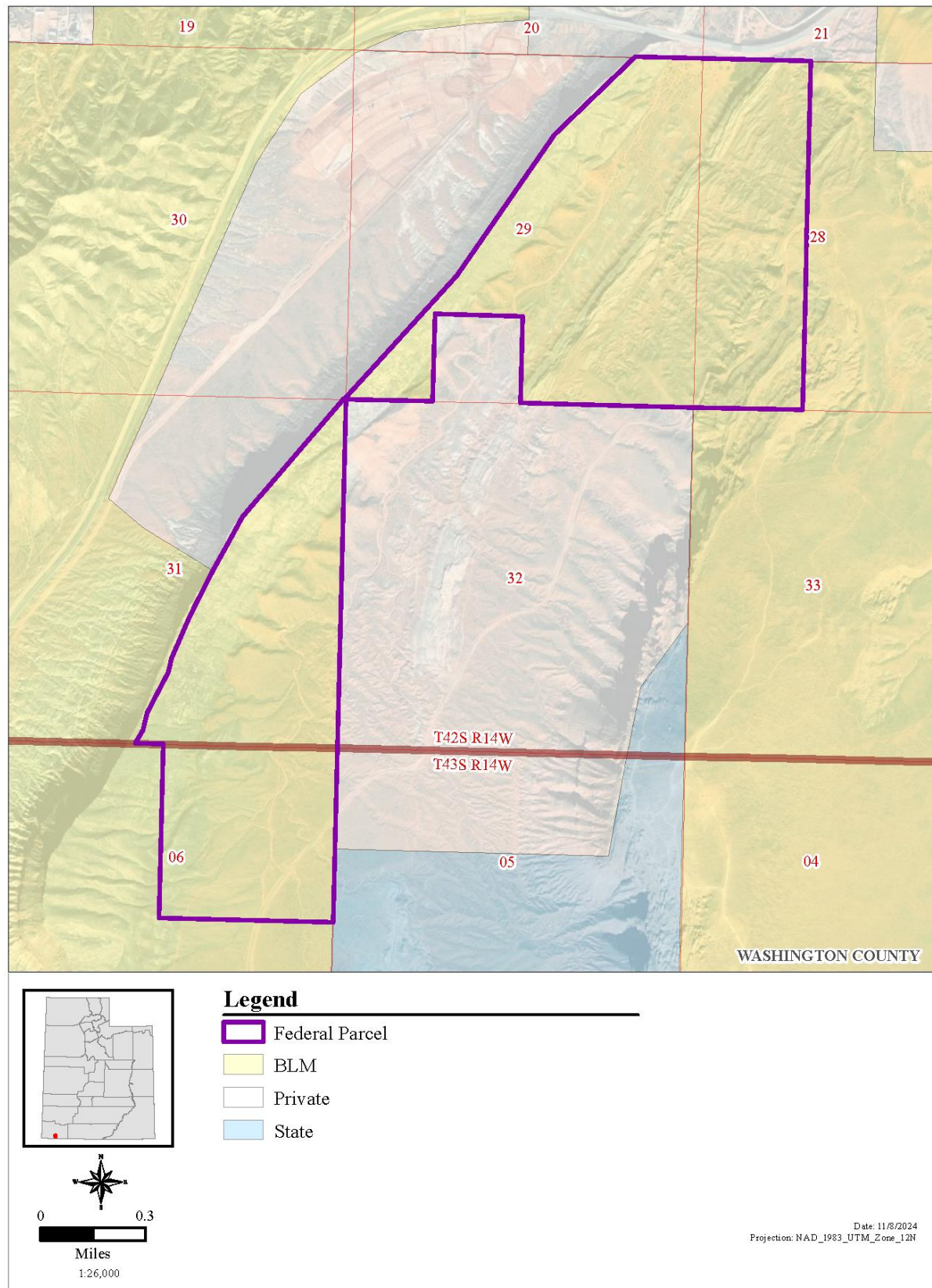
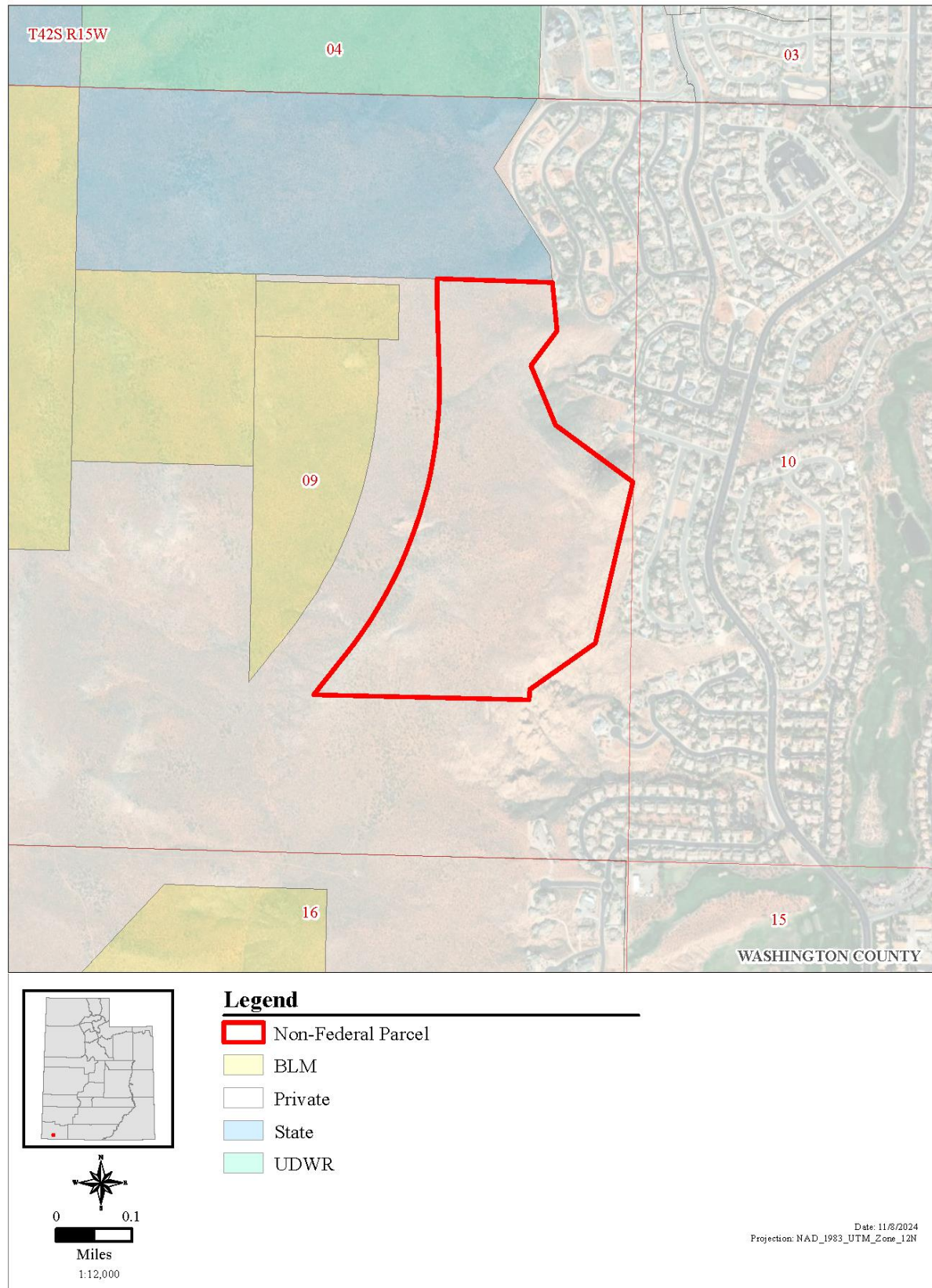


Figure 1.3. Non-Federal Parcel Zoomed Map



In 1990, the United States Fish and Wildlife Service (USFWS) listed the tortoise as a threatened species under the ESA, as amended (FR 1990). In 1994, the USFWS designated 129,100 acres of critical habitat as essential for tortoise conservation in Washington County, Utah (USFWS 1994). In response, Washington County (County) applied for an Incidental Take Permit (ITP) and began preparation of a Habitat Conservation Plan (HCP). The key mitigation component of the HCP was the creation of the approximately 62,000-acre multi-jurisdictional Reserve that would be managed to assist the recovery and delisting of tortoise populations and habitat, and to protect other at-risk native plant and animal species. Since 1996, the Reserve has been collaboratively managed by the BLM, the State of Utah, Washington County, and local municipalities.

The approximately 45,000-acre Red Cliffs National Conservation Area (NCA) is an important component of the Reserve. It is managed by the BLM as part of the National Landscape Conservation System and was created as part of the Omnibus Public Land Management Act of 2009 (Public Law [PL] 111-11 at Subtitle O, Section 1974, 16 U.S.C. § 7202) in which Congress directed the BLM to manage the NCA “to conserve, protect, and enhance . . . the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources” of the NCA, with a particular emphasis on threatened and endangered species. Since its establishment, an additional 1,000 acres have been added to the Reserve through land exchanges and direct purchases from willing sellers, which has increased the size of the BLM-managed public lands within the NCA and Reserve to approximately 46,000 acres. At the time the Reserve was established, approximately one-third of the surface was owned by private parties and the State of Utah Trust Lands Administration (TLA). The *Implementation Agreement for the Washington County Habitat Conservation Plan* (Amended 2020) documents the commitment by the United States, Washington County, and the Utah Department of Natural Resources to acquire these lands within the Reserve as they are made available.

Private landowners voluntarily included their properties in the Reserve, with the understanding that these inholdings could, in the future, be acquired by the federal government at fair market value. The private landowners also retained the option to withdraw their properties from the Reserve at any time and develop their lands, but only after complying with the mandates of Section 10 of the ESA. Compliance with Section 10 of the ESA would require that each landowner develop an HCP and mitigate for “take” of tortoises and adverse modification of critical habitat through the establishment of a mitigation reserve on the private property. The need to leave substantial areas of the property undeveloped to serve as a mitigation reserve could significantly reduce the property’s value. For these reasons, many private landholders in the Reserve have elected to pursue land exchanges with the BLM or are willing sellers, as funds are available for the direct purchase of their properties by the federal government.

The BLM’s commitment to work to gain titles from the TLA and willing sellers of private lands within the Reserve is documented in the HCP’s Final Implementation Agreement (Washington County 1995). This plan was amended in 2020 (Washington County 2020). Other supporting documents include the 1999 St. George Field Office Record of Decision (ROD) and Resource Management Plan (RMP), as amended, and the 2016 Red Cliffs NCA

ROD and Approved RMP (BLM 2016). Implementation of the Proposed Action would support this commitment to gain title and ensure long-term management remains consistent with the NCAs conservation objectives.

1.1. Purpose and Need

The BLM's purpose for the Land Exchange is to fulfill its commitments to acquire private and state inholdings in the Reserve, as codified in the initial *Implementation Agreement for the Washington County Habitat Conservation Plan* (Washington County 1995) and in the 2021 *Implementation Agreement for the Washington County Restated and Amended Habitat Conservation Plan* (Washington County 2020). The proposed Land Exchange would also further BLM's legal obligations under the ESA to assist in the recovery and delisting of threatened and endangered species and meet the goals of the recovery plan for the desert tortoise (USFWS 1994, 2011) and those of the County HCP (2020).

The need for the action is established in the St. George Field Office RMP management goals, objectives, and decisions (**Table 1.1 and 1.2**) and by the BLM's statutory and regulatory responsibilities under Title II, Section 206 of FLPMA (**Table 1.3**).

1.2. Decision to Be Made

Based on the findings in this EA, the BLM's Authorized Officer will decide whether to approve the proposed Land Exchange and, if so, under what terms and conditions.

As required by 43 CFR § 2200.0-6(b), the BLM will determine whether the land exchange is in the public interest. Using this determination, the BLM will decide whether to approve the exchange of the identified Federal land and Non-Federal land. In evaluating whether the exchange of the identified parcels is in the public interest "the [BLM] authorized officer shall give full consideration to the opportunity to achieve better management of Federal lands, to meet the needs of State and local residents and their economies, and to secure important objectives, including but not limited to: Protection of fish and wildlife habitats, cultural resources, watersheds, wilderness and aesthetic values; enhancement of recreation opportunities and public access; consolidation of lands and/or interests in lands, such as mineral and timber interests, for more logical and efficient management and development; consolidation of split estates; expansion of communities; accommodation of land use authorizations; promotion of multiple-use values; and fulfillment of public needs. In making this determination, the authorized officer must find that: (1) The resource values and the public objectives that the Federal lands or interests to be conveyed may serve if retained in Federal ownership are not more than the resource values of the Non-Federal lands or interests and the public objectives they could serve if acquired, and (2) The intended use of the conveyed Federal lands will not, in the determination of the authorized officer, significantly conflict with established management objectives on adjacent Federal lands and Indian trust lands. Such finding and the supporting rationale shall be made part of the administrative record."

The decision record will document the BLM's public interest determination and decision whether or not to approve the exchange of the identified Federal land and Non-Federal land.

1.3. Land Use Plan Conformance

The Land Exchange would conform to the following management goals and decisions identified in the SGFO ROD/RMP, as amended, (BLM 1999) and in the Red Cliffs NCA ROD/RMP (BLM 2016, as amended) as shown in **Table 1.1**. RMP Management Goals and Decisions: SGFO ROD and RMP.

Table 1.1. RMP Management Goals and Decisions: SGFO ROD and RMP and Red Cliffs NCA ROD/RMP

Management Goals and Decisions	RMP Discussion	Conformance
LD-02	Land ownership changes will be considered on lands not specifically identified in this Plan for disposal or acquisition if the changes are in accordance with resource management objectives and other Plan decisions and will accomplish one or more of the following criteria: a) Such changes are determined to be in the public interest and will accommodate the needs of local and state governments, including needs for the economy, public purposes, and community growth. b) Such changes result in a net gain of important and manageable resources on public lands such as crucial wildlife habitat... listed species habitat...d) Such changes promote more effective management and meet essential resource objectives through land ownership consolidation.	While not specifically marked for disposal in the SGFO RMP (BLM 1999), these lands meet the criteria to be considered for an exchange.
LD-05	Over the life of the RMP, it is expected that the BLM may	If approved, the Land Exchange would conform with LD-05 by acquiring land within

Management Goals and Decisions	RMP Discussion	Conformance
	acquire up to 18,000 acres of land within the County. Nearly all of these acres will result from the BLM fulfilling its commitment to acquire available state and private lands within the Washington County HCP known as the Red Cliffs Desert Reserve.	the Reserve. It also conforms with the criteria LD-02.
LD-06	Over the life of the RMP, it is expected that up to 18,000 acres of public lands may be transferred out of public ownership in the County (see Map 2.1 in the RMP). Most of these transfers will occur as a result of land exchanges needed to complete acquisition of state and private lands within the Washington County HCP Reserve.	If approved, this Land Exchange would comply with LD-06 by disposing of the Federal Parcel through a land exchange to meet the criteria described in LD-02.
FW-02	Consistent with other priorities, the BLM will consolidate blocks of public lands, resulting in improved habitat management capability. This consolidation will occur in key habitat areas for listed species and other important wildlife populations, including but not limited to, lands within the County HCP Reserve.	If approved, the proposed Land Exchange would conform with FW-02 by consolidating federal land within the Reserve.
FW-13	Public lands supporting federally listed or sensitive animal species will be retained in public ownership unless exchange or transfer will result in acquisition of better habitat for the same species or provide for suitable management by	Surveys have located tortoises in the Federal Parcel. However, approval of the Land Exchange would result in the acquisition of higher quality, designated critical tortoise habitat within the Reserve and would consolidate federal holdings.

Management Goals and Decisions	RMP Discussion	Conformance
	another agency or qualified organization. Habitats for such species may be acquired where logical to consolidate management areas and where the BLM or qualified partners have the resources needed to effectively manage for the intended purpose.	
RC-20 e.	Generally, lands within the Sand Mountain Special Recreation Management Area (SRMA) not already identified in the RMP for disposal will be maintained in public ownership to provide long-term stability to user groups such as the off-highway vehicle (OHV) community, who, as a result of urbanization and land use restrictions, have lost much of their traditional open-use areas.	While the Federal Parcel is entirely located within the SRMA, the RMP language provides the BLM flexibility for exchanges to be considered within the SRMA when the public interest would continue to be served. Adjustments have been made in the boundaries of the land to be disposed to address access and OHV-user concerns.
Objectives	The BLM will work collaboratively with local, state, and federal partners to accomplish the goals and the objectives of the County HCP and its implementation agreement.	The Land Exchange is a collaborative effort between the BLM, County, and the WCWCD in support of the HCP directive to consolidate federal lands within the Reserve.
SST-7	Prioritize the acquisition of Non-Federal lands or interests in critical tortoise habitat within the NCA boundaries from willing landowners through purchase, exchange of public lands identified for disposal outside of the NCA boundaries, donation, or conservation easement.	If approved, the Land Exchange would result in the acquisition of lands within the Reserve and the NCA by the federal government, consolidating designated critical tortoise habitat.

Management Goals and Decisions	RMP Discussion	Conformance
LAR-10	Work with willing landowners or administrators to acquire in-holdings and edge-holdings that are in the public interest through purchase, exchange of public lands targeted for disposal outside of the NCA boundaries, donation, or conservation easement.	The land being acquired by the BLM through the Land Exchange would be obtained from a willing landowner.

1.4. Relationship to Statutes, Regulations, and Other Plans

The relationship of the Proposed Action with directly relevant statutes, regulations, and other plans is described in **Table 1.2**.

Table 1.2. Applicable Statutes, Regulations, and Plans

Statute/Regulation/Plan	Relation to Proposed Action
The Federal Land Policy and Management Act (FLPMA) of October 21, 1976 (90 Stat. 2776, 43 U.S.C. § 1716)	The proposed Land Exchange is between a private landowner and the BLM. Sections 102, 205, 206, and 207 of FLPMA grant BLM the authority to engage in land exchanges.
National Historic Preservation Act (NHPA) (16 U.S.C. § 470) of 1966, as amended	All federal undertakings require compliance with all NHPA stipulations. This Land Exchange is a federal undertaking.
ESA of 1973 (16 U.S.C. § 1531 et seq.), as amended	The Land Exchange represents a federal action that may affect listed species and designated critical habitats. As such, the ESA applies to this project.
Washington County's Restated and Amended Habitat Conservation Plan, Washington County, Utah, as Amended (2020)	The HCP outlines the primary responsibilities of the HCP Partners that for the BLM include the acquisition of Non-Federal lands in the Reserve. The Land Exchange involves acquiring a private land inholding in the Reserve into federal ownership
Migratory Bird Treaty Act (MBTA, 16 U.S.C. § 703) of 1918	This act prohibits the take of protected migratory bird species without authorization from USFWS. The BLM has consulted with the USFWS on the Land Exchange and no issues have been identified that would result in the take of migratory bird species.
CFR Title 43/Chapter 2/Part 2200 (43 CFR § 2200-5[d])	This regulation requires that land exchanges be of equal value or equalized values based on fair market value as determined by appraisals through the United States

Statute/Regulation/Plan	Relation to Proposed Action
	Department of Interior Appraisal and Valuation Services Office (AVSO).

Other Plans

- Washington County General Plan and Washington County Resource Management Plan: These plans include language that supports increasing private land in the County. The Land Exchange involves exchanging a large Federal Parcel for a smaller Non-Federal Parcel and represents a net gain in land instead of a net loss for the County.

1.5. Issues Identified for Detailed Analysis

The BLM SGFO Interdisciplinary (ID) Team evaluated the Proposed Action and prepared an Interdisciplinary Team Checklist (Checklist) (**Appendix B**) to identify resource values, issues, and land uses that could be affected by the proposed Land Exchange. This was conducted using current office records, GIS data, site visits, and other relevant information. The Checklist also provides the rationale for dismissing certain issues from detailed analysis. Issues analyzed in detail are provided in **Table 1.3**. Issues to be Analyzed in Detail.

Prior to the scoping process, the BLM published the Notice of Exchange Proposal (NOEP) in the *St. George Spectrum* for four consecutive weeks beginning on October 13, 2022. The NOEP and invitations to provide comments were mailed to the landowners of adjoining parcels, rights-of-way (ROW) holders, livestock grazing operators with permits on the Federal Parcel, Special Recreation Permit holders, Utah's Congressional delegation, Native American Tribes, local city and county government entities, state agencies, and other parties who have previously expressed interest in the Land Exchange.

The BLM initiated scoping under the National Environmental Policy Act (NEPA) process and notified the public of the proposed Land Exchange by sending letters to interested parties, posting signs at various locations in the County, and posting on the BLM's ePlanning website^{0F1}. The notices requested comments and invited the public to attend a scoping meeting held at the St. George Library on March 21, 2023. The public was provided an extended period to comment on the Proposed Action from March 14 to April 19, 2023^{1F2}. Details on these outreach efforts are provided in Summary of Public

¹ The Land Exchange website is located online at the BLM's NEPA Register: <https://eplanning.blm.gov/eplanning-ui/project/2022389/510>.

² The public was initially notified of the proposed Land Exchange through an NOEP published in the *Spectrum* on October 14, 21, and 28 and November 4, 2022, during the feasibility stage of the Land

Involvement in this EA (**Chapter 4 and Appendix D**). Public input provided during scoping was used to refine issues developed during the BLM’s ID Team screening. Through these processes, the following issues in **Table 1.3**. Issues to be Analyzed in Detail were identified for detailed analysis in the EA.

Table 1.3. Issues to be Analyzed in Detail

Resource and Issue Number	Issue
Issue 1. Reserve/NCA Resources	How would the Land Exchange affect the values for which the Reserve was established and the NCA designated by Congress?
Issue 2. Threatened, Endangered, or Candidate Animal Species	How would the proposed Land Exchange and reasonably foreseeable land uses affect the tortoise and its habitat? How would the reasonably foreseeable construction of a reservoir affect Southwestern willow flycatcher and Western yellow-billed cuckoo?
Issue 3. Recreation	How would the Land Exchange and reasonably foreseeable land uses impact recreational uses of the Federal Parcel and the Non-Federal Parcel?
Issue 4. Water Resources	How would the Land Exchange and reasonably foreseeable land uses impact water resources in the County?
Issue 5. Livestock Grazing	How would the Land Exchange and its reasonably foreseeable future land uses impact the Warner Valley, Fort Pearce, Dome, and Sand livestock grazing allotments?
Issue 6. Lands/Access	How would the Land Exchange and reasonably foreseeable land uses affect public access to the Federal and Non-Federal Parcels?
Issue 7. Cultural Resources	How would the Land Exchange and reasonably foreseeable land uses affect cultural resources on the Federal and Non-Federal Parcels?
Issue 8. Paleontology	How would the proposed Land Exchange and reasonably foreseeable land uses affect the paleontological resources that occur within the Federal Parcel?
Issue 9. Areas of Critical Environmental Concern (ACEC)	How would the Land Exchange impact the resource values of the Warner Ridge/Fort Pearce ACEC?

Exchange. Although public input was solicited, this step occurred prior to the NEPA process and does not represent a scoping effort.

Resource and Issue Number	Issue
Issue 10. Socioeconomics	How would the Land Exchange and reasonably foreseeable land uses impact social and economic values and conditions in Washington County, Utah?
Issue 11. Fish & Wildlife and Vegetation Excluding USFWS-Designated Species	How would the Land Exchange and reasonably foreseeable land uses affect fish, wildlife, and plant species, including BLM sensitive species, and their habitat?
Issue 12. Threatened, Endangered, or Candidate Plant Species	How would the Land Exchange and reasonably foreseeable land uses affect modeled suitable habitat for dwarf bearclaw poppy, Shivwits milkvetch, and Siler's pincushion cactus?
Issue 13. Migratory Birds	How would the Land Exchange and reasonably foreseeable land uses affect migratory birds and their habitat?
Issue 14. Invasive Species/ Noxious Weeds	How would the Land Exchange and reasonably foreseeable land uses affect the introduction and spread of invasive species on the Federal and Non-Federal Parcels?
Issue 15. Visual Resources	How would the Land Exchange and reasonably foreseeable future land uses impact the visual resources of the Federal and Non-Federal Parcels?

1.6. Resources Not Present

Several resources and issues were dismissed from detailed analysis as they are either not present or would not be affected to a degree that would require detailed analysis. The Checklist (**Appendix B**) provides rationale for the findings of the resource specialists.

Based on field surveys and other analyses, the ID team determined (**Appendix B**) that the following resources and resource uses are not present in the exchange parcels—Native American Concerns (as of the date of publication of this EA), Cave and Karst, Farmlands (Prime or Unique), Floodplains, Wetlands/Riparian Zones, National Historic Trails (Old Spanish Trail), National Recreation Trails (Gooseberry Mesa), Wild and Scenic Rivers, Wilderness/Wilderness Study Areas, and Lands with Wilderness Characteristics.

1.7. Resources Present but Not Analyzed in Detail

The following resources and resource uses were determined by the ID Team to be present within the exchange parcels but not to be impacted to the degree that would require detailed analysis in the EA—Air Quality, Greenhouse Gas Emissions, Wastes (hazardous or solid), Geology/Mineral Resources/Energy Production, Soils, Woodland/Forestry, Fuels/Fire Management, and Rangeland Health Standards. The rationale as to why these resources are not analyzed in detail can be found in the Checklist located in **Appendix B**.

CHAPTER 2. PROPOSED ACTION AND NO ACTION ALTERNATIVE

The No Action (No Exchange) Alternative and the Proposed Action (Land Exchange) are evaluated in this EA. Alternatives considered but not carried forward for detailed analysis are addressed in **Section 2.3**.

2.1. No Action Alternative

Under the No Action Alternative, the Land Exchange would not occur. The 929.14-acre Federal Parcel would remain in federal ownership and would continue to be managed under applicable federal laws, regulations, agency policies, management decisions, and directions contained in the BLM SGFO ROD/RMP, as amended (BLM 1999). The 89.43-acre Non-Federal Parcel in the Red Cliffs NCA would remain in private ownership. The BLM would need to examine other available land tenure options to acquire the Non-Federal Parcel. The analysis of this alternative provides a baseline for the comparison of environmental impacts that may result from implementation of the Proposed Action.

2.2. Proposed Action (Land Exchange)

Under the Proposed Action, the BLM would complete a land exchange with the WCWCD. The United States would acquire the surface estate of a single parcel 89.43 acres in size, located within the Red Cliffs NCA. The mineral estate was previously acquired by the State of Utah on June 14, 1990. In exchange, the United States would convey title to the surface and mineral estate of a single parcel (Federal Parcel), totaling 929.14 acres of BLM-managed federal land in Warner Valley to the WCWCD (**Figure 1.1**. Project Area Overview Map). The exchange would be completed on an equal value basis, as determined by an appraisal reviewed and approved for BLM-use by the Appraisal and Valuation Services Office (AVSO). The acreages have been finalized as 89.43 acres for the Non-Federal Parcel and 929.14 for the Federal parcel. The appraisals determined that the Federal land value exceeded the Non-Federal land value, and therefore a value equalization payment would be remitted at the time of closing. Washington County would facilitate the exchange as a signatory, and as administrator of the HCP, would contribute funding to cover costs such as appraisals, surveys, reports, and securing public meeting spaces.

Both exchange parcels would be subject to any encumbrances of record at the time of conveyance. The Federal Parcel is within the Sand Mountain SRMA and includes a portion of the Sand Mountain Open OHV Area; a portion of the Sand Mountain Recreation Facilities, including four camping facilities; a portion of the Sand Hollow Pipeline and ROW access road; and the Warner Valley, Dome, Sand, and Fort Pearce grazing allotments. The United States would reserve a ROW for ditches and canals constructed by the authority of the United States pursuant to the Act of August 30, 1890 (43 U.S.C. § 945) and would reserve an easement for the Lower West Rim Trail access across the Federal Parcel.

The Non-Federal Parcel includes a 60-foot-wide non-exclusive access road easement with Environmental Land Technology, His Family Matters LC., and the Trust for Public Lands. The easement was secured prior to the establishment of the NCA designation and

completely bisects the Parcel from north to south. The easement, which has not been developed, was reserved and recorded to provide ingress; egress; regress; and vehicular and pedestrian traffic; and for utilities, drainage, and other developmental purposes. The easement is a valid and existing right, but development of the easement would be subject to Section 7 of the ESA, Section 106 of the NHPA, and the NCA management objectives after transfer. The preliminary title evidence for the Non-Federal Parcel has revealed no title issues that would prevent implementation of the Proposed Action. A final Title Opinion will be completed prior to finalization of the exchange.

2.2.1. Non-Federal Parcel Description of Land

A parcel of land located in the East Half of section 9, Township 42 South, Range 15 West, Salt Lake Base and Meridian, being more particularly described as follows:

Beginning at a point on the west boundary line of Shadow Bluff subdivision, according to the Official Plat thereof, on file in the Office of the Washington County Recorder as Document No. 695367, said point being the East Quarter Corner of Section 9, Township 42 South, Range 15 West, Salt Lake Base and Meridian, and running thence South 12°49'58" West along said boundary 1156.02 feet to a point on the west boundary line of Westgate Hills – Phase I Amended, according to the Official Plat thereof, on file in the Office of the Washington County Recorder as Document No. 861011; thence along said line the following two (2) courses: 1) South 54°36'35" West 558.23 feet, and 2) South 00°34'32" West 75.68 feet to a point on the north boundary line of a parcel of land more particularly described in Document No. 20200073237, Official Records, Washington County, Utah; thence along said line and the north boundary line of a parcel of land more particularly described in Document No. 20200073235, Official Records, Washington County, Utah, North 88°43'46" West 1649.33 feet to a point on the east boundary line of a parcel of land more particularly described in Document No. 20220028324, Official Records, Washington County, Utah; thence along said line the following three courses: 1) North 38°56'23" East 254.98 feet, 2) northerly along a 3250.00 foot radius curve to the left, (long chord bears North 18°20'49" East a distance of 2286.20 feet), center point lies North 51°03'37" West through a central angle of 41°11'08", a distance of 2336.18 feet, and 3) North 02°14'45" West 529.07 feet to a point on the south boundary line of a parcel of land more particularly described in Document No. 20100030700, Official Records, Washington County, Utah; thence South 88°41'46" East along said line 937.28 feet to a point on the west boundary line of Northbridge Estates Phase I Amended & Extended, according to the Official Plat thereof, on file in the Office of the Washington County Recorder as Document No. 20060014406; thence along said line, and along the west boundary line of two parcels of land more particularly described in Documents No. 20210081442 & 20220040872, Official Records, Washington County, Utah, and along said west boundary line of Shadow Bluff subdivision, the following four courses: 1) South 05°19'04" East 336.89 feet, 2) South 36°10'49" West 303.21 feet, 3) South 22°38'21" East 445.86 feet, and 4) South 53°55'48" East 669.91 feet to the point of beginning.

Containing 89.43 acres.

Interests to be Conveyed or Reserved: Surface Estate Acquired by BLM

WCWCD would issue to the United States of America and its assignees a Warranty Deed to the surface estate only the following described land located in Washington County, Utah, subject to valid existing rights and encumbrances. The subsurface of the Non-Federal parcel was patented to the State June 14, 1990, as recorded with the County, 0366814 Bk 37, Pg 227.

2.2.2. Federal Parcel

The approximate 929.14-acre Federal Parcel within the SRMA in Warner Valley and its geographic relationship to other features of the nearby landscape is depicted in **Figure 1.3 Non-Federal Parcel Detail Map**.

2.2.3. Federal Parcel Description of Land

The area described contains 929.14 acres, according to the official plats of the surveys of the said land, on file with the BLM. Salt Lake Meridian, Utah T. 42 S., R 14 W., Sec. 28, W1/2NW1/4NE1/4NW1/4, W1/2SW1/4NE1/4NW1/4, NW1/4NW1/4, SW1/4NW1/4, W1/2NW1/4SE1/4NW1/4, W1/2SW1/4SE1/4NW1/4, W1/2NW1/4NE1/4SW1/4, W1/2SW1/4NE1/4SW1/4, NW1/4SW1/4, SW1/4SW1/4, W1/2NW1/4SE1/4SW1/4, and W1/2SW1/4SE1/4SW1/4; Sec. 29, lots 1,3,8,10,11,13,16, SE1/4NE1/4, and SE1/4; Sec. 30, lot 26; Sec. 31, lots 13, 21, 23, 24, 27, and 29, and E1/2SE1/4. T. 42 S., R 14 W., Sec. 6, NE1/4.

The patent to the Federal Parcel would be issued with the following reservation: The BLM will issue to Washington County Water Conservancy District a United States patent to the surface and mineral estate in the above-described Federal land: 1) subject to valid existing rights and encumbrances, and 2) with a reservation to the United States of a right-of-way for ditches and canals constructed by the authority of the United States pursuant to the Act of August 30, 1890 (43 U.S.C. § 945).

2.3. **Alternatives Considered but Not Analyzed in Detail**

Potential alternatives were identified during the scoping process. The BLM considered but did not carry forward for detailed analysis the alternatives described below.

2.3.1. Issuance of a ROW Grant

Under this alternative, the WCWCD would apply for a ROW grant to develop the federal land for a water reservoir. The BLM would not acquire any private land within the Red Cliffs NCA and Reserve. As discussed in the Purpose and Need Section (**Section 1.2**), the BLM's purpose for this Land Exchange is to acquire private inholdings within the NCA and Reserve. Obtaining inholdings complies with the direction contained in the BLM SGFO ROD and RMP, as amended (BLM 1999), and the 2016 Red Cliffs NCA ROD and Approved RMP (BLM 2016). Additionally, the BLM is fulfilling its legal obligations under the ESA to assist in the recovery of the threatened tortoise and meeting its commitment to assist with the implementation of the County HCP (2020). As the issuance of a ROW would not result in the BLM acquiring private inholdings within the NCA and Reserve, it would not meet the purpose and need of the proposed acquisition of the Federal Parcel by the WCWCD.

2.3.2. Exchange of a Different Federal Parcel

During scoping, the BLM was asked to consider exchanging land north and east of the Federal Parcel instead of the area proposed. There was limited detail and context provided to determine exactly to which lands the commentor was referring. However, the majority of the land located north and east of the current proposed Federal Parcel is private. As the BLM land is necessary for the exchange transaction, the purpose and need of the Proposed Action to consolidate federal land within the Reserve and the NCA would not be met.

The BLM also considered exchanging a slightly larger version of the Federal Parcel. When the Federal Parcel was initially proposed for exchange, the identified parcel totaled approximately 1,047 acres of public land. However, public comments received during the public open house meeting (**Appendix D**) identified access concerns from the OHV community and users of the SRMA, specifically with the loss of access to a portion of the West Rim Trail. The eastern boundary of the Federal Parcel was shifted to exclude the starting point for the West Rim Trail access point, reducing the Federal Parcel by 117.86 acres. This proposed alternative for a larger Federal Parcel was not carried forward for detailed analysis in the EA as it is inconsistent with the basic policy objectives for the management of the area. Therefore, this proposed alternative is not analyzed in detail in this EA.

2.3.3. Exchange the Land Acre for Acre

Under this alternative, the BLM would exchange the land acre for acre. This alternative was eliminated from detailed analysis as it is inconsistent with the BLM's regulatory procedures for exchanges. Proposed land exchanges must be completed on an equal value basis, as determined by the AVSO. Therefore, this alternative is not considered further in this EA.

2.3.4. Land and Water Conservation Funding to Purchase Non-Federal Parcel

Under this alternative, the BLM would apply for funding from the Land and Water Conservation Fund (LWCF). The BLM has pursued several land acquisition strategies to complete the acquisition of the remaining private and TLA lands within the Red Cliffs NCA. However, high property values have substantially limited progress. The BLM has received LWCF money to accomplish acquisitions within the NCA and will continue to request LWCF funding in the future. However, acquisition of the more than 665 acres of remaining private land will also require the use of land exchanges and other methods to complete the land acquisition objectives for the Red Cliffs NCA in a timely manner. This alternative was dismissed from further analysis as efforts to obtain the funding from LWCF are highly competitive and would not be sufficient to obtain all the Non-Federal Parcels within Red Cliffs NCA. Further, land exchanges are an established method of acquiring additional lands within the Red Cliffs NCA. Per the guidance in the BLM Handbook 1790-1, an action alternative may be eliminated from detailed analysis if it is ineffective, or if its implementation is remote or speculative. The LWCF is not a guaranteed funding source and may only pay a partial amount towards the acquisition of the Non-Federal Parcel. Some acreage might be purchased, but exact acreage would be

speculative until funding is awarded. Nominations are required to receive funding in a competitive awarding process; as such, there is no guarantee of nomination selection. Where the funding is not guaranteed for the full Non-Federal Parcel, the Purpose and Need of the BLM in acquiring the full Non-Federal Parcel as stated in **Section 1.2** would not be met and the acquisition of critical ESA tortoise habitat would not occur.

CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1. Introduction

This chapter analyzes the potential environmental effects associated with the No Action Alternative and the Proposed Action. Resources identified as potentially impacted by the proposed Land Exchange are identified in the Checklist (**Appendix B**) and certain resource issues were carried forward for detailed analysis in this EA (**Table 1.3** and **Section 3.5.1–3.5.16**).

The BLM conducted field inventories and studies to support the analysis for resources on the Federal Parcel that may be affected by the proposed Land Exchange. The results of these efforts are presented in this section in support of the impact analysis.

No field surveys have been conducted on the Non-Federal Parcel as it is private property. No developments have been observed, and it is assumed that the property is similar to adjoining lands, as discussed in **Section 3.5** of this EA. Additional resource analyses, as described in **Section 3.5**, were based on remote observations. Upon this parcel becoming public property, on-site inventories would occur. A Phase 1 Environmental Site Assessment was completed in March 2022. The Phase I ESA identified no Recognized Environmental Conditions (REC's) and no Comprehensive Environmental Response, Compensation, and Liability Act 120(h) concerns were identified. Updated ESA's for the Federal and Non-Federal parcel will be completed within 90 days of closing, to ensure no new REC's are present. A Certificated of Inspection and Possession will be completed prior to land acquisition. Once the Non-Federal Parcel is acquired by the BLM, it would fall under the BLM's RMP direction (BLM 1999), the HCP (Washington County 2020), and applicable laws and regulations.

3.2. Analysis Assumptions

The analysis considers effects associated with land leaving federal ownership and the reasonably foreseeable changes in land use on the Federal Parcel once it is no longer subject to BLM management. Once it is acquired by the BLM, the Non-Federal Parcel would be managed by the BLM in accordance with the Red Cliffs NCA RMP (BLM 2016), as amended, and pursuant to the Congressionally identified purposes of the Red Cliffs NCA to “conserve, protect, and enhance... the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources” of the public lands for the benefit and enjoyment of present and future generations. In addition to its focus on how the proposed Land Exchange would impact resources present on the Federal Parcel, the EA also evaluates how the Land Exchange would impact the Non-Federal Parcel that would enter into BLM-management.

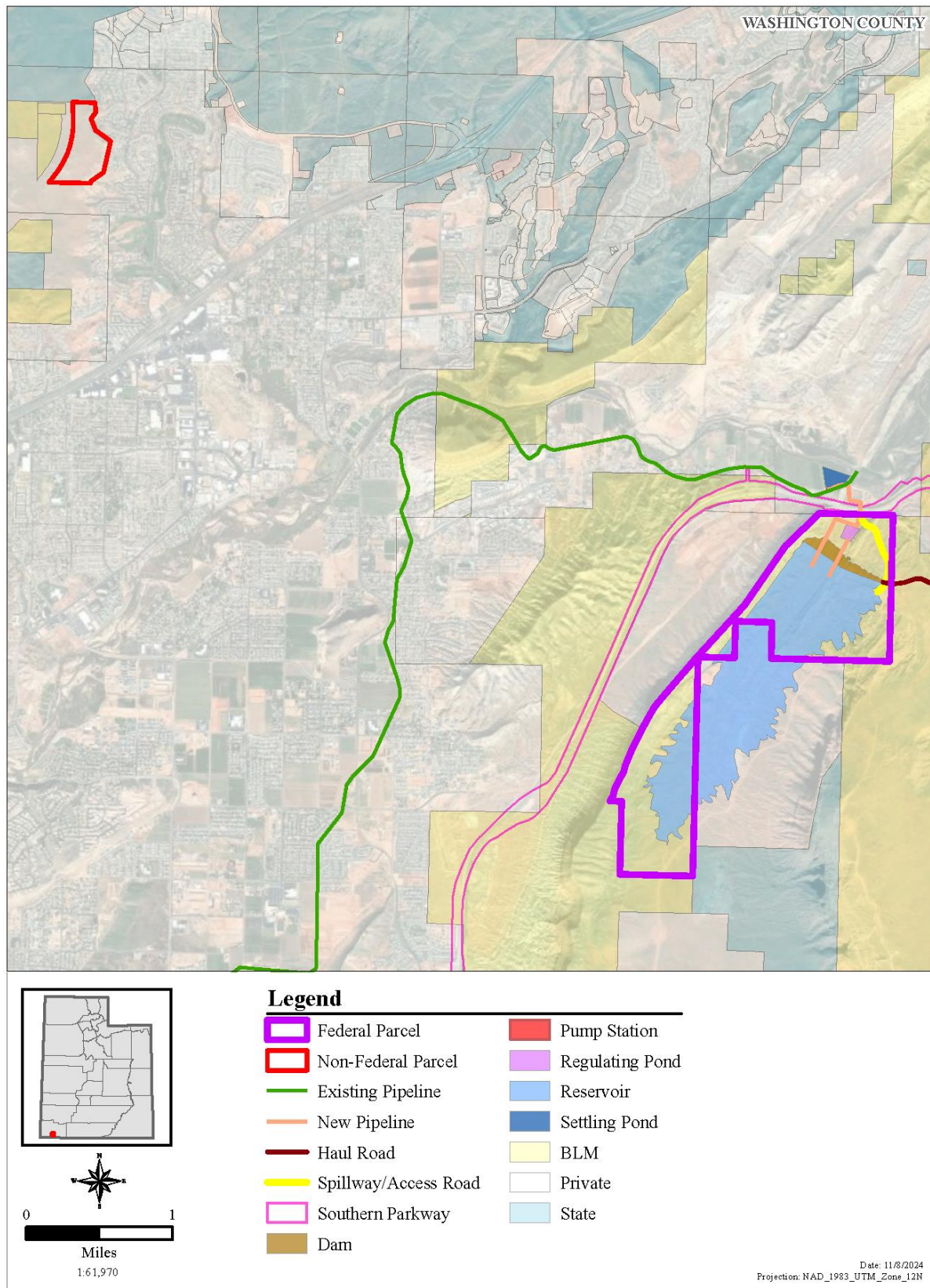
If the Land Exchange is approved and the Federal Parcel is transferred to Non-Federal ownership, it is assumed that some or all of the 929.14 acres would be developed at some point in the future. A reservoir (hereafter known as the Reservoir) located in Warner Valley is a component of the WCWCD's planned Regional Reuse Purification System. While the WCWCD has considered many reservoir designs over more than 50 years, the

EA analysis assumes a reservoir would be designed and constructed in this location based upon a 2015 Preliminary Plan of Development for Warner Valley Reservoir (WCWCD 2015). There are several technical and engineering challenges to be overcome before a reservoir could move forward. As a result of these challenges, the WCWCD does not have immediate plans for the Warner Valley area. However, with the County's dramatic growth and the possibility that the land would become unavailable due to development, the WCWCD wishes to acquire the land to protect its option for future generations.

At full capacity, the Reservoir is estimated to have a surface elevation of approximately 2,940 feet above mean sea level, surface area of 742 acres, and a capacity of 55,000 acre-feet. The Reservoir is anticipated to be an earthen and rock fill dam having a central clay core. The length of the dam is estimated to be approximately 3,300 feet, with a maximum dam height of approximately 235 feet. It is anticipated that Type 1 reuse water blended with high salinity water from the Virgin River (including agriculture supply water that has been converted to municipal and industrial uses) would be used to fill the Reservoir. Details on how the Virgin River water would get to the Reservoir are unknown. A ROW would be required for any pipelines crossing Public Lands. Virgin River water would be diverted into settling ponds near the Washington Dam Diversion to allow river sediment to settle and be removed. A pump station would pump the water from the settling ponds into the Reservoir. If the Reservoir were to be constructed through utilization of federal lands or federal funding, additional NEPA analysis would be required at that time if. Agricultural water supply that is converted to municipal and industrial use over time due to urban growth would also be stored in the Reservoir. The stored water would be used for secondary irrigation application. When water is needed to meet secondary irrigation demands, water would be released through an outlet pipe and regulation pond immediately north of the Reservoir into the secondary irrigation system.

Whereas the EA analysis is based on the reasonably foreseeable development of a reservoir in Warner Valley (in alignment with WCWCD's 2015 Preliminary Plan of Development for Warner Valley Reservoir (**Figure 3.1**) [WCWCD 2015], as previously indicated), impacts of the Reservoir and other Regional Reuse Purification System facility construction would continue to be evaluated in future permitting processes, as needed, based on WCWCD's specific plans at that time. Between the time that WCWCD would acquire the Federal Parcel and development plans for the parcel would reach maturity, it is possible that the reasonably foreseeable land use of the Parcel could change in ways that the BLM cannot currently predict. As a result, reasonably foreseeable development of a reservoir is the only future land use of the Federal Parcel considered in this analysis.

Figure 3.1. Project Area with Potential Reservoir



3.3. Present and Reasonably Foreseeable Future Trends and Actions Scenario

The present and reasonably foreseeable future trends and actions scenario (**Table 3.1**) identifies past, present, and reasonably foreseeable actions and trends within Warner Valley and Red Cliffs NCA areas (**Figure 3.1**) that could result in physical, biological, or social impacts that intersect with the impacts of future actions on the Federal and Non-Federal Parcels. The present and reasonably foreseeable future trends and actions scenario includes projects with an existing decision, a commitment of resources or funding, or a known proposal. Actions that are highly probable based on known trends (e.g., residential development in urban areas) are also considered. Reasonably foreseeable effects on specific resources that would result from the Land Exchange are discussed on an issue-by-issue basis in **Sections 3.5.1–3.5.16**.

Figure 3.2. Project Area Within National Conservation Area

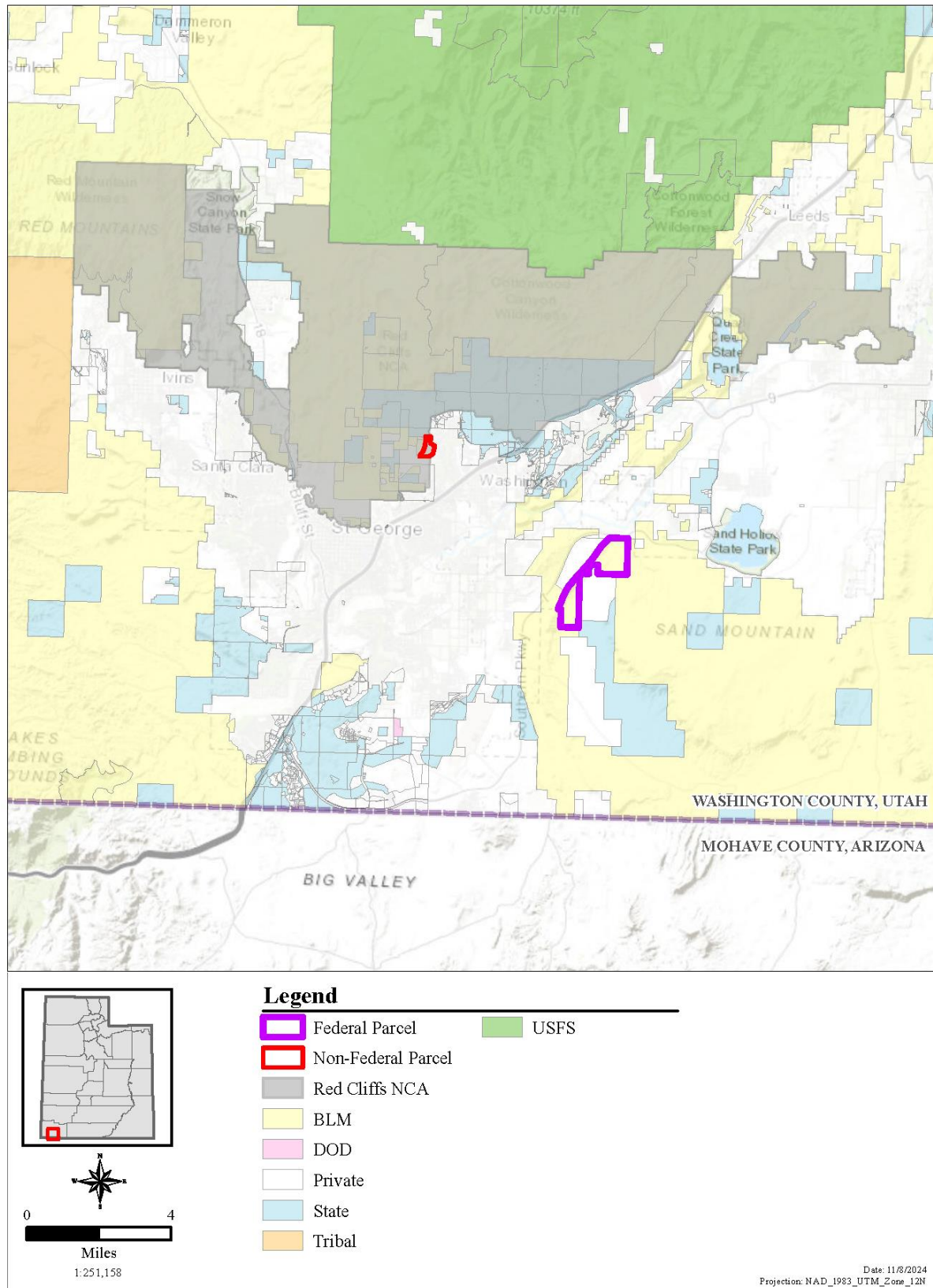


Table 3.1. Present and Reasonably Foreseeable Future Trends and Actions

Action or Trend	Summary	Location
Public Road, Route and Trail Development and Use	Public roads, routes and trails, including the Sand Hollow Pipeline Road and several unnamed roads, are open for use around the Federal Parcel and will continue to be maintained and periodically expanded over time. The proposed Northern Corridor highway abuts the Non-Federal Parcel.	BLM-managed land abutting the Federal Parcel and the Non-Federal Parcel.
Livestock Grazing	Four grazing allotments are active within and adjacent to the Federal Parcel.	Within and adjacent to the Federal Parcel (See Section 3.3.1.2).
Residential, Commercial, and Industrial Development	Population growth is anticipated to drive construction of residential, commercial, and industrial developments near the Federal Parcel. Development of the Non-Federal Parcel is not anticipated at this time, and if future development is proposed prior to acquisition, it would be required to follow HCP protocols and section 10 ESA requirements.	The City of Washington limits the northwest boundary of the Federal Parcel. The City of St. George is located within two miles to the west of the Federal Parcel.
Off-Road Vehicle Use	OHV use is designated and common in and around the Federal Parcel. The Sand Mountain Open OHV Area was established through the St. George RMP for open (off-trail) motorized use. As a result, recreational OHV travel is the predominant activity in the area, and that use is projected to increase in the foreseeable future.	Sand Mountain SRMA and Sand Mountain Open OHV Area (BLM 1999).
Other Recreational Use	Based on the visitation data collected by the BLM through vehicle trail counters between Fiscal Year (FY) 2016 and FY 2023, visitation to BLM-managed public lands increased 334 percent. The County is a major destination for recreation, and the demand and need for recreation and associated facilities is anticipated to increase in the foreseeable future.	Washington County.
Existing and Future Development of Critical Infrastructure	Population growth in the County is anticipated to continue. The County's population is expected to exceed 464,000 by 2060 (Gardner Policy Institute 2024b) Accompanying infrastructure will need to be	Washington County.

Action or Trend	Summary	Location
	constructed to meet this population increase.	

3.3.1. Public Road, Route, and Trail Development and Use

Several public roads, routes and trails have been constructed near the Federal Parcel shown in **Figure 3.3**. The Southern Parkway and Warner Valley Road are located immediately west and south of the Federal Parcel. A network of roads, including the Sand Hollow Pipeline Road, runs through the Federal Parcel. Typical roadway operations and maintenance will continue throughout the County. It is reasonable to assume that population growth will necessitate periodic expansion of existing roads and/or construction of additional roads in the foreseeable future. Use of existing and new roads can be expected to increase as the population increases and the economy expands. However, the County is not aware of any new roads planned in the immediate vicinity of the Federal Parcel at the present time. Construction of a reservoir on the Federal Parcel could increase the need for additional access to the site.

3.3.1.1. *Northern Corridor*

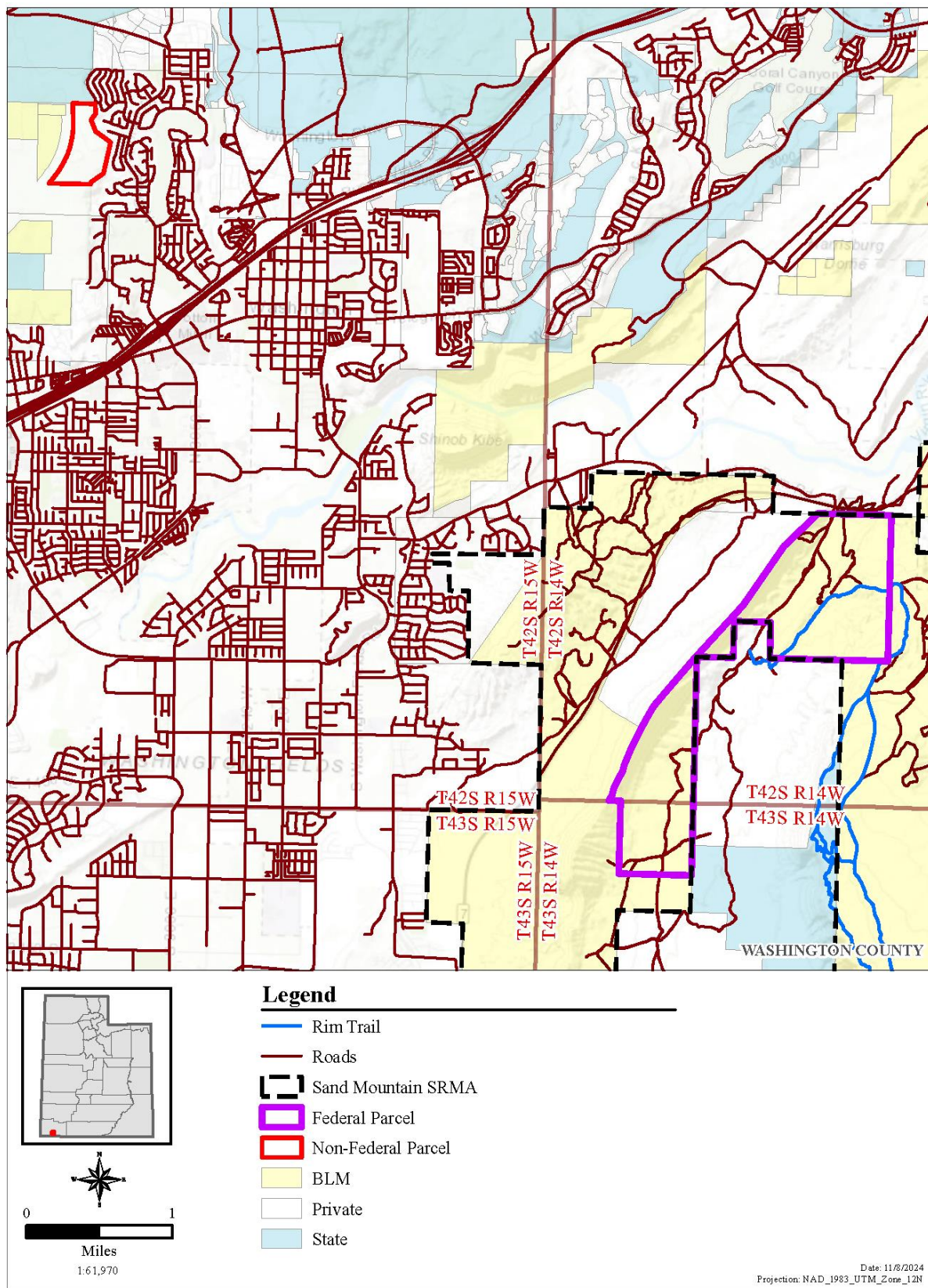
In 2018, the Utah Department of Transportation (UDOT) applied for a ROW grant for the Northern Corridor project north of the City of St. George, Utah, on BLM-managed and Non-Federal lands within the Red Cliffs NCA and Red Cliffs Desert Reserve (Reserve). Their original ROW for a 4.5-mile multi-lane divided highway that would abut the west side of the Non-Federal Parcel was granted and selected over five alternatives (**Table 3.2**) in January 2021. However, following a lawsuit, the United States District Court for the District of Columbia issued a voluntary remand for UDOT's ROW and instructed the BLM to prepare a Supplemental Environmental Impact Statement (SEIS). The SEIS supplements the EIS with additional information regarding (1) the increase of wildfires in the Mojave Desert; (2) the rise of noxious weeds and invasive species in post-burn areas; and (3) the impacts increased fire and noxious weeds, and invasive species have on the tortoise. To better inform the BLM's review of granting UDOT's ROW, the analysis also includes those resources that warrant reconsideration based on new information or changed conditions beyond what was presented in the Final EIS.

Table 3.2. Red Cliffs Desert Reserve Acres Impacted by Northern Corridor Alternatives

Alternative	Total ROW (acres)	ROW within Reserve (acres)	508-meter Buffer of ROW within Reserve (acres)
UDOT ROW Alignment	300	275	1,733
T-Bone Mesa Alignment	279	255	1,811
Southern Alignment	373	340	1,996
Red Hills Parkway Expressway	68	11	11

Alternative	Total ROW (acres)	ROW within Reserve (acres)	508-meter Buffer of ROW within Reserve (acres)
St. George Boulevard/100 South One-way Couplet	45	0	0
Terminate UDOT's ROW	0	0	0

Figure 3.3. Project Overview Map



3.3.1.2. Livestock Grazing

The Federal Parcel contains portions of four active grazing allotments, as shown below in **Table 3.3** and **Figure 3.4** Grazing Allotments Near Federal Parcel (BLM 2023). Livestock grazing within areas of the allotment outside of the Federal Parcel are anticipated to continue into the foreseeable future. Though numerous parcels of federal lands in the Washington County area have been identified for disposal (BLM 1999), there are no identified disposal actions being actively worked on at this time other than the proposed Land Exchange that is the subject of this EA.

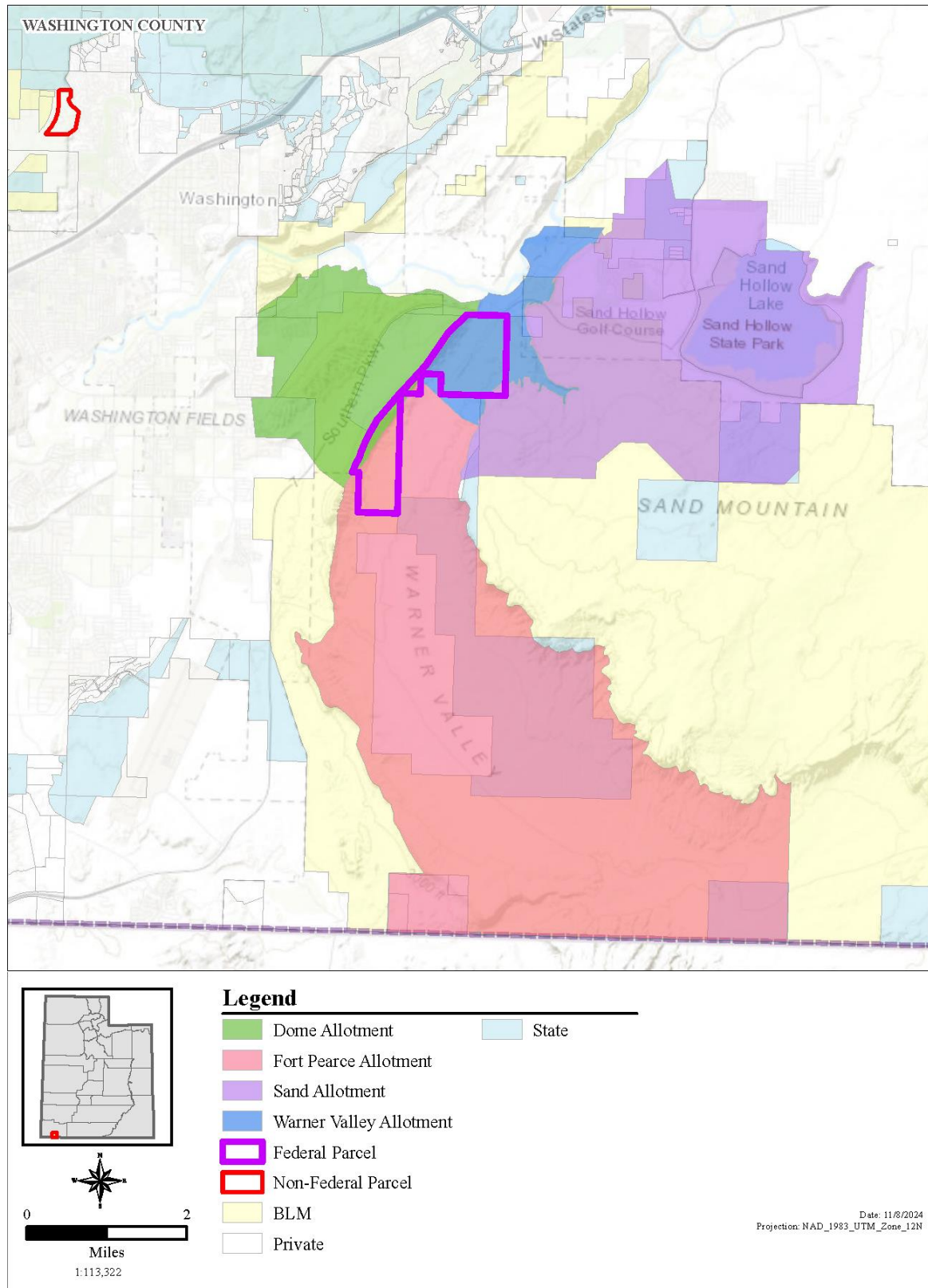
The four affected allotments managed by the BLM SGFO are single-permittee allotments. The total acreage and Animal Unit Months (AUMs) for the four allotments as well as the acreage and AUMs located within the Federal Parcel are shown in **Table 3.3**. Grazing Allotments Near Federal Parcel (BLM 2023).

Table 3.3. Grazing Allotments within Federal Parcel (BLM 2023)

Allotment Name	Acreage	Permitted AUMs	Acres within the Federal Parcel
Dome	2,046	142	108
Fort Pearce	6,921	513	286
Sand	3,206	162	14
Warner Valley	834	124	700

Source: <https://reports.blm.gov/report/ras/33/Allotment-Information>

Figure 3.4. Grazing Allotments



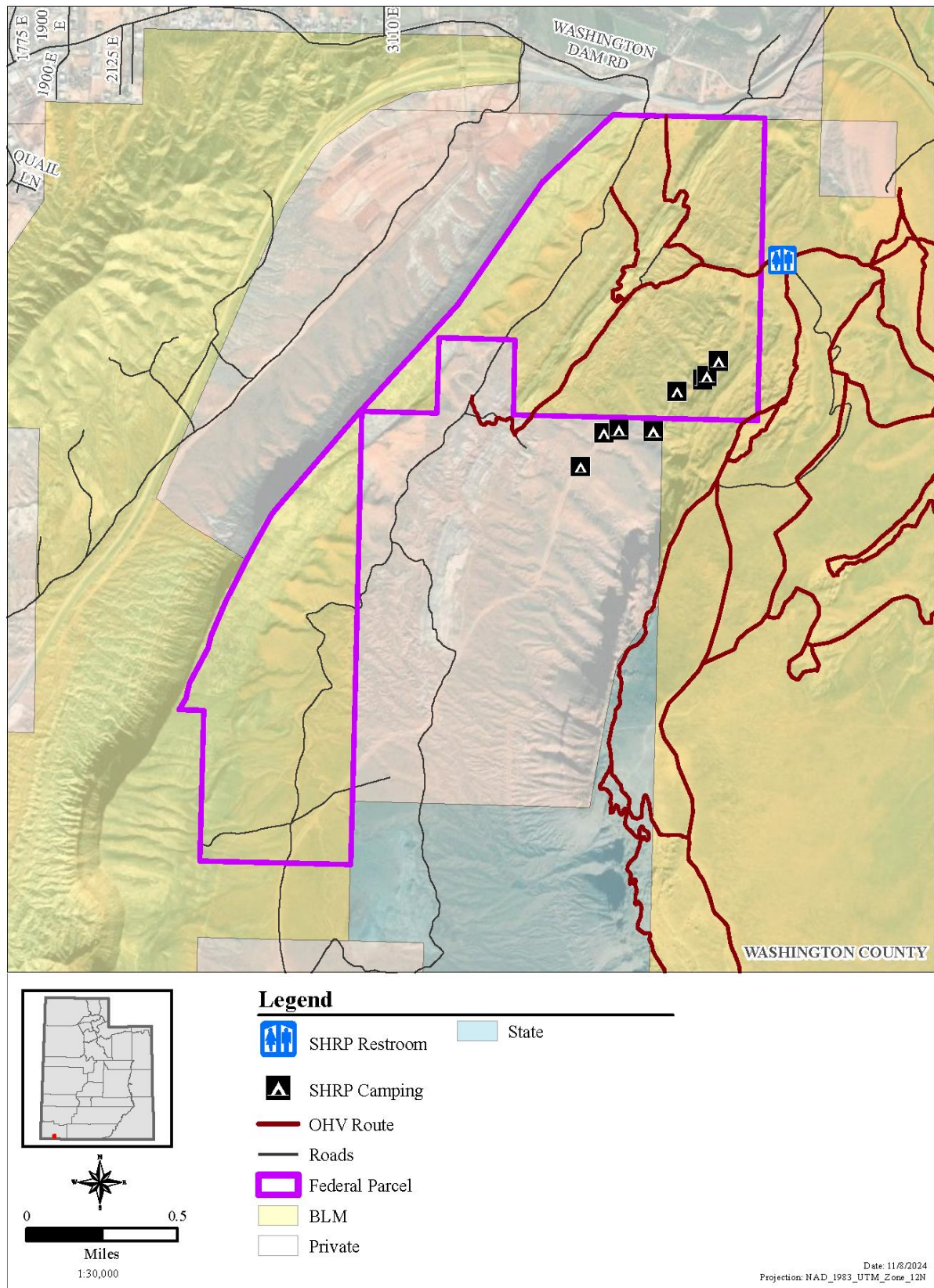
3.3.1.3. Residential, Commercial, and Industrial Development

Washington City abuts the west side of the Federal Parcel. Urban expansion is occurring in the area and is anticipated to continue at an accelerated rate into the foreseeable future. The estimated population of Washington City in 2023 is 36,237 (World Population Review 2023). By 2029, the World Population Review (2023) estimates that the Washington City population will be approximately 57,686 (an approximately 59 percent increase). Urban expansion is also occurring in Hurricane City, located approximately eight miles northeast of the Federal Parcel. Hurricane City's 2023 population was estimated at 25,555, and it is estimated to be approximately 41,118 by 2029 (an approximately 61 percent increase) (World Population Review 2023).

3.3.1.4. Off-Road Vehicle Use

The Federal Parcel is located entirely within the Sand Mountain SRMA and partially within the Sand Mountain Open OHV area. The Federal Parcel includes OHV trails, undeveloped staging, and dispersed camping areas. OHV use levels in the area are high, and BLM-permitted events are common. In 2017, Arizona State University conducted a survey on the economic impact of OHV recreation in Utah both by retained and out-of-state visitors. A retained visitor is defined as a local visitor who would have traveled elsewhere had OHV trails not been available. One finding of the study calculated the leverage ratio as 1:184, meaning that for every dollar invested in OHV recreation, approximately \$184 are generated in income (Chhabra 2018). While exact dollar figures for the Warner Valley area are not known, OHV use is a substantial source of economic revenue for Washington County.

Figure 3.5. Federal Parcel Infrastructure



Population growth has resulted in increased motorized recreation use of the federal lands in and around the project area. The Sand Mountain OHV trail system is located within and adjacent to the Federal Parcel. Trail usage on the Sand Mountain Trail System, as determined by SGFO traffic counters, increased from 551,275 in FY 2022 to 718,277 visitors in FY 2023. Visitation Data is collected from a network of vehicular traffic counters located both within the parcel, and on other BLM-managed land immediately adjacent to the parcel. Waddy's Corral (DOI-BLM-UT-C030-2021-0027-EA) was constructed within the SRMA to accommodate increased parking. Based on BLM tracking numbers and Washington County's projected growth as described above, OHV use in the area surrounding the Federal Parcel is expected to increase in the reasonably foreseeable future based on trends described above and on data from the following traffic counters at Sand Mountain: Warner Valley West, Warner Valley East, Sand Mountain Tunnel, Waddy's Corral Long Valley, and Pipeline Road.

Recreational use around the Non-Federal Parcel is limited to non-motorized activities on designated trails, and no designated trails are located on the Non-Federal Parcel.

3.3.1.5. Other Recreational Use

Sand Hollow is less than three miles east of the Federal Parcel, and Quail Creek is approximately 6.3 miles northeast of the Federal Parcel. The latest visitation figures show 1,333,838 annual visitors to Sand Hollow State Park and 335,064 annual visitors for Quail Creek (State of Utah 2023). The Long Valley Recreation Area is located below the west rim of the Sand Hollow OHV area less than two miles from the Federal Parcel. It is an undeveloped camping area with easy access to the Sand Mountain OHV trails.

3.3.1.6. Existing and Future Development of Critical Infrastructure

Washington County's population is projected to exceed 464,000 by 2060 (Gardner Policy Institute 2024b) and will require the infrastructure to support the expanding population and economy. Several major projects have been completed in recent years to accommodate this growth, and several major new projects are planned. Planned projects include the Regional Reuse Purification System, a water infrastructure network to capture and reuse existing water supplies in Washington County. Additionally, the Lake Powell Pipeline has been proposed and would end at the Sand Hollow Reservoir. If constructed, the proposed Lake Powell Pipeline would abut the east side of the Federal Parcel. The Sand Hollow Regional Pipeline has recently been completed, and the access road runs through the Federal Parcel. It can be assumed that additional roads, power lines, and other necessary infrastructure will be constructed near the Federal Parcel to meet the needs of the increasing population.

The BLM received a complete application from PacifiCorp on August 12, 2024, for the construction and operation of a 69-kilovolt powerline and ancillary facilities within the NCA to link together the St. George Substation and Middleton Substation. A decision to authorize the ROW was signed in November 2024. The ROW will be 1,000 feet in length and 50 feet in width, disturbing a total of 1.15 acres within the NCA. The ROW will be constructed on previously disturbed land within the NCA. The ROW will be located on BLM-administered lands within the NCA. Six proposed power pole structures will be sited

on the east side of Cottonwood Springs Road. PacifiCorp is required to stay within their new 50-foot-wide ROW corridor and to comply with the Utility Development Protocols for ROWs within the Red Cliffs Desert Reserve.

3.3.1.7. Other Land Exchanges

The Red Cliff Desert Reserve/Long Valley Land Exchange was completed in 2016. The Federal Parcel that was exchanged abuts to the northwest of the Federal Parcel being analyzed in this EA. This land exchange resulted in 605 acres of federal land being conveyed to private ownership, which is currently being developed and may eventually be annexed into Washington City.

The Dingell Act – Emery County Land Exchange (DOI-BLM-UT-0000-2022-0003-EA) was completed on February 22, 2025. As part of this land exchange, the BLM acquire approximately 116,042.16 acres of Non-Federal lands (TLA managed lands) in exchange for 89,390.01 acres of Federal lands (Managed by BLM) throughout the state of Utah. As part of this exchange, a 92.5-acre TLA parcel located within the Red Cliffs NCA administrative boundary in Washington County, Utah was acquired by BLM. This land exchange resulted in the acquisition of 92.5 acres to the Red Cliffs NCA as part of value equalization purposes as required in P.L. 116-9 Section 1255(f)(2). The BLM will continue to explore acquisition of the remaining acres of private inholding within the NCA using the full range of acquisition tools available.

3.4. No Action Alternative Analysis for Federal and Non-Federal Parcels

3.4.1. Federal Parcel

Under the No Action Alternative, the Land Exchange would not take place, and the 929.14-acre Federal Parcel would continue to be managed by the BLM in accordance with the 1999 BLM SGFO RMP. The parcel would remain as Mojave Desert scrub habitat and be subject to the BLM's multiple-use land management mission. Allowable uses on the Federal Parcel include access to roads and trails, ROWs, outdoor recreational pursuits (OHV use, camping, recreational shooting, hiking, and biking), and livestock grazing. Recreational use in the County would be expected to increase in a manner consistent with current trends as described in **Section 3.5.3**. Allowable uses and management challenges, including recreation, off-road travel, road proliferation, urban growth, and human encroachment, would continue (BLM 1999). No impacts would occur beyond what is already occurring through allowable uses and BLM management on the Federal Parcel (**Table 3.4**) The continuation of allowable uses, as described above, are currently impacting or have the potential to further disturb the resource values as described in Section 3.5 of this EA.

Additionally, under the No Action Alternative for the Federal Parcel, the Reservoir would not be constructed as a reasonably foreseeable land use. Any impacts associated with the construction of the 742-acre Reservoir would not occur on the Federal Parcel. These impacts are described in detail in **Section 3.5** of this EA. While the WCWCD could apply for a ROW or Recreation & Public Purposes permit for Warner Valley Reservoir, this EA is limited to analysis of the Land Exchange.

3.4.2. Non-Federal Parcel

Under the No Action Alternative, the Land Exchange would not occur, and the 89.43-acre Non-Federal Parcel would remain in private ownership within the Reserve. The Parcel is not currently used for public recreation, access, or livestock grazing as it remains in private ownership. Although no plans for development of this Parcel are known, the potential for development would be higher than if it were obtained and managed by the BLM. If the Non-Federal Parcel were to be developed, the private landowner would need to withdraw their land from the Reserve and create a new HCP under Section 10 of the ESA to mitigate for impacts to the tortoise. Alternatively, the Parcel would be restricted from development under the existing HCP that covers all land in the Reserve. No impacts would occur beyond what is already occurring through land uses by the private landowner (**Table 3.4**).

Additionally, under the No Action Alternative, the BLM would be unable to manage the Non-Federal Parcel consistent with the rest of the NCA and Reserve and for the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources for the benefit and enjoyment of present and future generations.

Table 3.4. No Action Alternative for Federal and Non-Federal Parcels

Resource and Issue Number	Federal Parcel No Action Impacts	Non-Federal Parcel No Action Impacts
Issue 1. NCA Resources <i>How would the Land Exchange affect the values for which the Reserve was established and the NCA designated by Congress?</i>	NCA resources would not be impacted by the No Action Alternative as the Federal Parcel is not in the NCA and is not subject to management decisions in the NCA RMP (BLM 2016).	NCA resources would be impacted by the No Action Alternative as the Non-Federal Parcel is within the Reserve but is not subject to management decisions in the NCA RMP (BLM 2016) because it is private surface.
Issue 2. Threatened, Endangered, or Candidate Animal Species <i>How would the proposed Land Exchange and reasonably foreseeable land uses affect the tortoise and its habitat? How would the reasonably foreseeable construction of a</i>	Threatened and Endangered Animal Species (T&E) habitat loss, mortality, and displacement have the potential to occur on the Federal Parcel due to allowable uses and management challenges. No adverse effects of tortoise habitat loss, mortality, and displacement would occur beyond what is currently occurring within the Federal Parcel due to OHV use, recreational target shooting, and livestock grazing.	No impacts would occur beyond what is already occurring through land uses by the private landowner. Impacts that are occurring on the Non-Federal parcel would continue but are largely unknown due to the Non-Federal Parcel being in private ownership. T&E Animals would also continue to be protected under the ESA Section 10. Under the ESA Section 10, private citizens who want to develop property containing listed

Resource and Issue Number	Federal Parcel No Action Impacts	Non-Federal Parcel No Action Impacts
<i>reservoir affect Southwestern willow flycatcher and Western yellow-billed cuckoo?</i>	T&E Animal habitat would continue to be managed under the current federal regulations, laws and policies, such as the ESA.	species, may receive an incidental take permit provided they have developed an approved HCP.
Issue 3. Recreation <i>How would the Land Exchange and reasonably foreseeable land uses impact recreational uses of the Federal Parcel and the Non-Federal Parcel?</i>	Recreational uses and trends would continue to increase within the County and the Federal Parcel, as described in the Affected Environment in Section 3.5.3 . Access to recreational opportunities would not change; however, recreational use is expected to increase in alignment with current trends.	Recreational uses on the Non-Federal Parcel are mostly unknown due to the parcel being in private ownership. Under the No Action Alternative, the uses that are occurring on this private land would continue. No public recreation occurs on the Non-Federal parcel.
Issue 4. Water Resources <i>How would the Land Exchange and reasonably foreseeable land uses impact water resources in the County?</i>	<u>Groundwater Resources</u> Groundwater resources would be subject to any influences from Sand Hollow Reservoir operations and its associated wells, and other wells to the west and south of the Parcel. Any development of groundwater within the Federal Parcel would require a ROW and additional NEPA analysis. <u>Surface Water Resources</u> Surface water resources within and near the Federal Parcel (i.e., Virgin River) would continue to be affected by current allowable uses (i.e., recreation, livestock grazing, water withdrawals). There are no other effects anticipated to surface water resources because all surface water resources are already allocated. <u>Riparian & Wetlands</u> Riparian and Wetland resources within and near the Federal Parcel would continue to be affected by current allowable uses. There are no other effects anticipated to	<u>Groundwater Resources</u> If the Parcel were developed, groundwater percolation rates for the Non-Federal Parcel would decrease, but it would not likely impact regional groundwater levels within the Navajo Sandstone to a measurable degree. <u>Surface Water Resources</u> Under the No Action Alternative, surface water resources would not be impacted to a measurable degree because they do not currently exist on this Parcel. If the Parcel is developed, runoff would likely increase as a result of the increase of impermeable surfaces, but it would not be to a measurable degree that would impact the Virgin River because the Parcel contributes much less than 0.01% of the HUC 10 Gould Wash – Virgin River total drainage area. <u>Riparian & Wetlands</u>

Resource and Issue Number	Federal Parcel No Action Impacts	Non-Federal Parcel No Action Impacts
	these resources as a result of the No Action Alternative.	There are no anticipated impacts to Riparian and Wetland resources under the No Action Alternative because they are not present on the Parcel, and nearby resources are privately owned.
Issue 5. Livestock Grazing <i>How would the Land Exchange and its reasonably foreseeable future land uses impact the Warner Valley, Fort Pearce, Dome, and Sand livestock grazing allotments?</i>	No changes in management of the four authorized grazing allotments on the Federal Parcel would occur. The number of available AUMs and management would continue as authorized by the BLM. Grazing on BLM lands would continue to have an emphasis on sustainability, as described in the Affected Environment in Section 3.5.5, and would only take place from October 21 to May 15.	Livestock grazing does not currently occur on the Non-Federal Parcel. The private landowner could allow grazing to occur, but this is not anticipated. Impacts associated with livestock grazing would not occur on the Non-Federal Parcel.
Issue 6. Lands/Access <i>How would the Land Exchange and its reasonably foreseeable land uses affect public access to the Federal and Non-Federal Parcels?</i>	No change in access from existing transportation routes, such as the Southern Parkway and Warner Valley Road, would occur. Within the Federal Parcel, use of the Pecan and Sand Hollow Roads for OHV-related and other uses would continue (as described in Section 3.5.6). OHV use in the area, including sanctioned events, would continue to be high (as described Section 3.5.3). Access to and use of designated OHV trails, informal staging, and dispersed camping would continue. Access to grazing allotments would continue as authorized (as described in Section 3.5.5). Implementation of the No Action Alternative would not prevent the Federal Parcel from being considered for disposal in future land tenure adjustments (such as sales or exchanges), subject to	There is a 60-foot easement on the Non-Federal Parcel that would be used only for access purposes. Access to the Non-Federal Parcel is currently limited to foot traffic as there are no roads or trails present, and it is not anticipated that the Non-Federal Parcel would experience any changes in access conditions or land use. However, access would remain under the discretion of the private landowner.

Resource and Issue Number	Federal Parcel No Action Impacts	Non-Federal Parcel No Action Impacts
	subsequent site-specific NEPA review and authorization. Any changes in access or land use would need to be analyzed when any future disposal proposals occur.	
Issue 7. Cultural Resources <i>How would the Land Exchange and reasonably foreseeable land uses affect cultural resources on the Federal and Non-Federal Parcels?</i>	The No Action alternative would result in a continued degradation of cultural resources within the SRMA as described in the Affected Environment in Section 3.5.7. Nine eligible historic properties and all other cultural resources located within the Federal Parcel are being impacted by permitted uses and management challenges. Surface features and evidence of these sites are eroding away and are deteriorating due to recreational activities, livestock use, and theft of artifacts. Cultural resources would continue to be managed under the current federal regulations, laws and policies, such as the NHPA.	If the Parcels were developed, and depending upon the nature of the project, cultural resources could be adversely affected. If projects are privately funded and avoid any federal or state permitting, protections for cultural resources would not be in place, and these projects could have an adverse impact to cultural resources. If future projects have a federal or state funding nexus, they would be required to adhere to applicable environmental laws, rules, and regulations related to the protection of cultural resources.
Issue 8. Paleontology <i>How would the proposed Land Exchange and reasonably foreseeable land uses affect the paleontological resources that occur within the Federal Parcel?</i>	There would be no changes to how paleontological resources are being managed on the Federal Parcel. Qualified and permitted paleontological researchers would have continued access to conduct research on fossils within the Federal Parcel. The resource would continue to be managed subject to the Paleontological Resources Preservation Act of 2009 and the BLM's paleontological management rules and regulations (43 CFR § Part 49).	If the Parcel were developed, and depending upon the nature of the project, paleontological resources could be adversely affected. Private landowners are not required to follow the Paleontological Resources Preservation Act of 2009 or the BLM's paleontological management rules and regulations (43 CFR § Part 49). On private land, paleontological resources are the property of the private landowner.

Resource and Issue Number	Federal Parcel No Action Impacts	Non-Federal Parcel No Action Impacts
Issue 9. ACEC <i>How would the Land Exchange impact the resource values of the Warner Ridge/Fort Pearce ACEC?</i>	The BLM would continue to implement the existing management goals for the Warner Ridge/Fort Pearce ACEC, as identified in the 1999 SGFO RMP (BLM 1999) and as described in the Affected Environment in Section 3.5.9. The ACEC would continue to be managed according to the values for which it was designated. Land use authorizations such as ROWs or leases that would not affect the Warner Ridge/Fort Pearce ACEC's values would continue to be considered for approval by the BLM (BLM 1999).	The Warner Ridge/Fort Pearce ACEC would not be impacted by the No Action Alternative because the Non-Federal Parcel is private property and is not subject to federal management decisions. As such, there is no designated ACEC on the Non-Federal Parcel.
Issue 10. Socioeconomics <i>How would the Land Exchange and reasonably foreseeable land uses impact social and economic values and conditions in the County?</i>	The area would remain open to federal management of a wide array of recreation opportunities, desert tortoise habitat, and livestock grazing. The County would continue to receive PILT funds on the 929.14 acres administered by the BLM.	No impacts would occur beyond what is already occurring through land uses by the private landowner. Those uses are mostly unknown due to the parcel being in private ownership.
Issue 11. Fish & Wildlife and Vegetation Excluding USFWS-Designated Species <i>How would the Land Exchange and reasonably foreseeable land uses affect fish, wildlife, and plant species, including BLM sensitive species, and their habitat?</i>	No adverse effects of habitat loss, mortality, and displacement would occur beyond what is currently occurring within the Federal Parcel, as described in the Affected Environment in Section 3.5.12, due to allowable uses and management challenges (i.e. OHV use, camping, recreational target shooting, and livestock grazing). BLM-sensitive species habitat would continue to be managed under the current regulations, laws and policies (such as BLM Manual 6840—Special-Status Species Management) for sensitive species within the Federal Parcel.	No impacts would occur beyond what is already occurring through land uses by the private landowner. Impacts that are occurring on the Non-Federal parcel would continue but are largely unknown due to the Non-Federal Parcel being in private ownership. Private landowners are not required to follow the BLM's management policies pertaining to sensitive species (BLM Manual 6840).

Resource and Issue Number	Federal Parcel No Action Impacts	Non-Federal Parcel No Action Impacts
Issue 12. Threatened, Endangered, or Candidate Plant Species <i>How would the Land Exchange and reasonably foreseeable land uses affect modeled suitable habitat for dwarf bear poppy, Shivwits milkvetch, and Siler's pincushion cactus?</i>	T&E habitat loss, mortality, and displacement have the potential to occur on the Federal Parcel due to allowable uses and management challenges as described in the Affected Environment in Section 3.5.13. No adverse effects of T&E plant habitat loss, mortality, and displacement would occur beyond what is currently occurring within the Federal Parcel due to OHV use, recreational target shooting, and livestock grazing because while habitat is available, no T&E plant species are found within the Federal Parcel. T&E plants habitat would continue to be managed under the current federal regulations, laws and policies, such as the ESA.	Impacts that are already occurring on the Non-Federal Parcel would continue but are largely unknown due to the Non-Federal Parcel being in private ownership. There are no protections for T&E listed plants on private land.
Issue 13. Migratory Birds <i>How would the Land Exchange and reasonably foreseeable land uses affect migratory birds and their habitat?</i>	The ongoing presence of livestock grazing and recreation on the Federal Parcel may result in inadvertent impacts to migratory birds, including disturbances during nesting periods. While these activities could affect nesting birds, the conservation of species over the long-term is expected to continue, as described in the Affected Environment in Section 3.5.14, on federal lands. The Federal Parcel would continue to be managed as directed by the 1999 BLM SGFO RMP (BLM 1999) and managed under the current federal regulations, laws and policies, such as the Migratory Bird Treaty Act of 1918.	If the Parcel were developed, and depending upon the nature of the project, migratory bird habitat could be jeopardized or irreparably affected. Migratory birds would also continue to be protected under the MBTA (MBTA 1918) on private land.

Resource and Issue Number	Federal Parcel No Action Impacts	Non-Federal Parcel No Action Impacts
Issue 14. Invasive Species/ Noxious Weeds <i>How would the Land Exchange and reasonably foreseeable land uses affect the introduction and spread of invasive species on the Federal and Non-Federal Parcels?</i>	Activities within Sand Mountain OHV area, livestock grazing, and current invasive species management practices would continue as described in the Affected Environment in Section 3.5.15. While motorized recreation and camping would continue to increase and potentially contribute to the introduction and spread of noxious and invasive weeds, the potential introduction and spread of noxious and invasive weeds would not change from current trends.	Impacts that are occurring on the Non-Federal parcel would continue but existing weed conditions are unknown due to the parcel being in private ownership.
Issue 15. Visual Resources <i>How would the Land Exchange and reasonably foreseeable future land uses impact the visual resources of the Federal and Non-Federal Parcels?</i>	The Federal Parcel would continue to be managed for multiple uses including OHV driving, camping, sightseeing, and permitted events. As the use of this Parcel is not expected to deviate from what is currently seen, there would be no impacts to Visual Resources under the No Action Alternative.	The protections to visual resources provided by BLM ownership and inclusion in the NCA would not be provided. Impacts on Visual Resources could occur should the Non-Federal Parcel be developed.

3.5. Issue Analysis

3.5.1. Issue 1. How would the Land Exchange affect the values for which the Reserve was established and the NCA designated by Congress?

The spatial scope of analysis associated with this issue is the private and BLM-managed lands within the administrative boundary of the Red Cliffs NCA and Reserve. This analysis area was chosen because it includes the Non-Federal Parcel and adjacent private and public lands within the NCA and contains contiguous designated tortoise critical habitat and other resource values relevant to the NCA.

This section does not contain any discussion or analysis associated with the Federal Parcel because there are no NCA-related issues associated with the Federal Parcel. Neither retention of the Federal Parcel under BLM management nor transfer of ownership of the Federal Parcel to a Non-Federal entity would have any impact on the resources and values of the NCA because the Federal Parcel falls outside its administrative boundaries. The boundary of the Federal Parcel closest to the Red Cliffs NCA is 4.1 miles south of the NCA.

The analyses of Vegetation and Wildlife (**Section 3.5.2**), T&E Species including Plants (**3.5.12**) and Animals (**3.5.2**), Migratory Birds (**3.5.14**), and Cultural resources (**Section 3.5.7**) are related to resources that are relevant to the values for which the NCA was established.

3.5.1.1. Affected Environment

As described in Section 1.1 of this EA, in 1996 the approximately 62,000-acre multi-jurisdictional Red Cliffs Desert Reserve was created to protect populations and habitat of the threatened tortoise and other at-risk native plant and animal species. The Red Cliffs Desert Reserve is managed collaboratively by the BLM, the State of Utah, Washington County, and local municipalities (Washington County 1995).

In 2009, Congress designated approximately 45,000 acres of BLM-managed public lands in Washington County as the Red Cliffs NCA (within the Red Cliffs Desert Reserve), through the Omnibus Public Land Management Act of 2009 (OPLMA; Public Law 111-11 at Title 1, Subtitle O, Section 1974, 16 U.S.C. § 7202). The BLM was directed by Congress to manage the Red Cliffs NCA to: "... conserve, protect, and enhance for the benefit and enjoyment of present and future generations the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources of the National Conservation Area; and to protect each species that is located in the National Conservation Area; and listed as a threatened or endangered species on the list of threatened species or the list of endangered species published under section 4(c)(1) of the Endangered Species Act of 1973 (16 U.S.C § 1533(c)(1))" (OPLMA Section 1974 (a)).

The Red Cliffs NCA is managed under the Red Cliffs NCA ROD and Approved RMP (BLM 2016a, as amended). The Red Cliffs NCA RMP implements the OPLMA and identifies the mission for the BLM management of the Red Cliffs NCA "to conserve and protect the ecological, geological, cultural, and biological resources of the public lands; to assist the recovery and delisting of Federal and State-listed species; to restore native species habitats and populations; to sustain functional ecosystems that support species' resilience to climate change; and to enhance opportunities for scientific research, environmental education, sustainable recreational uses, and citizen stewardship of public lands." Land use planning goals, objectives, and management decisions in the Red Cliffs NCA RMP are consistent with the designation purposes, authorized uses, and other direction in OPLMA that relates to this NCA.

As stated in **Section 1.1** the *Implementation Agreement for the Washington County Habitat Conservation Plan* (Washington County 1996, 2021) documents the commitment by BLM to acquire available state and private lands as they are made available to consolidate federal lands and administration of designated critical tortoise habitat within the Reserve. Since 2009, BLM has acquired approximately 1,000 acres of private land through land exchanges and direct purchases from willing sellers, which has increased the size of the BLM-managed public lands within the NCA and Reserve to approximately 46,000 acres.

Located in south-central Washington County, the Red Cliffs NCA is a colorful mosaic of sandstone, sand dunes, lava flows, and mesas at the base of the Pine Valley Mountains.

Substantial areas of the Red Cliffs NCA are a wildland-urban interface, as its public lands abut urban and suburban developments, including the community of Green Springs located east of the Non-Federal Parcel (see **Figure 1.3**).

The Red Cliffs NCA is located at the convergence of three major ecoregions: the Mojave Desert, Colorado Plateau, and Great Basin. This convergence is responsible for the geological complexity of its landscape and its rich biodiversity. The reader is referred to the *Resource Management Plan for the Beaver Dam Wash National Conservation Area, the Red Cliffs National Conservation Area, and a Draft Resource Management Plan Amendment for the St. George Field Office* (BLM 2015), for additional information about the resource values of the Red Cliffs NCA.

3.5.1.2. Environmental Effects—Proposed Action

Federal Parcel

Refer to the text preceding the affected environment for an explanation concerning the Federal Parcel.

Non-Federal Parcel

Under the Proposed Action, the 89.43-acre Non-Federal Parcel would be acquired and managed by the BLM in accordance with relevant federal laws, including OPLMA, which designated the Red Cliffs NCA, implementing federal regulations, and agency policies. This 89.43-acre acquisition would increase the total acreage of the Red Cliffs NCA subject to BLM management by 0.2 percent to a total of approximately 46,090 acres. Management goals, objectives, and decisions would further the congressionally defined purpose of resource conservation and protection for the NCA, including the protection of all species listed under the authority of the ESA (BLM 2016a, as amended).

Acquisition of the Non-Federal Parcel by the BLM would help to consolidate the land base under BLM management, including designated critical habitat for the tortoise, as well as other resources and resource values. This would have an entirely beneficial effect, as the habitat and other resources on the Parcel would be managed for conservation, protection, and restoration. With respect to tortoises in particular, this management would assist in the recovery and delisting of the tortoise as part of the Red Cliffs NCA. This management would be a beneficial, long-term effect of the Proposed Action for all resources present on the Parcel. Acquisition of the Non-Federal Parcel would allow for BLM-driven management practices to be undertaken on the Parcel that are consistent with the defined purposes of resource conservation and protection for the NCA.

3.5.1.3. Reasonably Foreseeable Effects

Past and reasonably foreseeable future actions in the Red Cliffs NCA and Reserve include limited construction of roads, trails, fences, powerlines, pipelines, and water storage facilities on both public and private lands. The most substantial of these reasonably foreseeable future actions is the construction and use of the proposed Northern Corridor highway. This multi-lane divided highway would be located immediately adjacent to the west side of the Non-Federal Parcel. If the Northern Corridor highway is built, the Non-Federal Parcel may experience a reduction in wildlife habitat quality due to fragmentation

and isolation from the remainder of the habitat located within the Red Cliffs NCA and Reserve. The Northern Corridor would disturb from 0-373 physical acres for the ROW (depending on the alternative selected), and from 0-1,996 buffered acres for wildlife avoidance (508-meter buffer). See the Present and Reasonably Foreseeable Future Trends and Actions Scenario (**Section 3.3**) of this EA for more information about the effects to the NCA.

3.5.2. Issue 2: How would the proposed Land Exchange and reasonably foreseeable land uses affect the Mojave desert tortoise and its habitat? How would the reasonably foreseeable construction of a reservoir affect Southwestern willow flycatcher and Western yellow-billed cuckoo?

The spatial scope of the analysis associated with this issue is the Sonora-Mojave Creosotebush-White Bursage Desert Scrub, Mojave Mid Elevation Mixed Desert Scrub, Sonora Mojave Mixed Salt Desert Scrub, North American Warm Desert Wash, North American Warm Desert Bedrock Cliff and Outcrop vegetation communities in Washington County. This is the spatial scope of analysis because it is the dominant vegetation community on the Federal and Non-Federal Parcels that supports local wildlife listed as threatened, endangered, or as a candidate species under the ESA.

3.5.2.1. *Affected Environment*

Washington County, Utah is comprised of the vegetation community types described in **Table 3.5**. These vegetation communities provide habitat for the T&E species listed in **Table 3.6**. Vegetation composition within both parcels consists largely of Sonora-Mojave Creosotebush-White Bursage Desert Scrub, which is characterized by broad valleys, lower bajadas, and low hills within the Mojave and Sonoran deserts (NatureServe 2024). Typical plant species representative within this habitat type includes creosotebush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*), which are evident throughout both the Federal Parcel and the Non-Federal Parcel. A wide variety of desert-adapted wildlife and bird species utilize this type of scrub habitat as forage, breeding, and dispersal habitat. Another ecosystem type found in both the Federal Parcel and the Non-Federal Parcel is the North American Warm Desert Bedrock Cliff and Outcrop. This ecosystem is typically comprised of exposed sandstone and granite where sparse vegetation and lichen conglomerates grow in exposed rock surfaces, shallow soil deposits and cracks (NatureServe 2024). Predominant plant species that are likely to grow here include specialized herbaceous annual plant species such as blazingstars (*Mentzelia* spp.) and buckwheats (*Eriogonum* spp.), some cacti species in the *Cochemia* (fishhook), *Echinocereus* (hedgehog) and *Opuntia* (pricklypear) genera. For complete list of ecosystem types and acreages found in both Parcels, refer to **Table 3.16**.

Table 3.5. Vegetation Community Types

CODE	Vegetation Type
S006	Rocky Mountain Cliff and Canyon
S009	Inter-Mountain Basins Cliff and Canyon
S010	Colorado Plateau Mixed Bedrock Canyon and Tableland

CODE	Vegetation Type
S011	Inter-Mountain Basins Shale Badland
S012	Inter-Mountain Basins Active and Stabilized Dune
S013	Inter-Mountain Basins Volcanic Rock and Cinder Land
S015	Inter-Mountain Basins Playa
S016	North American Warm Desert Bedrock Cliff and Outcrop
S019	North American Warm Desert Volcanic Rockland
S020	North American Warm Desert Wash
S022	North American Warm Desert Playa
S023	Rocky Mountain Aspen Forest and Woodland
S024	Rocky Mountain Bigtooth Maple Ravine Woodland
S026	Inter-Mountain Basins Subalpine Limber-Bristlecone Pine Woodland
S028	Rocky Mountain Subalpine Dry-Mesic Spruce-Fir Forest and Woodland
S030	Rocky Mountain Subalpine Mesic Spruce-Fir Forest and Woodland
S032	Rocky Mountain Montane Dry-Mesic Mixed Conifer Forest and Woodland
S034	Rocky Mountain Montane Mesic Mixed Conifer Forest and Woodland
S036	Rocky Mountain Ponderosa Pine Woodland
S039	Colorado Plateau Pinyon-Juniper Woodland
S040	Great Basin Pinyon-Juniper Woodland
S042	Inter-Mountain West Aspen-Mixed Conifer Forest and Woodland Complex
S045	Inter-Mountain Basins Mat Saltbush Shrubland
S046	Rocky Mountain Gambel Oak-Mixed Montane Shrubland
S050	Inter-Mountain Basins Mountain Mahogany Woodland and Shrubland
S052	Colorado Plateau Pinyon-Juniper Shrubland
S053	Great Basin Semi-Desert Chaparral
S054	Inter-Mountain Basins Big Sagebrush Shrubland
S055	Great Basin Xeric Mixed Sagebrush Shrubland
S056	Colorado Plateau Mixed Low Sagebrush Shrubland
S057	Mogollon Chaparral
S059	Colorado Plateau Blackbrush-Mormon-tea Shrubland
S060	Mojave Mid-Elevation Mixed Desert Scrub
S065	Inter-Mountain Basins Mixed Salt Desert Scrub

CODE	Vegetation Type
S069	Sonora-Mojave Creosote bush-White Bursage Desert Scrub
S070	Sonora-Mojave Mixed Salt Desert Scrub
S071	Inter-Mountain Basins Montane Sagebrush Steppe
S078	Inter-Mountain Basins Big Sagebrush Steppe
S079	Inter-Mountain Basins Semi-Desert Shrub Steppe
S083	Rocky Mountain Subalpine Mesic Meadow
S085	Southern Rocky Mountain Montane-Subalpine Grassland
S090	Inter-Mountain Basins Semi-Desert Grassland
S091	Rocky Mountain Subalpine-Montane Riparian Shrubland
S093	Rocky Mountain Lower Montane Riparian Woodland and Shrubland
S094	North American Warm Desert Lower Montane Riparian Woodland and Shrubland
S096	Inter-Mountain Basins Greasewood Flat
S097	North American Warm Desert Riparian Woodland and Shrubland
S098	North American Warm Desert Riparian Mesquite Bosque
S100	North American Arid West Emergent Marsh
S102	Rocky Mountain Alpine-Montane Wet Meadow
S114	Sonora-Mojave-Baja Semi-Desert Chaparral
S118	Great Basin Foothill and Lower Montane Riparian Woodland and Shrubland
S136	Southern Colorado Plateau Sand Shrubland
N11	Open Water
N21	Developed, Open Space - Low Intensity
N22	Developed, Medium - High Intensity
N80	Agriculture
D04	Invasive Southwest Riparian Woodland and Shrubland
D06	Invasive Perennial Grassland
D08	Invasive Annual Grassland
D09	Invasive Annual and Biennial Forbland
D11	Recently Chained Pinyon-Juniper Areas
D14	Disturbed, Oil Well

More disturbance is evident within the Federal Parcel, which is situated within the Sand Mountain Special Recreation Management Area, than on the Non-Federal Parcel. Many areas within the Federal Parcel have been inundated with unauthorized trails created

from OHV users and recreational target shooting. Additionally, the Federal Parcel is also currently grazed with disturbance from cattle trampling and browsing throughout. Neither Parcel has a recorded wildfire occurrence (NIFC 2024).

Section 7 of the ESA mandates that that any action authorized, funded, or conducted by a federal agency must not pose a threat to the ongoing survival of any threatened or endangered species. Consultation with the USFWS is mandatory for any proposed action by the BLM or another federal agency that may impact a listed species or alter its habitat. Informal consultation with USFWS was initiated on May 03, 2023. BLM received concurrence from USFWS on July 08, 2024.

The USFWS Information for Planning and Consultation (IPaC) website identifies 18 listed and candidate species as potentially occurring within Washington County and identified five listed animal species, and one candidate species that may occur in the Parcels as listed below in **Table 3.6**. Five animal species have designated critical habitat within Washington County. Two listed fish species were added to the table below by BLM as they have the potential to be affected by future actions related to the land exchange.

Table 3.6. Potential USFWS Listed Wildlife Species in Washington County

Species	Taxa	ESA Listing Status	Designated Critical Habitat within Exchange Parcels	Occurrence of Species in the Federal or Non-Federal Parcels
California condor ¹ (<i>Gymnogyps californianus</i>)	Bird	EXPN ¹	Federal: 0 Acres Non-Federal: 0 Acres	None
Mexican spotted owl (<i>Strix occidentalis lucida</i>)	Bird	Threatened	Federal: 0 Acres Non-Federal: 0 Acres	None
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	Bird	Endangered	Federal: 0 Acres Non-Federal: 0 Acres	None
Yellow-billed cuckoo (<i>Coccyzus americanus</i>)	Bird	Threatened	Federal: 0 Acres Non-Federal: 0 Acres	None
Virgin River chub (<i>Gila seminuda</i>)	Fish	Endangered	Federal: 0 Acres Non-Federal: 0 Acres	None
Woundfin (<i>Plagopterus argentissimus</i>)	Fish	Endangered	Federal: 0 Acres Non-Federal: 0 Acres	None

Species	Taxa	ESA Listing Status	Designated Critical Habitat within Exchange Parcels	Occurrence of Species in the Federal or Non-Federal Parcels
Desert tortoise (<i>Gopherus agassizii</i>)	Reptile	Threatened	Federal: 0 Acres Non-Federal: 89.43 acres	Species present in both Parcels: 17.5 tortoises/km ² in Non-Federal Parcel ² , 2.32 tortoises/km ² in Federal Parcel ³
Monarch butterfly (<i>Danaus plexippus</i>) [candidate species]	Insect	Candidate	Federal: 0 Acres Non-Federal: 0 Acres	Low occurrence in both parcels, not quantifiable

¹ Experimental non-essential, ² Source: UDWR 2024, ³ Source: Transcon 2023c

Mojave Desert Tortoise

The Mojave population of the desert tortoise was listed as threatened under the ESA on April 2, 1990 (FR 1990). Critical habitat was designated in 1994 (USFWS 1994). The loss or degradation of tortoise habitat due to urbanization or other landscape-modifying activities places the tortoise at increased risk of extirpation. Threats identified in the 1994 Recovery Plan formed the basis for listing the tortoise as a threatened species; these threats continue to affect the species today (USFWS 1994). Because these tortoises occupy large home ranges, the long-term persistence of extensive, non-fragmented habitats is essential for the species' survival (USFWS 2011b).

Typical habitat for the tortoise has been characterized as creosote bush scrub below 5,500 feet (1,677 meters), where precipitation ranges from 2–8 inches and the diversity of perennial plants and production of ephemeral plants is high. Habitat is erosive, with several steep-banked washes and swales creating uneven topography (USFWS 2011b). Tortoise habitat within the Federal and Non-Federal Parcels is typical of the Upper Virgin River Recovery Unit. Approximately 122,891 acres of tortoise habitat exists in Washington County (Washington County 2021).

Habitat quality within the Federal and Non-Federal parcel can be defined as low, medium, and high-quality habitat which is characterized as follows:

Table 3.7. Habitat Quality within the Federal and Non-Federal Parcels

Habitat Quality	Associations
High-Quality Habitat	Exhibits little to no human or natural disturbance and is large and contiguous. This includes a large variety of plants that provide forage for wildlife species and pollinators, plenty of cover and shelter opportunities so that wildlife species are able to rear and care for young, soils that are conducive to burrowing, and low occurrence of non-native plant species.
Medium-Quality Habitat	Would have some moderate human or natural disturbance evident, such as (unauthorized or authorized) trails and roads that bisect habitat, evident and recent wildland fire, grazing to the extent that native

Habitat Quality	Associations
	vegetation is visibly reduced, and some invasion of non-native plant species. Medium-quality habitat would still support some native wildlife species, but other species would leave medium-quality habitat in favor of higher quality habitat for better forage, breeding, and cover.
Low-Quality Habitat	Has a high level of human or natural disturbance, such as a recent high intensity wildfire that would denude the area of most vegetation, excessive use from cattle, excessive human use that may involve dumping trash, camping, unauthorized off-road use, and highly fragmented from development such as buildings and roads. Non-native grasses or forbs may dominate the landscape. Runoff may cause soils to become hardened. Diversity of wildlife species would be expected to be low in low-quality habitat, where most species would likely leave in search for better quality habitat to survive.

There are approximately 107.4 acres of high-quality, 70.4 acres of medium-quality, and 128.8 acres of low-quality habitat present in the Federal Parcel (Transcon 2023c). The remaining acres were determined to be unsuitable habitat or were not surveyed due to steep topography. There is no designated critical habitat for the Tortoise in the Federal Parcel.

Two tortoise USFWS protocol-level surveys were conducted on the Federal Parcel. A 2021 survey determined tortoise occupancy in the southern portion of the Parcel. That survey located two live tortoises, approximately 210 individual scat observations, and five shelters (Transcon 2021). A 2023 survey identified tortoise sign, including live and deceased tortoises, scat, tracks, and burrows (Transcon 2023c). Live desert tortoises and tortoise sign were located throughout the southwestern end of the Federal Parcel. Biologists observed five live tortoises, four adults, and one hatchling (**Appendix C, Photographs 4 and 5**). Twenty-seven burrows were located, and over 35 individual scats were detected (Transcon 2023c). Based on the most recent survey data, it is estimated that suitable habitat within the Federal Parcel contains 2.32 adult tortoises per square kilometer (Transcon, 2023c).

The Upper Virgin River Recovery Unit encompasses 56,187 acres of designated critical habitat for the tortoise, including 46,125 acres within the administrative boundary of the Red Cliffs NCA. This recovery unit was identified as the smallest and most at-risk recovery unit within the tortoise's range by the Mojave Desert Tortoise Recovery Plan (USFWS 1994, 2011b). All 89.43 acres of the Non-Federal Parcel are designated tortoise critical habitat. The critical habitat on the Non-Federal Parcel is considered high quality because it is unburned with native plant assemblages and soil and topographic features that benefit tortoise (USFWS 1994, 2011b). Additionally, the Non-Federal Parcel is in habitat with minimal fragmentation and is contiguous and interconnected with adjacent large blocks of tortoise habitat in the NCA.

The NCA has consistently had some of the highest reported tortoise densities across the species range (UDWR 2024). In 2023, the UDWR conducted line-distance tortoise population surveys on lands adjacent to the Non-Federal Parcel within the NCA that

produced a density estimate of 17.5 adult tortoises per square kilometer (UDWR 2024). Tortoise and their sign (e.g., burrows, scat) have also been observed on land in contiguous critical habitat adjacent to the Non-Federal Parcel. Therefore, the high-quality critical habitat on the Non-Federal Parcel likely contains tortoise and is considered occupied.

Monarch Butterfly

The monarch butterfly is an ESA candidate species that is likely to migrate through both parcels as both contain flowering plant species that adult monarchs would use for forage. Adult monarchs, however, require milkweed species (*Asclepias spp.* and *Funastrum utahense*) to lay eggs on and which larvae also feed before forming chrysalises. Monarch observations within Washington County peak in late summer and fall when emergence and blooming of milkweed occur (iNaturalist data 2024). Monarch adults congregate and roost in tree species near water sources such as pine, fir, and cedar, which are not found within either parcel (Schultz et al. 2021). Due to the sporadic nature of milkweed presence in the area and lack of roosting sites, monarchs likely do not congregate anywhere within either parcel.

Riparian and River Species

The southwestern willow flycatcher and yellow-billed cuckoo are riparian bird species that occur within the riparian zone of the nearby Virgin River. The nearest known breeding location for the flycatcher is at Brinton Pond located approximately 0.15 mile north of the Federal Parcel (**Appendix B**). It is not anticipated that the proposed Land Exchange itself would affect these species because there is no riparian habitat in either parcel. Additionally, Virgin River chub and woundfin are species of fish that are known to inhabit the Virgin River near the Federal Parcel. Depending on the water source for a reservoir on the Federal Parcel, there may be some effect to the Southwestern willow flycatcher and yellow-billed cuckoo, as well as Virgin River fish. Potential impacts to these species are addressed below.

3.5.2.2. Environmental Effects—Proposed Action

Federal Parcel

Under the Proposed Action, the Land Exchange would result in the transfer of 929.14 acres of BLM-managed land to private ownership. Of the 929.14 acres, 306.6 acres are suitable desert scrub tortoise habitat (107.4 acres of high-quality, 70.4 acres of medium-quality, and 128.8 acres of low-quality habitat) (Transcon 2023c). This habitat in the Federal Parcel would result in approximately 0.2 percent of Mojave Desert scrub vegetation within the Washington County being conveyed out of Federal ownership. The Federal Parcel does not contain any designated critical desert tortoise habitat. Therefore, the proposed Land Exchange would not result in any adverse effect to designated critical desert tortoise habitat.

The Land Exchange would not immediately impact the desert tortoise or its habitat, as protections associated with the ESA would apply regardless of land ownership. However, development of the Federal Parcel could result in the injury, displacement, and death of resident tortoises and the destruction of available tortoise habitat. Any future actions with

a federal nexus (meaning federal funding or utilization of federal land) on the WCWCD-acquired Federal Parcel would require ESA Section 7 consultation. Future actions on the WCWCD-acquired Federal Parcel without a federal nexus that may affect desert tortoise would be covered by the 2020 Amended Habitat Conservation Plan as it applies to the ESA.

The Proposed Action anticipates that some or all of the Federal Parcel would be developed as a reservoir referenced in **Section 3.5.4** (Water Resources). Reservoir development on the Federal Parcel would result in the displacement, injury, or death of tortoises related to the 742-acre Reservoir, with no potential for population recovery after the Reservoir is inundated with water.

Designated Critical Habitat for Southwestern willow flycatcher, Virgin River chub, and woundfin all occur within the floodplain of the Virgin River. If water were to be diverted from the Virgin River to a reservoir, it would be expected that there would be some loss of habitat for these species as all three are known to occupy habitat within the Virgin River. There may be some loss of habitat for the yellow-billed cuckoo, as suitable habitat occurs in some areas of the Virgin River. If the water source for a reservoir were to come from re-use water, there would still be some reduction of instream flows for Virgin River species. In either scenario, additional Federal authorization would be required before the Reservoir is constructed and therefore, additional NEPA analysis and Section 7 consultation for these species would need to occur.

Non-Federal Parcel

Under the Proposed Action, the 89.43-acre Non-Federal Parcel would be transferred to BLM management within the NCA. As part of the NCA, tortoises of the Non-Federal Parcel would be protected from habitat loss, mortality, and displacement due to the management objectives of the NCA RMP (BLM 2016), the current HCP for the Reserve, and other federal laws, policies, and regulations regarding the management of ESA species. The transfer of the Non-Federal Parcel to BLM management would further consolidate federal ownership of designated critical tortoise habitat in the NCA and would contribute towards the conservation and eventual de-listing of tortoises from the ESA. BLM management of the acquired parcel would be consistent with the identified purpose of the NCA to protect the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources for the benefit and enjoyment of present and future generations (BLM 2016a). Therefore, tortoise habitat in the NCA would remain intact and high-quality for the foreseeable future.

Both Parcels

Though not required under Section 7 of the ESA, BLM informally conferenced with USFWS regarding monarch butterfly. BLM determined that the proposed land exchange would not jeopardize the continued existence of the species. USFWS agreed with the determination in their response memo received July 8, 2024.

3.5.2.3. Reasonably Foreseeable Effects

This Land Exchange would be additive to other actions taken to consolidate habitat ownership within the Reserve and NCA. The effects of the Land Exchange would be

aggregate to other land tenure-related actions in Washington County involving tortoise habitat. Approximately 122,891 acres of tortoise habitat exists in Washington County (Washington County 2021). While the overall loss of approximately 306.6 acres of Mojave Desert scrub tortoise habitat from federal protection would be less than 0.2 percent of this habitat type in the County, it would be additive to other actions affecting the scrub vegetation that have taken place or would likely occur in the foreseeable future.

For example, 605 acres of Mojave desert scrub habitat adjacent to the Federal Parcel that were transferred to private ownership in the 2016 Long Valley Exchange. The Long Valley parcel is currently being used for residential development and therefore is not suitable tortoise habitat. Nearby, approximately 51.1 acres of Mojave Desert scrub on BLM land were recently developed because of the Long Valley Road Extension Right of Way. Additional impacts to T&E species would also include 801.71 acres that were transferred from TLA to WCWCD in 2019 that immediately abuts the Federal Parcel to the south. While no additional land exchanges have been formally proposed, it can be assumed that additional exchanges or other land tenure adjustments could be considered in the future. The lands involved in these potential exchanges would likely be used for residential, commercial, and other infrastructure-related purposes. As the surrounding area of the Federal Parcel is either being developed or is targeted for future development, it is unlikely that tortoises would be able to move and survive on adjacent land.

Tortoise-occupied habitat within and abutting the Federal Parcel has been impacted by past and present development and outdoor recreation (e.g., OHV use) activities. The construction of roads and trails have fragmented tortoise habitat, making it impossible or unsafe for impacted tortoises to move about to forage and find mates. The anticipated increase in human visitors seeking recreation in Warner Valley and the surrounding area would further stress tortoises in the area as referenced in Recreation **Section 3.5.3**.

While development is limited within the Reserve and NCA, past and reasonably foreseeable future actions in the Reserve and NCA include construction of roads, trails, fences, powerlines, pipelines, and water storage facilities, mostly on adjacent Non-Federal lands.

In consideration of past, present, and reasonably foreseeable future actions, construction and use of the Northern Corridor highway is anticipated to result in the greatest loss to tortoise habitat.

Due to the development restrictions in place under the NCA RMP (BLM 2016), it is not anticipated that additional surface disturbing activities of this magnitude would occur. This divided multi-lane highway would be located immediately adjacent to west-side boundary of the Non-Federal Parcel. If the Northern Corridor highway is built, the Non-Federal Parcel may experience a reduction in tortoise habitat quality due to fragmentation and isolation from the remainder of the habitat located within the NCA and Reserve. The Northern Corridor would disturb from 0-373 physical acres of tortoise habitat for the ROW (depending on the alternative selected) including 0-340 acres of designated critical habitat, and from 3,278 acres for total indirect impacts, which includes habitat fragmentation effects. See the Present and Reasonably Foreseeable Future Trends and

Actions Scenario (**Section 3.3**) of this EA for more information about the effects to the NCA.

3.5.3. Issue 3: How would the Land Exchange and reasonably foreseeable land uses impact recreational uses of the Federal Parcel and the Non-Federal Parcel?

The spatial scope of analysis associated with this issue is Washington County, Utah because it provides important context for the type, intensity, and projected trends of recreational use in the region, including on the Federal and Non-Federal Parcels.

3.5.3.1. *Affected Environment*

Washington County hosts numerous outdoor recreation areas, including one National Park (Zion) and four State Parks (Snow Canyon, Sand Hollow, Quail Creek, and Gunlock). The 62,000-acre Red Cliffs Desert Reserve is also located in the county. The BLM SGFO manages approximately 630,000 acres of public land in the county, including five Special Recreation Management Areas (SRMA) totaling 127,375 acres. These are the Sand Mountain, Red Mountain/Santa Clara, Deep Creek, La Verkin Creek/Black Ridge, and Canaan Mountain SRMAs (BLM 1999). Approximately 21,442 acres of BLM-administered public land in the County (3.4 percent) have been designated as open to OHV use, including the Sand Mountain Area (BLM 2016). On lands managed by the St. George Field Office, approximately 386,563 acres have been designated as Limited to Designated Routes, while 112,427 acres have been closed to OHV use. In the Red Cliffs NCA, travel is Limited to Designated Routes on 24,870 acres, with approximately 19,989 acres Closed to OHV Use, while in the Beaver Dam Wash NCA, travel is Limited to Designated Routes on 63,480 acres.

Federal Parcel

The Federal Parcel is located entirely within the 40,725-acre Sand Mountain SRMA and partially within the Sand Mountain Open OHV Area (BLM 1999). The Federal Parcel includes designated OHV trails, informal staging, and dispersed camping areas. OHV-use levels in the area are high, and permitted events are common. Traffic counters maintained by SGFO BLM personnel show that trail usage within the SRMA and Open OHV area increased from 551,275 people in Fiscal Year (October 1-September 30) 2022 to 718,277 visitors in Fiscal Year 2023. The population in Washington County, Utah, is projected to increase from 182,111 in 2020 to more than 464,000 by 2060 (Gardner Policy Institute 2024b). Given the projected population increase and the popularity for motorized recreation, usage of the Warner Valley area is expected to continue to increase for the foreseeable future.

The northeastern portion of the Federal Parcel is used as a staging area for unloading and loading vehicles and for camping. The adjacent Long Valley area also contains dispersed campsites and an informal staging area. Waddy's Corral was also constructed within the Sand Mountain SRMA to accommodate increased parking needs (BLM 2022). Eighteen companies have obtained Special Recreation Permits (SRPs) to operate commercially on the Federal Parcel.

In October 2020, as part of the Sand Hollow regional Pipeline Project (BLM 2018), the BLM and the WCWCD signed a Cooperative Management Agreement (CMA) for the Sand

Mountain dispersed campsites located adjacent to and within the Federal Parcel. As part of the CMA, the WCWCD paid for and installed one vault toilet and developed eight designated dispersed campsites along Pipeline Road. The vault toilet and four campsites are located on the BLM-administered lands, and four other campsites are located on WCWCD property. Under the CMA, the BLM manages and maintains all eight campsites and the vault toilet.

Non-Federal Parcel

The Non-Federal Parcel is private property located within the Reserve. No public recreation activity currently occurs on the Non-Federal Parcel. Because it is private property, no designated roads or trails are located within the Non-Federal Parcel.

3.5.3.2. Environmental Effects—Proposed Action

Federal Parcel

Under the Proposed Action, recreational use on the Federal Parcel would no longer be under the purview of the BLM SGFO because ownership would transfer to the WCWCD. An initial review of the Federal Parcel as documented in the Checklist (**Appendix B**) determined that approximately 417 acres within the Sand Mountain Open OHV Area and 929.14 acres within the SRMA would be transferred from BLM management to WCWCD ownership. As detailed in a formal Resolution, the WCWCD would coordinate with OHV groups to maintain the portion of the Federal Parcel not impacted by the Reservoir and associated infrastructure as open OHV. Any users displaced due to construction of a reservoir would likely relocate to BLM-administered lands outside of the Federal Parcel. These lands and Sand Hollow State Park are located immediately east of the Parcel and are designated as open to OHV use. This would increase use on these adjacent lands for camping, staging, and OHV use. Exact data regarding displaced users are not available. However, as described in the Affected Environment, recreation use in the area is growing.

If the Land Exchange and the reasonably foreseeable land use of a reservoir occurs, commercial operators (SRP Holders) would no longer be able to operate on the 742-acres that would be inundated by the Reservoir. However, each of the existing 18 permits also includes other portions of the Sand Mountain Open OHV area, and operators would still be able to provide services to the public. Authorized recreational activities would continue on the remaining 39,799 acres of the SRMA located outside of the Federal Parcel. Under the Proposed Action, the CMA agreed to by the BLM and WCWCD would be updated to include any OHV-related changes resulting from the Land Exchange, including management of the Parcel, and management and maintenance of the campsites and vault toilet. The Reservoir may have beneficial impacts to the community by providing water-based recreational opportunities, however, this would depend on the future management of the Reservoir by the WCWCD.

Non-Federal Parcel

Under the Proposed Action, 89.43 acres of private land would be transferred to BLM ownership and be enveloped within the NCA. Because the Non-Federal Parcel is private property, no designated roads or trails are located within the Non-Federal Parcel. It is also

expected that recreational activities would not increase after the Exchange due to the recreational restrictions that would be put in place under the NCA RMP (BLM 2016).

3.5.3.3. *Reasonably Foreseeable Effects*

Implementation of the Proposed Action would result in approximately 417 acres of the Sand Mountain Open OHV Area and 926 acres of the Sand Mountain SRMA being removed from federal management, which would be additive to the present and reasonably foreseeable actions as described in the Present and Reasonably Foreseeable Future Trends and Actions Scenario (**Section 3.3**). The SRMA would reduce in size from 40,725 acres to 39,799 acres and would continue to be managed by the BLM. As lands identified for disposal in the SGFO RMP (BLM 1999) continue to be exchanged out of public ownership in traditional OHV riding areas near the outskirts of communities such as St. George and Washington City, riders would be displaced into other outlying areas. The loss of OHV riding opportunities would be additive to other BLM land exchanges that have already occurred on BLM-administered public land in Washington County. This would include 605 acres of habitat adjacent to the Federal Parcel that was recently transferred to private ownership (Long Valley Land Exchange). The Long Valley parcel is being developed for residential housing and is not suitable for recreational access or use. The remainder of public lands within Washington County would remain open for various forms of recreational use. Hiking, rock climbing, sightseeing, camping, equestrian use, fishing, hunting, OHV use, and other recreational uses would continue to be accommodated. As lands previously open to recreation are closed or developed, surrounding areas that are still open to recreational use are expected to see higher numbers of visitation. Limitations due to resource conflict would restrict some activities in specific areas identified in the SGFO RMP (BLM 1999).

3.5.4. Issue 4: How would the Land Exchange and reasonably foreseeable land uses impact water resources in Washington County?

The spatial scope of analysis associated with this issue is Washington County, UT, primarily focusing on the Gould Wash – Virgin River HUC 10 watershed (ID: 1501000809) and the mainstem of the Virgin River, both within and downstream of the HUC 10 watershed to the Utah state line. This area was chosen as the reasonably foreseeable land use of a reservoir would impact groundwater and surface water resources throughout the county, as well as the riparian and wetland areas associated with those water resources. The primary focus on the Gould Wash – Virgin River HUC 10 watershed is because both the Federal and Non-Federal Parcels are located within this watershed as well as two major reservoirs (Quail Creek and Sand Hollow) and other key water resource infrastructure.

3.5.4.1. *Affected Environment*

The main source of water within Washington County is the Virgin River. Within the HUC 10 Gould Wash – Virgin River watershed, and down to the Utah state line, there are approximately 39.4 miles of river, of which 15.5 miles are on BLM-managed land. The river is characterized by a snowmelt hydrograph in the spring, baseflows throughout the remainder of the year, and monsoonal flood events throughout late summer and early

fall. Flows are diverted via numerous diversions on both the mainstem of the Virgin River and its tributaries, providing water for agriculture, municipalities, and industry throughout the county. Portions of this water is stored in reservoirs for drinking water and agricultural uses, levels of which can vary depending on river flow and volume. Two of the major reservoirs in the county and within the Gould Wash – Virgin River Watershed are Quail Creek Reservoir (40,325 acre-feet storage capacity) and Sand Hollow Reservoir (51,360 acre-feet storage capacity). Multiple wells throughout the county also supply water for different beneficial uses, generally sourcing water from the Navajo and Kayenta aquifer system, principal groundwater reservoir within the basin, and other bedrock type aquifers (USGS 2000). The waters in Washington County are fully appropriated except for the aquifer system of the Canaan Gap drainage east of the Hurricane Cliffs and on the Beaver Dam Wash drainage (UDWR 2011).

Despite large withdrawals from the river, instream flow strategies are in place to keep portions of the Virgin River flowing at stages adequate to maintain ecological benefits – particularly for native fishes (VRP 2024). Additionally, an undetermined volume of flows from agriculture, waste-water treatment plants, and other non-point sources are returned to the river at several different locations, along with several seeps and springs along the river. The management of all these flows are critical, particularly for reaches within the NCA and the Lower Virgin ACEC, in maintaining and achieving BLM objectives for riparian, wildlife, and fisheries resources.

Federal Parcel

Groundwater Resources

Groundwater resources within and immediately surrounding the Federal Parcel are influenced by the structure and type of bedrock within the area. Detailed analysis of bedrock permeability is currently not available in scientific studies, but the Parcel is generally characterized by more permeable sandstones and siltstones of the Navajo Sandstone, Kayenta, and Moenave formations on the east with less permeable claystones and mudstones of the Chinle formation to the west, all of which dip 22 to 33 degrees to the southeast as the Parcel sits on the eastern limb of the Virgin Anticline (UGS 2010). Due to the lack of precipitation and variable permeability of the bedrock, the area likely does not serve as a high-quality groundwater recharge zone.

Groundwater resources on the Federal Parcel are currently undeveloped as there are no existing wells located on the Parcel. Major developed groundwater uses near the Federal Parcel are primarily related to operations associated with Sand Hollow Reservoir. The Sand Hollow Reservoir actively percolates 4,500 to 11,000 acre-feet of water into the Navajo Sandstone aquifer, storing approximately 100,000 acre-feet as of 2018 with more than 300,000 acre-feet of storage capacity (USGS 2024; WCWCD 2024). Prior to the construction of Sand Hollow, well logs indicated that groundwater levels were 50 to over 100 feet deep; wells now indicate groundwater depths of less than 20 feet in some areas – an indication of the aquifer recharge. Other local groundwater uses include several wells within two miles of the Parcel with water depths 40 to 50 feet to the west of the Parcel, deepening to 110 to 120 feet to the south of the Parcel. A shallow alluvium aquifer associated with the Virgin River is located to the north of the Parcel with water depths of

15 feet. No water quality records for these wells were available from the Utah Division of Water Resources (UDWR 2023).

Surface Water Resources

Surface water resources within and immediately surrounding the Federal Parcel are limited. Within the Parcel, there are 5.3 miles of ephemeral streams (USGS 2022) that drain a small watershed of 4.5 square miles directly into the Virgin River, which is located 0.3 mile north of the Parcel. There are also a few unmapped seeps in northeast/southeast corner of section 29 (Township 42 S, Range 14W). Other than the Virgin River, the nearest surface water resources within the HUC 10 Gould Wash – Virgin River Watershed include an unnamed spring 0.3 mile east of the Federal Parcel on BLM managed land; Warner Valley Spring 620 feet to the south on WCWCD land; Sand Hollow Reservoir 2.2 miles to the east; and Quail Creek Reservoir five miles to the northeast. **Table 3.8** lists the stream types and miles present in the HUC 10 Gould Wash – Virgin River Watershed.

Table 3.8. Stream types and miles for HUC 10 Gould Wash – Virgin River, ID: 1501000809 and the Virgin River (USGS 2022)

Stream Type	BLM Stream Miles	Total Miles
Perennial	13.3 miles	43.1 miles
Intermittent	15.4 miles	72.2 miles
Ephemeral	275 miles	611.7 miles
Total	303.7 miles	727 miles
Virgin River (within HUC 10 1501000809)	7.5 miles	26.4 miles
Virgin River (from HUC 10 1501000809 to Utah state line)	8.0 miles	13.0 miles
Total Virgin River	15.5	39.4

Riparian and Wetland Resources

Riparian and wetland resources within and immediately surrounding the Federal Parcel are limited and are typically associated with the intermittent and perennial surface water resources described previously. Within the Parcel, there are a few unmapped seeps in the northeast/southeast corner of section 29 (Township 42 S, Range 14W) that support small riparian areas (collectively less than 0.5 acres). The nearest riparian resources to the Parcel within the HUC 10 Gould Wash – Virgin River Watershed include those associated with the Virgin River (0.3 miles north, private), unnamed spring (0.3 miles east, BLM land), and Warner Valley Spring (620 feet south, WCWCD land). The nearest wetland resources are those associated with Sand Hollow Reservoir (2.2 miles east) and Quail Creek Reservoir (5 miles northeast), both of which support lacustrine (deepwater habitats) and palustrine wetlands (non-tidal wetlands dominated by trees, shrubs, and persistent emergents) along the shorelines (USFWS 2021).

Non-Federal Parcel

Groundwater Resources

Groundwater resources for the Non-Federal Parcel are characteristic of Navajo Sandstone, the dominant geologic unit for the Parcel (UGS 2010). Because of large outcrop exposures, uniform grain size, and large stratigraphic thickness, the Navajo Sandstone formation is able to receive and store large amounts of water (Heilweil et al., 2000). There are currently no existing wells on the Parcel, however, wells within a half mile of the Non-Federal Parcel indicate that groundwater levels range from 57 to over 150 feet deep. No water quality records for these wells were available from the Utah Division of Water Resources (UDWR 2023).

Surface Water Resources

There are no mapped surface water resources present within the Non-Federal Parcel. The nearest water resource to the Non-Federal Parcel is Green Spring, located approximately 0.5 miles to the southeast on private land.

Riparian and Wetland Resources

There are no mapped riparian or wetland resources present within the Non-Federal Parcel. The nearest riparian or wetland resource to the Non-Federal Parcel is Green Spring, located approximately 0.5 miles to the southeast on private land.

3.5.4.2. Environmental Effects—Proposed Action

Federal Parcel

Groundwater Resources

Under the Proposed Action, groundwater resources would be impacted by the reasonably foreseeable land use of a reservoir. The Reservoir has the potential to create a large recharge zone of approximately 742 acres (the surface acreage at full pool) that was previously nonexistent. This has potential to increase groundwater resource quantities due to percolation into the underlying Navajo Sandstone. A similar result was observed after the construction of Sand Hollow Reservoir as water percolated into the underlying Navajo Sandstone. Approximately 100,000 acre-feet has been stored within the Sand Hollow aquifer, with an estimated 300,000 acre-feet or more of total potential storage (USGS 2024, WCWCD 2024 website).

Conversely, the Quail Creek Reservoir does not appear to have a high amount of recharge (as noted by the lack of readily available documentation), likely due to its placement on the Shinabkaib Member of the Moenkopi Formation, which consists of gypsum, mudstone, and siltstone. Percolation rates within these types of sedimentary rocks are typically much smaller due to the fine grain sizes of the bedrock. Where the Federal Parcel spans several formations ranging from sandstone to claystone and is located on the eastern limb of the Virgin Anticline, percolation would likely be variable. At this time, the data is not available to determine the rate of percolation, the target aquifer, and the magnitude of groundwater recharge that would occur as a result of the Reservoir. Any groundwater recharge would likely be beneficial because it has the potential to increase flow to and/or create new springs and seeps in areas surrounding the Reservoir.

Observations of Google Earth satellite images for pre-/post construction of Sand Hollow Reservoir indicate several springs and seeps were enlarged or appeared as a result of the Reservoir.

Groundwater quality may be impacted as well if percolating water mobilizes salts, nutrients, or other water quality constituents from the underlying geology by increasing dissolved minerals in the available groundwater. Marston (2024) noted increased presence of vadose zone salts in wells as a result of groundwater recharge from Sand Hollow. The degree to which groundwater recharge would mobilize water quality constituents is unknown. If the Reservoir were to be constructed through utilization of federal lands or federal funding, additional NEPA would be required to analyze the impacts from groundwater recharge in greater detail as the design of the Reservoir is not known at this time.

Surface Water Resources

Under the Proposed Action, the management of 5.3 miles of ephemeral drainages (1.9 percent of BLM-managed ephemeral drainages within the HUC 10 watershed, less than one percent within the St. George Field Office) and a few undocumented seeps would be transferred out of federal management. Loss of ephemeral drainage and riparian/spring/seep resource values and their impacts to other BLM-managed resources within the analysis area would not be measurable.

Regional surface water resources within the analysis area would be impacted by the Reservoir, particularly the Virgin River. The BLM manages 39 percent (15.5 miles) of the Virgin River within the analysis area (the BLM manages the lands around the river while the Utah State Water Engineer manages the actual water). The reasonably foreseeable land use of a reservoir as a result of the Land Exchange would result in a 41 percent increase of lake acreage within the HUC 10 Gould Wash – Virgin River Watershed. The Reservoir is anticipated to store approximately 55,000 acre-feet of Type 1 reuse water blended with high salinity water from the Virgin River (including agriculture supply water that has been converted to municipal and industrial uses) and use it as secondary irrigation delivered through pipelines. Operation of the Reservoir to meet countywide needs would change the amount, duration, location and quality of flow that is diverted or returned to the river. As a result, some or all sections of the Virgin River, particularly BLM-managed sections, may experience changes in baseflow and water quality. However, the degree and magnitude of these potential impacts are not known. Currently, the river receives return flow from agriculture and wastewater treatment plant facilities. Storage of Type 1 reuse water from wastewater plants may result in less available water to some sections of the river that were previously discharged into the river. Changes in agricultural applications (flood irrigation being replaced with pressurized secondary irrigation water supplied from the Reservoir) may also result in the reduction of available return water to the river. Existing instream flow agreements exist for portions of the Virgin River and would help offset potential cases of dewatering, but not all sections are guaranteed flow. Future instream flow agreements would likely be needed to secure the necessary amount of flow to sustain ecological resource objectives throughout all of the Virgin River.

Additionally, regional water supply would be impacted by the Reservoir as it would create a 742-acre surface area for water evaporation to occur. Marston (2024) reported that 85,000 acre-feet evaporated from Sand Hollow Reservoir from 2002 to 2018; the average being 5,667 acre-feet per year. Assuming equal evaporation rates and adjusting for full pool acreage, the Warner Valley Reservoir would have an estimated average annual evaporation rate of 3,575 acre-feet per year. This would represent a large consumptive use of water within the HUC 10 watershed and within the county.

At this time, there is not enough data or documentation to describe water operations in connection with the Reservoir to make a determination of the degree and magnitude of impact on the rivers and how those impacts are being offset or managed for. If the Reservoir were to be constructed through utilization of federal lands or federal funding, additional NEPA would be required to analyze the impacts to surface water resources in greater detail.

Riparian and Wetland Resources

Under the Proposed Action, riparian and wetland resources would be impacted by the reasonably foreseeable land use of a reservoir. This would convert approximately 742-acres of upland into lacustrine wetlands with an undetermined number of palustrine wetland development along the shore of the Reservoir. Mapped palustrine wetlands for Sand Hollow indicate approximately four acres of wetlands were developed as a result of the Reservoir, while none were mapped for Quail Creek (USFWS 2021). However, observations of aerial images and field visits indicate that both Quail Creek and Sand Hollow Reservoirs have more palustrine wetlands present than what was mapped, with significant portions (>10 percent) of the shoreline that are now colonized by cottonwoods, willows, and emergent plants (e.g., bulrushes, cattails). It is anticipated that the Reservoir would have a similar impact as Sand Hollow and Quail Creek Reservoirs, resulting in an increase of riparian and wetland resources within the HUC 10 Gould Wash – Virgin River Watershed.

Non-Federal Parcel

Under the Proposed Action, the Non-Federal Parcel would transfer into BLM management as part of the NCA and Reserve. Development of surface and groundwater resources on the Parcel would need additional NEPA analysis to be authorized, however, it is not expected that there would be development of such resources under BLM management as it does not align with the NCA Resource Management Plan decisions (BLM 2016). As a result, groundwater, surface water, and riparian/wetland resources would remain unchanged on the Non-Federal Parcel for the foreseeable future.

3.5.4.3. Reasonably Foreseeable Effects

All water resources are considered fully allocated within the spatial scope of analysis, therefore no additional losses to water resources are anticipated due to past, present, and reasonably foreseeable future actions as described in the Affected Environment and in the Present and Reasonably Foreseeable Future Trends and Actions Scenario (**Section 3.3**). Future actions associated with the reasonably foreseeable Reservoir (pipelines, roads, additional reservoirs) that are proposed on BLM-managed lands would need to be

analyzed for direct, indirect, and reasonably foreseeable impacts to water resources in future NEPA as not enough data or documentation exists at this time.

3.5.5. Issue 5: How would the Land Exchange and its reasonably foreseeable future land uses impact the Warner Valley, Fort Pearce, Dome, and Sand livestock grazing allotments?

The spatial scope of analysis associated with this issue is the Dome, Fort Pearce, Sand, and Warner Valley Grazing Allotments that overlap with the Federal Parcel. This was chosen as these are the only allotments that intersect the Federal Parcel and impacts to grazing from this project would not carry over to other allotments. The Non-Federal Parcel is not currently grazed and would not be grazed once in federal ownership as grazing is prohibited within the NCA.

3.5.5.1. *Affected Environment*

Federal Parcel

There are four single permittee grazing allotments partially located within the Federal Parcel, as shown in **Table 3.9**. Grazing in these four allotments occurs from October 21st to May 15th every year. The BLM SGFO utilizes sustainable grazing management practices of rotational and deferred grazing systems at appropriate stocking rates to reduce impacts to the environment and allow for continued grazing in the future. Key forage species include Indian Ricegrass (*Eriocoma hymenoides*), Fourwing Saltbush (*Atriplex canescens*), Galleta (*Hilaria rigida*), and Mormon Tea (*Ephedra nevadensis*).

Grazing is managed in accordance with applicable portions of the Desert Tortoise Recovery Plan, the BLM's Range-wide Desert Tortoise Plan, and the Washington County HCP (BLM 1999). Grazing permits on Utah Trust lands and public lands that affected tortoise habitat within the HCP and Reserve boundary have been retired (Washington County 2020).

Table 3.9. Percentage of Grazing Allotments within the Federal Parcel

Allotment Name	Total Allotment Acreage	Permitted AUMs	Acres within the Federal Parcel
Dome	2,046	142	108
Fort Pearce	6,921	513	286
Sand	3,206	162	14
Warner Valley	834	124	700

Source: <https://reports.blm.gov/report/ras/33/Allotment-Information> (BLM 2023).

¹ Final number of potential AUM reduction will be determined through a site visit and forage analysis.

The Checklist (**Appendix B**) documents that the portions of the Dome and Sand allotments located within the Federal Parcel are on steep or rocky land, and as a result, do not receive much, if any, grazing use. As a result, no reduction in AUMs are identified within the Federal Parcel for these two allotments. However, the parts of the Fort Pearce

and Warner Valley grazing allotments in the Federal Parcel are on land suitable for grazing, and these allotments have an estimated 21 and 119 AUMs on the Federal Parcel, respectively.

3.5.5.2. Environmental Effects—Proposed Action

Federal Parcel

Under the Proposed Action, there would be a loss of 885 acres of public land available for livestock grazing as the Federal Parcel would be transferred out of BLM management. The BLM would be required to modify the terms and conditions of the federal grazing permits for the Fort Pearce and Warner Valley Allotments as approximately 140 AUMs would be lost (21 from Fort Pearce and 119 from Warner Valley). The loss of AUMs would occur mainly on the Warner Valley Allotment where approximately 96 percent of the AUMs would be terminated. The loss of AUMs would be lower for the Fort Pearce Allotment (21 AUMs; four percent of authorized AUMs). No loss of AUMs would occur in the Sand and Dome Allotments as the portion of those allotments within the Federal Parcel are steep and rocky and are not grazed.

Livestock grazing would continue on the Federal Parcel until the WCWCD provides the livestock permit holder with notification of the commencement of construction of the Reservoir. The BLM has received two-year waivers from the Warner Valley and Fort Pearce permittees that release their interest in the lands that fall within the Federal Parcel. The permittee for the Fort Pearce allotment signed the waiver on December 15, 2022, and the permittee for the Warner Valley Allotment signed on October 5, 2023. The Land Exchange would not result in the removal of any authorized permanent range improvements that would qualify for compensation by the United States.

The four grazing permittees have been notified of the proposed Land Exchange and of the potential loss of grazing use on the Federal Parcel, concurrently with the BLM's publication of the NOEP, which began a required two-year notification process. There is no legal requirement for the BLM to mitigate the loss of grazing use on public lands after notification has been made.

Non-Federal Parcel

Under the Proposed Action, grazing would not be authorized on the Non-Federal Parcel should it be conveyed to federal ownership as the NCA was designated to protect the ecological, scenic, wildlife, recreational, cultural, historical, natural, educational, and scientific resources found within the NCA Omnibus Public Land Management Act of 2009 (16 U.S.C. § 7202, Public Law 111-11, hereinafter OPLMA) at Title I, Subtitle O, Washington County, Utah, sec. 1975.).

3.5.5.3. Reasonably Foreseeable Effects

Implementation of the Proposed Action would result in the loss of 140 AUMs (representing approximately 0.5 percent of the 27,000 AUMs that are currently authorized by the BLM in Washington County) and affect four allotments (representing approximately three percent of the 124 allotments managed by the BLM in Washington County), as described above. This loss would add to other actions on BLM-administered

land in Washington County that have also resulted in loss of AUMs. The St. George Field Office RMP 1999 plan closed multiple grazing allotments in designated critical desert tortoise habitat. Allotments closed include Alger Hollow (Total AUMs: 1,371, Active: 741, Suspended: 506, EOU: 124), Red Cliffs (Total AUMs: 615, Active: 425, Suspended: 190), Yellow Knolls (Total AUMs: 60), and Washington (Total AUMs: 407, Active: 245, Suspended: 151, EOU: 11) Allotments. Spring grazing was retired in the Sandstone Mountain Allotment (Total AUMs: 154, Active: 109, Suspended: 45) and Sand Hills Allotment (Total: 110 AUMs, Active: 28, Suspended: 82). Other Allotments Relinquished include Leeds (Total AUMs 264, Active:182, Suspended:82), Harrisburg (269 Total AUMs, 150 Active, 119 Suspended), and Rockville (Total/Active AUMs: 21). Public lands within the Diamond Valley Allotment were also closed to livestock grazing in 2016 upon the publication of the Red Cliffs RMP (Total: 80 AUMs). Furthermore, the effects of the Land Exchange would be aggregate to the 70 AUMs lost in the Dome allotment through the Long Valley land exchange, though the Proposed Action would not result in a loss of any further AUMs within the Dome allotment. Historically, livestock operations have been impacted by urban growth, increased recreation and OHV use, periodic drought, increased vandalism, reduction of grazing privileges because of public land exchanges, and management actions connected to threatened or endangered species and other environmental values. Public lands within certain livestock grazing allotments within the NCA have also been retired in efforts to protect the tortoise habitat. These reductions are expected to continue into the foreseeable future. These impacts affect local economic opportunities of the ranchers by decreasing incomes, business revenues, and can lead to job losses. They also affect local community and cultural identity. Western communities have identities tied to ranching traditions and reducing grazing AUMs can erode ranching culture over time, which may lead to community pushback and tension between local producers and government agencies.

3.5.6. Issue 6: How would the Land Exchange and reasonably foreseeable land uses affect public access to the Federal and Non-Federal Parcels?

The spatial scope of analysis for this issue is Washington County, Utah as the County encompasses transportation and access roads that are used to access the Federal and Non-Federal Parcels.

3.5.6.1. *Affected Environment*

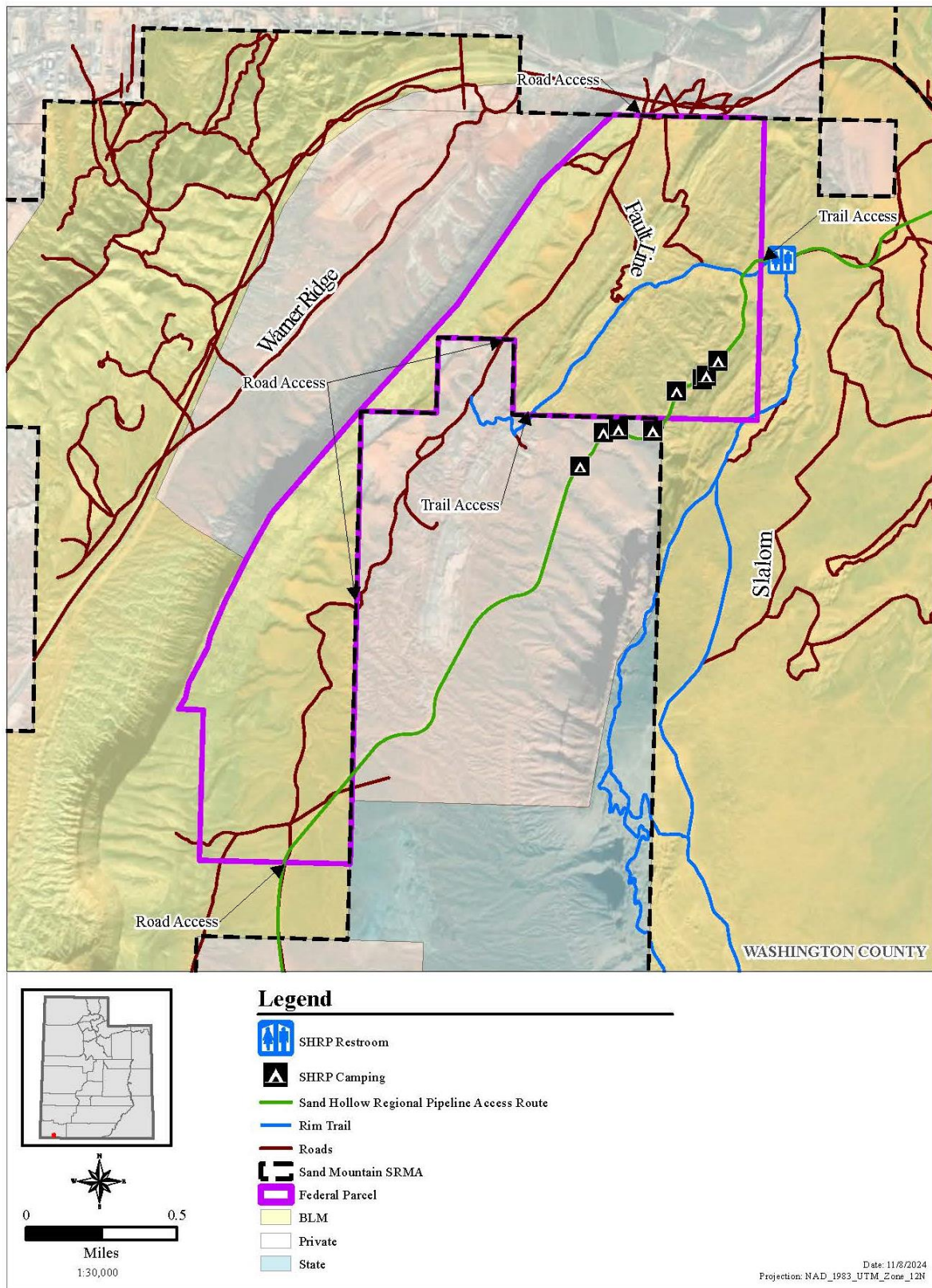
Washington County is bisected by Interstate-15 (**Figure 1.1**). Paved and unpaved roads surround the Federal and Non-Federal Parcels. Other paved roads near the Federal and Non-Federal Parcels include Utah State Highway 9, Washington Fields Road, Cottonwood Road, and the Southern Parkway (Utah State Route 7). The Warner Valley Road is a heavily used gravel road located south of the Federal Parcel. OHV-use levels in this area are high, and sanctioned events are common (**Recreation 3.5.3**).

Federal Parcel

The Federal Parcel is located in Warner Valley, approximately 1.5 miles east of St. George Airport, seven miles east of the City of St. George, and just outside of the city limits of Washington City in unincorporated Washington County. The nearest paved transportation

route to the Federal Parcel is the Southern Parkway, which runs along the entire west and north sides of the Parcel (**Figure 3.1**). Southern Parkway is approximately 0.5 miles away from the west side of the Parcel and less than 0.1 mile from the north side of the Parcel. Warner Valley Road lies approximately 1.2 miles south of the Parcel. Access to the southern end of the Parcel is from Warner Valley Road (**Figure 3.6**).

Figure 3.6. Federal Parcel Public Access



As discussed in detail in the Recreation Section (**Section 3.5.3**), the Federal Parcel includes designated OHV trails, informal staging, and dispersed camping areas. Undesignated OHV routes and use areas also occur within the Federal Parcel. The northeastern portion of the Parcel is used as a staging area for unloading and loading OHVs, and for camping. Access to the northern portion of the Federal Parcel is via the unpaved Pecan Road through the Long Valley Recreation Area. The southern portion of the Parcel is also used for camping and OHV use. Designated OHV trails, informal staging, and dispersed camping areas also exist immediately adjacent to the Federal Parcel. Not all access roads or trails on federal lands have legally established ROWs managed by land management agencies. This may result in limited public access and use, despite apparent connections on maps.

The WCWCD and the BLM have mutually agreed that a ROW will be processed for continued public access into the Parcel. Prior to the Land Exchange being finalized, the BLM will issue a perpetual ROW to itself for the portions of the West Rim Trail and the underpass access that fall within the Federal Parcel boundary to preserve access to adjacent public lands, shown in **Figure 3.6**. Four designated dispersed campsites are within the Federal Parcel and are accessed along the West Rim Trail. Currently these facilities are managed under a CMA with WCWCD and would continue to be managed under this management tool. There is currently one land use authorization for a regional water line owned by WCWCD that encumbers a portion of the Federal Parcel. No additional reservations, exceptions, covenants, restrictions, or encumbrances would be imposed on the exchange parcel lands without notifying and providing an opportunity for comment to the other party.

Non-Federal Parcel

The Non-Federal Parcel is located just east of the Middleton Bench, approximately 0.5 miles east of Cottonwood Springs Road, and adjacent to the Green Springs master planned community to the west. Access to the Non-Federal Parcel is limited to foot traffic. No motorized routes are located within the Non-Federal Parcel. The Parcel directly abuts a Washington City subdivision (Green Springs) to the east. The unpaved Cottonwood Road lies approximately 0.6 mile directly west of the Parcel and bisects the NCA and Reserve. The proposed Northern Corridor highway would abut the Parcel on its west side.

Authorized encumbrances on the Non-Federal Parcel include a 60-foot non-exclusive access road and utility easement, which has not yet been constructed, runs north-south through the southwest corner of the parcel. The Non-Federal Parcel is primarily used for tortoise habitat and falls within the Reserve (**Section 3.5.2**). No public recreation, livestock grazing, or OHV use occurs on the Parcel. No tortoise surveys have been conducted on the Non-Federal Parcel due to it being in private ownership.

3.5.6.2. Environmental Effects—Proposed Action

Federal Parcel

Secretarial Order 3373 requires the BLM to evaluate public access on BLM-administered land that could be transferred out of federal ownership.

General Access

Under the Proposed Action, the 929.14 acres of BLM-administered public lands within the Federal Parcel would become private property, thereby restricting any general public access or use. Access to the Federal Parcel from the north via the Southern Parkway, Long Valley Recreation Area, and Pecan Road as well as access from the south via the Warner Valley Road would be managed by the WCWCD with an access ROW issued to the BLM. Access to and use of the Parcel by OHVs would also be managed by the WCWCD. Construction of a reservoir would likely change access routes to meet reservoir use needs. Use on other roads, such as I-15, the Southern Parkway (Utah State Route 7), Utah State Highway 9, and the Washington Fields Road would not change. Use patterns on Warner Valley Road would likely change to access the Reservoir and also if access to OHV use areas in the Federal Parcel is restricted. Additionally, a ROW amendment would be needed for the Sand Hollow Regional Pipeline to remove the portion of the ROW authorization that is within the Federal Parcel, and any remaining portion of the ROW outside of the Federal Parcel would remain.

Recreation

Under the Proposed Action, there would be a loss of 929.14 acres of public land within the Sand Mountain SRMA, reducing the amount of land available for OHV activities (**Section 3.5.1**). This would affect local and visiting recreational users who currently use this area for motorized recreation. Camping facilities within the SRMA would also be affected, potentially limiting available camping spots. Public access for recreational purposes would be reduced. The land currently used for OHV recreation and camping would no longer be publicly accessible, forcing users to seek alternative locations for these activities (**Section 3.5.3**).

Livestock Grazing

Under the Proposed Action, there would be a reduction in land available for grazing, directly impacting the local ranchers who rely on four grazing allotments located within the Federal Parcel (**Section 3.5.5**). Existing infrastructure, such as portions of the Sand Hollow Regional Pipeline and associated access roads, would remain, but access to these may be restricted or altered depending on the new land management policies imposed by WCWCD. Grazing allotment users would lose access to these lands, impacting their operations. The BLM would be required to modify the terms and conditions of the federal grazing permits for the Fort Pearce and Warner Valley Allotments as approximately 140 AUMs would be lost (21 from Fort Pearce and 119 from Warner Valley). No loss of AUMs would occur in the Sand and Dome Allotments as the portion of those allotments within the Federal Parcel are not grazed due to steep and rocky terrain. The Land Exchange would not result in the removal of any authorized permanent range improvements that would qualify for compensation by the United States. The BLM has received two-year waivers from the Warner Valley and Fort Pearce permittees. Both permittees have released their interest in the lands that fall within the Federal Parcel (**Section 3.5.5**).

Reservoir Construction

Under the Proposed Action, construction of a reservoir on the Federal Parcel would likely alter current road use patterns, such as Warner Valley Road and Sand Hollow Road, in order to meet reservoir-related management needs. This would be additive to other previously described access changes resulting from the presence of the Reservoir. Use patterns on other Washington County roads, such as I-15, the Southern Parkway (Utah State Route 7), Washington Fields Road, and the Cottonwood Road would not likely change.

Non-Federal Parcel

Under the Proposed Action, WCWCD would convey approximately 89.43 acres of lands to federal ownership to be managed by the BLM. No new access to the Non-Federal Parcel would occur as the Parcel would be located within the NCA and would be managed pursuant to the congressionally identified purposes of the NCA. No new roads or trails would be constructed. Access on existing nearby routes, such as the Cottonwood Road, would continue as described in the Affected Environment. Authorized encumbrances on the Non-Federal Parcel would not interfere with the BLM's ability to manage the Parcel as they would not interfere with the goals, objectives, and decisions of the Red Cliffs NCA RMP, as described in Chapter 1 of this EA.

3.5.6.3. *Reasonably Foreseeable Effects*

Reductions in public access on the Federal Parcel for recreational, livestock grazing, and general access purposes would be additive to other impacts from BLM land exchanges that have already occurred on BLM-managed public land in Washington County. This would include 605 acres of land adjacent to the Federal Parcel that was recently transferred to private ownership (Long Valley Land Exchange). It is anticipated that the Long Valley parcel of land would continue to be used for residential development, and therefore, would not be used for public access or used after the development occurs. Additional impacts to public access would also include 801.71 acres that were transferred from TLA to WCWCD in 2019 that immediately abuts the Federal Parcel to the south. Alternative access would be required to areas used for livestock grazing or recreational pursuits (**Section 3.5.5** and **Section 3.5.3**) in or around the Federal Parcel.

3.5.7. Issue 7. How would the Land Exchange and reasonably foreseeable land uses affect cultural resources on the Federal and Non-Federal Parcels?

The spatial scope of the Land Exchange consists of the Area of Potential Effect (APE) which is the 929.14-acre Federal Parcel to be exchanged, without a buffer. The Non-Federal Parcel consists of 89.43 acres and is not part of the APE because the acquisition of land by the federal government would not cause effects to historic properties. Any future action on the Non-Federal Parcel following an exchange would be subject to appropriate laws, regulations, or requirements for the protection and management of cultural resources.

3.5.7.1. *Affected Environment*

The Affected Environment in the Land Exchange consists of two separate parcels, the Federal and Non-Federal Parcels. The Federal Parcel to be exchanged is comprised of 929.14 acres and is located in the Warner Valley within the Sand Mountain Special Recreation Management Area; just east of the City of Washington, Washington County, Utah. The Non-Federal Parcel to be acquired by the BLM is comprised of 89.43 acres and is located in an area within the NCA, just north of St. George, Utah.

Federal Parcel

The Federal Parcel was subject to cultural resource identification studies. These actions were conducted in compliance with Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), and the BLM's Statewide Protocol Agreement with the Utah State Historic Preservation Office. This included: a literature review of the Federal Parcel with a 0.5-mile buffer, a Class II probabilistic survey (154 acres), and a Class III intensive survey (770 acres). The Class II was determined due to steep, impassable terrain. Areas of high potential were investigated where the survey area could be safely accessed.

The cultural resources span from the 13,000 B.P. (before present) to the Historic period 1776-1880 AD, with several diagnostic projectile points being previously documented within the Federal Parcel literature search area. Very few sites dating from 9,000 BP–2,100 BP are documented. The majority of the sites within the Federal Parcel literature search area date to 1,600 BP–700 BP. There are few sites dating from 799 BP (Paiute) and Historic 1776 AD–1880 AD within the Federal Parcel literature search area.

With the environment influenced by the Virgin River, prehistoric habitation sites are found within portions of the Federal Parcel near the river, within Township 42 South; Range 14 West; Sections 28 and 29. These sites show long-term residential structures with repeated use in close proximity to each other (less than a mile) and multiple artifact types. The rock shelters, campsites, lithic quarries, artifact scatters, and petroglyphs are also located within these sections, but are located where the natural conditions exist, in the rock outcrops, on flat terrain, and exposed lithic sources. These sites indicate temporary, repeated use, and are dispersed. Basketmaker III–Pueblo I period site densities are relatively low in this region but are represented in the Federal Parcel and could help gain a greater understanding of subsistence practices, seasonality, and mobility during these time periods. Further information relating to agricultural practices with reference specifically to water availability could also be gathered based on spatial patterning of formative period sites, as well as evidence of agricultural activity at those sites.

Overall, the cultural resources in the Federal Parcel have been subject to a variety of impacts from past and ongoing actions. Actions that are directly impacting recorded resources through surface disturbance are primarily OHV use and other recreational uses as well as livestock grazing. These surface disturbance impacts have caused erosion and deterioration of these resources, which are at times destroying much of the sites' integrity. OHV tracks and modern debris, often in high concentration, are present throughout site areas.

Nine cultural resource sites occur in the Federal Parcel and the BLM has determined these sites to be eligible for listing on the National Register of Historic Places (National Register). When cultural resources are determined to be eligible for listing on the National Register, they are then described as historic properties. These historic properties are listed in **Table 3.10**.

Table 3.10. Historic Properties within the Federal Parcel

Site No.	Temporal Affiliation	Site Condition	Research Themes
42WS3886	Prehistoric Habitation, Virgin Ancestral Puebloan	The site area is bisected by a dirt road and OHV trails and has clearly been collected, as evidenced by looters pits; a great amount of disturbance from sheet washing, dynamic sandy soil, and recreational vehicles.	Study efforts should target lithic tool production, land use patterning, site structure, subsistence strategies, and OHV impacts.
42WS4126	Prehistoric Habitation, Virgin Ancestral Puebloan	The site has been impacted by erosion, collecting, and damage from recreational vehicles. The site no longer contains any recognizable features; heavy recreational vehicle traffic has destroyed most of the site's integrity. There is still the potential for subsurface cultural deposits.	Study efforts should target site patterning, land use patterns, and OHV impacts.
42WS5069	Prehistoric rockshelters, date unknown	The site has been impacted by erosion, collecting, and damage from recreational vehicles. Modern debris, ammunition shells, and OHV tracks were noted throughout the site area.	Study efforts should target site structure, land use patterning, subsistence strategies, rockshelter utilization, and OHV impacts.
42WS5073	Prehistoric lithic scatter and quarry, date unknown	The site is impacted by OHV recreational use and erosion but retains the possibility of subsurface cultural deposits.	Study efforts should target lithic procurement strategies, site structure, land use patterning, subsistence strategies, and OHV impacts.
42WS5074	Prehistoric rockshelters and petroglyph panel, Virgin Ancestral Puebloan	The site is impacted by sheet wash erosion and recreational vehicle use.	Study efforts target site structure, land use patterning, subsistence activities, and rockshelter utilization. Additionally, ethnographic interpretation should be applied to the petroglyph panel (F-03), and OHV impacts.

Site No.	Temporal Affiliation	Site Condition	Research Themes
42WS5075	Prehistoric rockshelter, Virgin Ancestral Puebloan	The site is impacted by sheet wash erosion and recreational vehicle use.	Study efforts target site structure, land use patterning, subsistence strategies and OHV use.
42WS5197	Prehistoric campsite, Virgin Ancestral Puebloan	The site has been impacted by erosion and damage from recreational vehicles.	Study efforts target site structure, land use patterning, subsistence strategies, and OHV impacts.
42WS5198	Prehistoric campsite, date unknown	The site has been impacted by sheet wash erosion, collecting, and damage from recreational vehicles.	Study efforts target land use patterning, subsistence strategies, and OHV use.
42WS6744	Prehistoric petroglyph, date unknown	The site has been impacted by erosion.	Study efforts include additional research, stylistic analysis, and additional ethnographic interpretation.

Non-Federal Parcel

A literature search with a 0.5-mile buffer was conducted for the Non-Federal Parcel. Cultural resource surveys are not required for acquisitions. However, if acquired, this parcel would become subject to the Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), and the BLM's Statewide Protocol Agreement with the Utah State Historic Preservation Office.

Within the Non-Federal Parcel literature search area there have been two previous surveys, totaling 11.1 acres. Two cultural resources have been documented in the Non-Federal Parcel literature search area. One is a prehistoric lithic scatter (42WS1746), recorded in 1984 and was determined not eligible for the National Register, noting erosion and grazing use as impacts. The other is prehistoric petroglyph panel (42WS6366) with prehistoric and historic artifacts, recorded in 2020 and was determined to be eligible for the National Register. It was affected by erosion, collecting/vandalism, and damage from recreational vehicles.

With this environment lacking water resources, the prehistoric use and occupation was likely short-term campsites for seasonal resource exploitation. There is low potential for habitation, long-term use cultural resources. However, there is a higher potential of Paiute sites and historic sites as both site types have been documented in the Non-Federal Parcel literature search area.

3.5.7.2. Environmental Effects—Proposed Action

Federal Parcel

The transfer of the Federal Parcel to private ownership would result in an immediate adverse effect, as defined in 36 CFR § 800.5 (a)(2)(vii), to nine historic properties identified within the Federal Parcel. The CFR defines adverse effects as:

“Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance.”

Private land is not subject to Section 106 and there would be no assurance of long-term preservation of the nine historic properties' significance. Additionally, any other cultural resources located on the Federal Parcel would also lose federal protections applied through the Section 106 process.

These adverse effects would include the potential loss of cultural ancestral resources for the descendants of the Southern Paiute people, loss of scientific information, and the possibility that the sites could be damaged or destroyed. Valuable data related to land use (spatial patterning), subsistence strategies, paleoenvironment, and habitation would be destroyed. Considering prehistoric land use patterning, mobility, and subsistence strategies can encompass a large area, the loss of this data has the potential to impact our knowledge of the area's prehistory.

To resolve these adverse effects the BLM is developing a Memorandum of Agreement (MOA), Historic Property Treatment Plan (HPTP), and Native American Graves Protection and Repatriation Act Plan of Action (NAGPRA POA) to mitigate and resolve potential adverse effects to historic properties that are described above (36 CFR § 800.6 (c)) (**Appendix H**). These documents have involved extensive consultation with consulting parties (see details in Chapter 4). The executed MOA with supplemental HPTP and NAGPRA MOA would help document the BLM's compliance with Section 106 and the BLM would ensure that the MOA is followed.

The SHPO concurred with the area of potential effect, identification efforts, and eligibilities of the sites in June 2023. Consultation efforts have resulted in stipulations and treatments coordinated with Tribal members and consulting parties. These include having Tribal monitors present during data recovery, ethnographic interpretations of petroglyph panels, and development of public educational materials.

Without the mitigation efforts described in the HPTP and MOA, the construction of the reasonably foreseeable reservoir would also cause adverse effects to the nine historic properties. Cultural resources could be inundated, flooded, and submerged. Any ground-disturbing construction activities related to the Reservoir and associated facilities (pipelines, fence lines, dam, and recreational areas) could adversely affect cultural resources. Recreational impacts would adversely affect cultural resources by allowing unregulated access to site locations, causing faster deterioration and potential for artifact collecting, vandalism, or destruction.

Non-Federal Parcel

Acquisition of the Non-Federal Parcel by the BLM would place any cultural resources located in the Non-Federal Parcel under the protection of federal historic preservation laws, including the NHPA. The Non-Federal Parcel would be managed consistent with Red Cliffs NCA and Washington County HCP protocols. This management would result in a direct, long-term, beneficial effect for any cultural resources located in the Non-Federal Parcel because these cultural resources would be subject to federal protections and management protocols, which provide adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the cultural resources' historic significance.

3.5.7.3. Reasonably Foreseeable Effects

Nine recorded and known cultural resources are present on the Federal Parcel. Potential adverse effects to these cultural resources would occur because federal protection of these resources and the land surrounding them would be removed and development of the area would no longer be subject to the Section 106 process. Trends already apparent at the site locations include recreational use, livestock grazing and trampling, vandalism, and at times, massive erosion. The incremental effects of these trends would likely increase in both intensity and speed, increasing the likelihood of resource destruction. The reasonably foreseeable placement of a reservoir on the Federal Parcel would subject cultural resources to flooding or total inundation, which would add to the impacts caused by the previously mentioned impacts and trends, resulting in an undetermined increase in impacts to cultural resources on the Federal Parcel.

3.5.8. Issue 8. How would the proposed land exchange and reasonably foreseeable land uses affect paleontological resources that occur within the Federal Parcel?

The spatial scope of analysis associated with this issue is Washington County because both the Federal Parcel and Non-Federal Parcel are within the county and this boundary provides context for potential impacts to paleontological resources within the Parcels.

3.5.8.1. Affected Environment

A literature review and locality search were conducted for Washington County to put the significance of paleontological resources within the Federal Parcel into context with known regional resources. The BLM IM 2009-11 defines significant paleontological resources as fossils that are high quality, well preserved, and rare (BLM, 2022). Most vertebrate remains are classified as significant, along with rare or well-preserved invertebrates and plants, whereas non-significant paleontological resources include invertebrate and plant fossils that are isolated, fragmented, poorly preserved, or common (BLM 2008). Washington County contains many important paleontological localities, including several localities with fossils from the same formations that are present within the Federal and Non-Federal Parcels. These formations are terrestrial sedimentary rocks that span the period when dinosaurs were becoming the dominant animals on the landscape, which is known as the Triassic-Jurassic boundary. The paleontological survey area for this Project included all Potential Fossil Yield Classification (PFYC) 3–5 and

Unknown areas in the Federal Parcel. The PFYC 2 Springdale Sandstone Member of the Kayenta Formation was also included in the survey area due to dinosaur trackways known within the member. The PFYC is a system that ranks geologic units between 1 and 5, 1 being very low probability and 5 being very high probability of encountering scientifically significant fossils (BLM 2008a). The Federal Parcel survey included the Chinle Formation (PFYC 3), Moenave Formation (PFYC 4), Kayenta Formation (PFYC 4 and PFYC 2), Navajo Sandstone Formation (PFYC 4), and recent eolian and alluvial deposits (PFYC Unknown). The Non-Federal Parcel was not surveyed because it is in private ownership.

Paleontological areas worth noting within Washington County include the St. George Dinosaur Discovery Site at Johnson Farm, located approximately 4.5 miles to the west of the Federal Parcel, and the Warner Valley Dinosaur Track Site located seven miles southeast of the Federal Parcel. Both localities preserve exceptional dinosaur trackways. Common fossils found in the Chinle Formation in Washington County include petrified wood, carbonized plant remains, phytosaurs, metoposaurs, coprolites, and unidentified bone fragments. Common fossils found in the Moenave Formation in Washington County include semionotid fish, coelacanth fish, dinosaur tracks, and occasional dinosaur body fossils. Common fossils found within the Kayenta Formation in Washington County include dinosaur tracks, invertebrate traces, coelacanth fish, semionotid fish, plant fossils, and petrified wood. Fossils within the Navajo Sandstone Formation in Washington County are less common, but include early mammal tracks, dinosaur tracks, and invertebrate traces.

Federal Parcel

Fieldwork previously conducted on the Federal Parcel included discoveries of dinosaur trackways and fish body fossils. Six previously known paleontological localities occur in the Federal Parcel (**Table 3.11**). Most significantly, a new species of lung fish was named, and the holotype was designated from a fossil found on the Federal Parcel in 2003. The Federal Parcel is a high-density area for paleontology discovery due to both the geologic formations that are preserved in the area and the amount of exposed bedrock with minimal vegetation coverage (Transcon 2023b). To find paleontological resources, both rocks of the right age and exposure at the surface, without being obscured by vegetation or more recent sediments, are necessary.

Table 3.11. Previously Known Paleontological Localities

UGS Locality No.	Locality Name	Formation	Discovered By	Date	Identification	PLSS
Ws0019V	Washington Dome Section	Moenave Formation; Springdale Sandstone	Blaine Day	1967	Fish scales and fragments; petrified wood	T42S, R14W, Sec. 29
Ws0324V	Warner Valley Spring	Moenave Formation,	Don DeBlieux, Jim Kirkland,	2003	Fish in algal limestone	T42S, R14W, Sec. 29

UGS Locality No.	Locality Name	Formation	Discovered By	Date	Identification	PLSS
	Moenave Fish Site	Whitmore Point Member	Andrew Milner			
Ws0329V	Warner Valley North 1 Lungfish Tooth Plate	Moenave Formation, Whitmore Point Member	Andrew Milner, Sally Stephenson	2004	Ceratodontid lungfish tooth plate <i>Ceratodus stewarti</i> (holotype) (UMNH VP 16027)	T42S, R14W, Sec. 29
Ws0475V	Semionotid Fish	Moenave Formation, Whitmore Point Member	Andrew Milner, Sarah Spears	2007	Semionotid fish	T42S, R14W, Sec. 29
Ws0476T	Mader Moenave Tracksite 1	Moenave Fm, Upper Dinosaur Canyon Member	Andrew Milner, Sarah Spears	2007	<i>Grallator</i> and possible <i>Eubrontes</i> tracks	T42S, R14W, Sec. 29
Ws0477T	Mader Moenave Tracksite 2	Moenave Fm, Upper Dinosaur Canyon Member	Andrew Milner, Sarah Spears	2007	<i>Grallator</i> and possible <i>Eubrontes</i> tracks	T42S, R14W, Sec. 29

The Federal Parcel was evaluated for paleontological resources between March 2023 and May 2023. A total of 853 acres were surveyed, including approximately 33 acres of PFYC 2 (Springdale Sandstone Member of Kayenta Formation), 305 acres of PFYC 3 (Chinle Formation), 366 acres of PFYC 4 (Kayenta Formation, Moenave Formation, Navajo Sandstone Formation), and 149 acres of PFYC Unknown (Pleistocene stream and wind deposits). The six previously known paleontological localities within the project area were re-visited, evaluated, and documented. Of the previously known localities, four were determined to be scientifically significant and two were non-significant. There were 54 newly discovered localities identified within the Federal Parcel during the survey; of these, 18 were defined as scientifically significant discoveries and 36 were non-significant discoveries. Two additional localities were documented within the survey area but outside of the Land Exchange project area as the northeastern boundary of the project was reduced after the survey. Those two localities would be retained in BLM ownership. All of the paleontological resources that met the scientifically significant standard were collected and sent to the repository during the surveys for this project.

New localities documented in this survey consisted of dinosaur tracks, fish cranial and skeletal material, petrified wood, indeterminate invertebrates, and invertebrate burrows. Most of the collected material consisted of semionotid and coelacanth fish fossils from the Moenave Formation. Several dinosaur tracks and trackways were documented using

photographs and three-dimensional surface scans but were not collected (Transcon 2023b). All collected scientifically significant fossils would be repositied at the Natural History Museum of Utah (UMNH), and locality records would be retained with the UMNH, the BLM, and the Utah Geological Survey (Transcon 2023b).

Fossils within the Federal Parcel are currently protected by the *Paleontological Resources Preservation Act of 2009* and the BLM's paleontological management rules and regulations (43 CFR § Part 49), but some fossils are experiencing impacts due to the high volume of recreation and OHV use in the area. There are areas where OHVs are driving directly over outcrops of exposed fossils.

Non-Federal Parcel

The Non-Federal Parcel was not surveyed for paleontological resources. This parcel is underlain by approximately 79 acres of the PFYC 4 Navajo Sandstone Formation and 1.5 acres of PFYC 2 Pleistocene eolian sand deposits. Due to similar geological structures of the Federal and Non-Federal Parcels, there could be paleontological resources on the Non-Federal Parcel. However, there are no previously known paleontological resources on the Non-Federal Parcel.

3.5.8.2. *Environmental Effects—Proposed Action*

Federal Parcel

Under the Proposed Action, the 54 new paleontological localities, including 18 scientifically significant localities, located within the Federal Parcel would lose federal protection and would become property of the WCWCD. As the property owner, the WCWCD would own the fossils and have the ability to sell, study, donate, or destroy as their needs dictate. Although there are numerous other paleontological sites, they are not unique to the area or scientifically significant. Potential construction of a reservoir on the Federal Parcel would cause adverse effects to paleontological resources through direct damage from construction activities or inundation by water. Anticipated increases in human visitation to the Warner Valley area resulting from future developments could harm paleontological resources through illegal collecting or related recreational damage.

The following management recommendations were developed in coordination with BLM paleontologists to help mitigate impacts to paleontological resources in this area if the Land Exchange were to occur.

- **Periodic Monitoring by Qualified Paleontologists:** As erosion continues, new fossils will become exposed. It would be beneficial to paleontological resources and regional scientific knowledge to allow interested paleontologists future access for monitoring and research activities. Periodic monitoring by a qualified paleontologist may include 1) checking existing localities for new material and 2) checking the moderate-high potential geologic units for newly exposed localities. Areas available for access by qualified paleontologists would be determined by the WCWCD to protect public health and safety.
- **Interpretive Signage:** Interpretive displays and/or signage could be developed and posted in a high-traffic and accessible area to educate the public and offset federal

loss of paleontological resources. Interpretive panels describing the unique geology and paleontology of this area could be placed locally or on nearby BLM-managed areas. This interpretive signage should be approved by the BLM, and locations for posting would be identified in coordination with the BLM.

- **Coordinate and Inform Future OHV Actions:** Off-road vehicle usage impacts the geologic formations and paleontological resources in this area. Formation of new OHV trails could be developed in coordination with an interested qualified paleontologist.

In addition, to mitigate potential effects to scientifically significant paleontological resources, all of the paleontological resources on the Federal Parcel that met the scientifically significant standard were collected and sent to the repository during the surveys for this project.

Non-Federal Parcel

Under the Proposed Action, approximately 89.43 acres of Non-Federal land within the Reserve and NCA would be transferred to federal ownership. Reasonably foreseeable land uses on the Non-Federal Parcel that could affect paleontological resources through surface disturbance and potential illegal collecting include non-motorized recreation such as hiking, horseback riding, wildlife observation, and biking. Within the NCA, all hiking, biking and equestrian use is limited to designated trails and cross-country travel is prohibited. This management action would significantly limit the damage to any paleontological site caused by these activities, as there are no trails for any activity withing this parcel. Any potential paleontological resources located on the Non-Federal Parcel would receive federal protections provided under the BLM's paleontological management rules and regulations (43 CFR § Part 49) as well as the *Paleontological Resources Preservation Act of 2009*.

3.5.8.3. Reasonably Foreseeable Effects

The loss of approximately 853 acres of PFYC 3–5 and Unknown potential geologic formations containing paleontological resources from federal ownership would be aggregate to the losses resulting from the 605-acre Long Valley land exchange and the recent land purchase between TLA and the WCWCD (801.71 acres) on the abutting parcel of land to the south. These two parcels totaling 1406.71 acres also contained similar types of paleontological resources. While no additional upcoming land exchanges have been proposed near the Federal Parcel, additional exchanges that could add to the current and past impacts to paleontological resources would be considered in the future.

3.5.9. Issue 9: How would the Land Exchange affect the resource values of the Warner Ridge/Fort Pearce ACEC?

The spatial scope of analysis associated with this issue is the 4,281-acre Warner Ridge/Fort Pearce ACEC. This analysis area was chosen because the northeastern boundary of the Warner Ridge/Fort Pearce ACEC abuts the southwestern border of the Federal Parcel (**Figure 3.7**). The Non-Federal Parcel is approximately six miles northwest of the nearest ACEC, which is the Warner Ridge/Fort Pearce ACEC.

3.5.9.1. Affected Environment

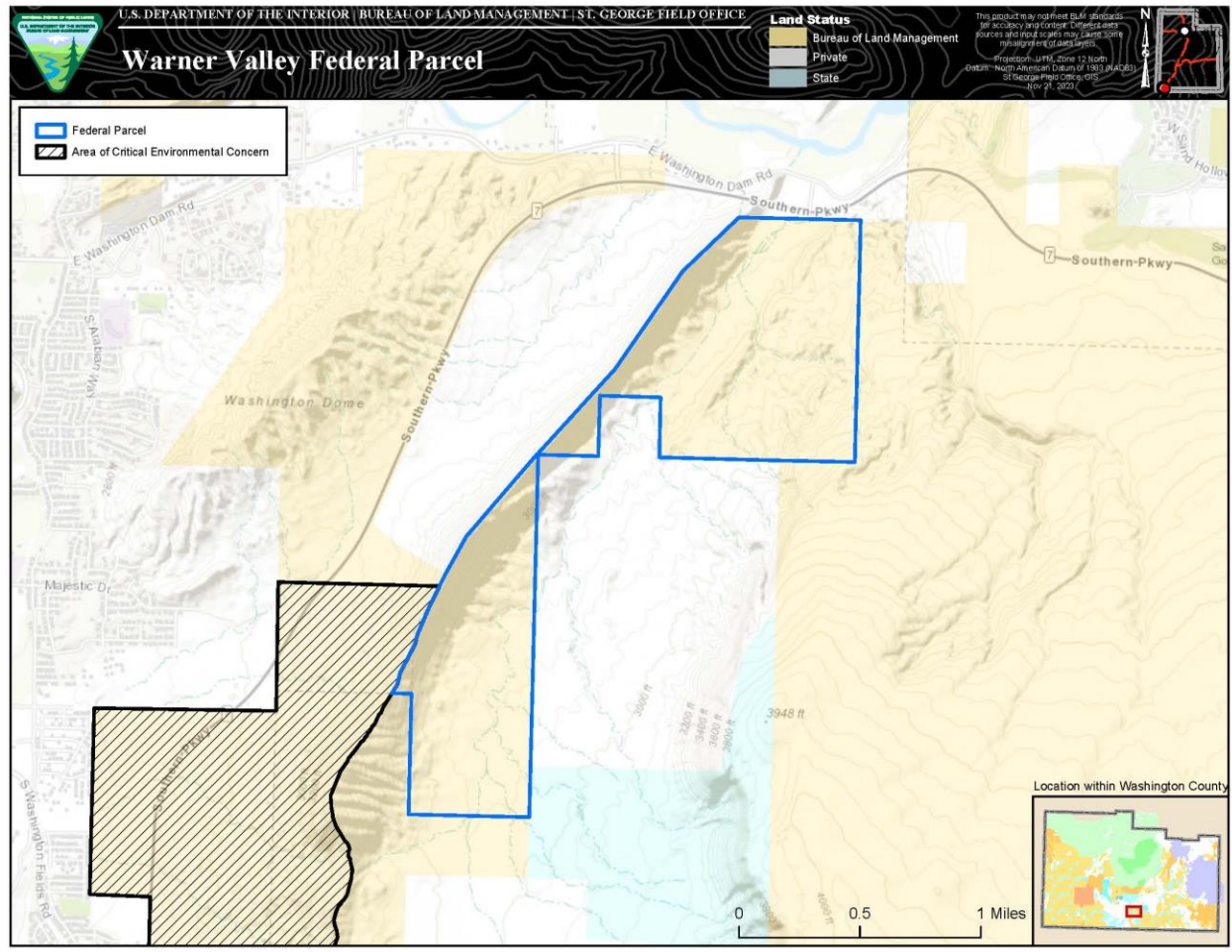
ACECs are areas that “require special management to prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems” and are designated through the BLM land use planning process (BLM 1999). The 4,281-acre Warner Ridge/Fort Pearce ACEC is one of 11 ACECs located on BLM-managed public lands in Washington County (BLM 1999, BLM 2016c). It was established to protect the listed dwarf bear-poppy (*Arctomecon humilis*), Siler’s pincushion cactus (*Pediocactus sileri*), important riparian values along the Fort Pearce Wash, historic sites, and highly erodible soils, all of which are at risk from off-road travel, road proliferation, urban growth, and human encroachment (BLM 1999). The ACEC also contains essential habitat for waterfowl, Gila monster (*Heloderma suspectum*), spotted bat (*Euderma maculatum*), raptors, and other nongame species (BLM 1999). The federal land within the northernmost end of the ACEC abuts private land on its west side and the Federal Parcel for 0.5 miles on its east side. Housing developments are present to the north and west on private lands that abut the ACEC. The northern portion of the ACEC is bisected by the Southern Parkway (**Figure 3.1**) and the recently approved Long Valley Road Extension ROW (BLM 2020). No other ACECs in Washington County are located within nine miles of the Federal or Non-Federal Parcels.

Management prescriptions for the Warner Ridge/Fort Pearce ACEC are described in the SGFO BLM RMP (BLM 1999) and include the following:

- Category 3 (No Surface Occupancy) stipulations have been applied to fluid mineral leasing
- The ACEC is closed to fuelwood and mineral materials sales and is a designated ROW avoidance area
- The BLM is recommending that the ACEC be withdrawn from mineral entry, pending approval from the Secretary of the Interior (43 CFR § 2300.0-3 (a)(1))
- Motorized travel is limited to designated roads and trails
- Mountain bike use is limited to designated roads and trails
- Public lands within the ACEC will be retained in public ownership, and Non-Federal lands are to be acquired to help achieve site management objectives
- Special recreation permits are issued where site-specific analysis determines that the authorized activity will not affect ACEC values
- Sand Mountain SRMA prescriptions apply to the ACEC to help achieve site objectives

3.5.9.2. *Environmental Effects—Proposed Action* *Federal Parcel*

Figure 3.7. Area of Critical Environmental Concern near Federal Parcel



The northeastern corner of the Warner Ridge/Fort Pearce ACEC that abuts the Federal Parcel would be further isolated and surrounded by private land (**Figure 3.1**). The approximately 0.5 miles where the ACEC abuts the Federal Parcel represent approximately 2.1 percent of the total ACEC perimeter (**Figure 3.2**). This would add to the 1.24 of miles of private land that currently abuts the ACEC on its northwestern side (**Figure 3.2**). The transfer of the Federal Parcel to the WCWCD would further isolate the north end of the ACEC and would result in an increased potential for development adjacent to the ACEC. Construction and use of a reservoir on the Federal Parcel could increase threats to ACEC values from recreation use associated with the Reservoir. The ACEC is currently identified as at risk from "off-road travel, road proliferation, urban growth, and human encroachment" (BLM 1999). Implementation of the Proposed Action could exacerbate these threats due to further isolation of the ACEC from other federally managed lands and use of the Federal Parcel resulting from the Reservoir and OHV and other outdoor recreation use occurs on lands adjacent to the ACEC. However, once the

parcels have been exchanged, the BLM would no longer have control over the activities that would occur on the Federal Parcel, which may indirectly affect land within the ACEC.

Placing a reservoir on the Federal Parcel could subject surrounding lands to potential flooding if a dam failure occurred. This could result in an undetermined increase in impacts to the Warner Ridge/Fort Pearce ACEC as the ACEC could be damaged or face increased pressure to support migrating animals and human recreators should the land surrounding the Reservoir become unsuitable for use due to flooding. However, reservoirs are designed with spillways to prevent flooding, which are reviewed and approved by Utah Dam Safety.

Non-Federal Parcel

As described under the No Action Alternative impact analysis, there is no spatial relationship between the Non-Federal Parcel and the Warner Ridge/Fort Pearce ACEC, therefore there would be no impacts to the ACEC resulting from BLM's acquisition of the Non-Federal Parcel.

3.5.9.3. Reasonably Foreseeable Effects

Management challenges of the ACEC would continue due to outdoor recreation use (see **Section 3.5.3**). Increased recreational and other land use development opportunities adjacent to the ACEC would combine to make management prescribed in the SGFO BLM RMP more difficult. ACEC values identified in the BLM RMP, such as historic sites, nongame species, and highly erodible soils (BLM 1999), may be decreased because of these actions. This would also be additive to the Long Valley Road Extension Right of Way, which directly impacted 51.1 acres in the northern part of the ACEC through construction and vehicle usage. While the 2016 Long Valley Land Exchange and the 2019 TLA/WCWCD land purchase did not have direct impacts on the ACEC, they reduced available federal and TLA land around the ACEC, contributing to an island effect. Therefore, the ACEC and the biological, scenic, and recreational values it contains are limited from expansion and migration. Potential flooding if a dam failure occurred would be additive to damage to ACEC values that has already occurred from off-road travel, road proliferation, urban growth, and human encroachment.

3.5.10. Issue 10: How would the Land Exchange and reasonably foreseeable land uses impact social and economic values and conditions in Washington County, Utah?

The spatial scope of this analysis is Washington County, UT. This scope was selected because it surrounds and contains the two Parcels and contain populations that the project may directly and/or indirectly impact. Socioeconomic analysis requires a reference area to put the findings in the spatial scope into a larger context. The reference community for this analysis was identified as the State of Utah. County-level and state reference data were obtained from the U.S. Department of Labor, the Bureau of Labor Statistics, the U.S. Department of Commerce, local area unemployment statistics, and the U.S. Census Bureau, as compiled by Headwaters Economics for the BLM.

3.5.10.1. Affected Environment

As the proposed action details a transfer of land between federal and Non-Federal entities, land ownership data is presented. Land ownership patterns provide important context for understanding the potential social and economic impacts of BLM management decisions in the analysis area. Analysis areas with high percentages of federal land are more susceptible to socioeconomic and quality-of-life impacts from BLM management actions. Moreover, state and local governments receive monies from the federal government in lieu of taxes that would potentially not be earned should the land be in private ownership. In FY 2019 the federal government paid state and local governments in Washington County a total of \$4,225,335 (in FY 2023 dollars). Table 3.12 illustrates that there is a higher percentage of Federal land in Washington County (74.8%) than Federal land within the entire state of Utah (40.8%).

Table 3.12. Land Ownership in the Warner Valley Red Cliffs Land Exchange (LEX) Socioeconomic Analysis Area in Acres (and Percent of Total)

-	Washington Co., Utah	State of Utah
Total Land	1,552,982	53,239,486
Federal Land	1,162,166 (74.8 percent)	34,991,445 (65.6 percent)
BLM	634,247 (40.8 percent)	22,764,908 (42.8 percent)
Tribal Land	10,709 (0.7 percent)	1,178,936 (2.2 percent)

*Citation: US Geological Survey, Gap Analysis Program. 2022. Protected Areas Database of the United States (PADUS) version 3.0. Accessed via Headwaters Economics, July 16, 2024.

Washington County is experiencing rapid population growth and accompanying land use transition. In 2000, 61,723 acres in Washington County were classified as residential (includes urban, suburban, and exurban). In 2010, that acreage grew nearly 40 percent to 85,999 acres; the majority of that growth occurred in suburban and exurban land uses. While population growth is generally an indication of a healthy economy, rapid growth can stress social and economic communities, lead to income stratification, and place housing, transportation, and environmental burdens on communities. In 2022, the total analysis area population was 197,680 people. Analysis area population increased by 106,474 people between 2000 and 2022 (**Table 3.13**). This represents an increase of 116.7 percent over that period and far exceeds the State of Utah's population growth rate across that same period. Washington County's population is projected to exceed 464,000 by 2060 (Gardner Policy Institute 2024b).

Table 3.13. Population in the Warner Valley Red Cliffs LEX Socioeconomic Analysis Area (and percent change from 2000-22)

-	Washington Co., Utah	State of Utah
Pop. 2000	91,206	2,244,502
Pop. 2022	197,680	3,380,800

Percent Change	+116.7 percent	+50.6 percent
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*U.S. Department of Commerce. 2023. Bureau of Economic Analysis, Regional Economic Accounts, Washington D.C. Accessed via Headwaters Economics, July 16, 2024.

Since 2010, much of the analysis area's population growth has occurred in the urban areas proximal to St. George, UT (**Table 3.14**), making the St. George metropolitan area the dominate population center in the analysis area. Specifically, most of the development has occurred in cities and towns west of Hurricane, UT. These growth trends continue and have exacerbated regional development pressures in Hurricane, Washington, St. George, Santa Clara, and Ivins. Population growth is predicted to continue to heavily influence communities that abut both the Federal and Non-Federal Parcels (World Population Review 2024).

Table 3.14. St. George, UT Metropolitan Area Populations

-	St. George	Washington City	Ivins	Toquerville	La Verkin	Leeds	Hurricane	Santa Clara
Pop. 2010	71,136	17,406	6,590	1,477	4,087	849	13,232	5,967
Pop. 2022	96,174	29,161	9,174	2,034	4,360	798	20,609	7,625
Percent Change	+35.2	+67.5 percent	+39.2 percent	+37.7 percent	+6.7 percent	-6.0 percent	+55.8 percent	+27.8
2022 percent of Total AA Pop.	48.7 percent	14.8 percent	4.6 percent	1.0 percent	2.2 percent	0.4 percent	11.4 percent	3.9 percent

*U.S. Department of Commerce. 2023. Census Bureau, American Community Survey Office, Washington D.C. Accessed via Headwaters Economics, July 17, 2024.

In 2022, 21.9 percent of Washington County residents were 65 years or older. This represents a 5.4 percent increase from 2010. This is representative of Washington County's ongoing transition towards amenity and retirement communities (**Table 3.15**).

Table 3.15. Warner Valley Red Cliffs LEX Socioeconomic Analysis Area Age Profile (and percent change 2010-22)

-	Analysis Area 2010	Analysis Area 2022	Percent Change (2010-22)	Reference Area Percent Change (2010-22)	Urban 2010 (see above for city names)	Urban 2022 (see above for city names)	Percent Change (2010-22)
Total	134,033	183,297	+36.7 percent	-----	121,104	170,625	-

-	Analysis Area 2010	Analysis Area 2022	Percent Change (2010-22)	Reference Area Percent Change (2010-22)	Urban 2010 (see above for city names)	Urban 2022 (see above for city names)	Percent Change (2010-22)
Under 18	40,607	45,648	-5.4 percent	-2.9 percent	36,081	42,444	-4.9 percent
18-34	31,319	38,196	-2.6 percent	-1.7 percent	29,180	36,291	-2.8 percent
35-44	13,277	21,648	+1.9 percent	+1.8 percent	11,674	20,179	+2.2 percent
45-64	26,693	37,650	+0.6 percent	+0.2 percent	23,668	34,353	+0.6 percent
65 and over	22,137	40,155	+5.4 percent	+2.5 percent	20,501	37,358	+5.0 percent

*U.S. Department of Commerce. 2023. Census Bureau, American Community Survey Office, Washington D.C. Accessed via Headwaters Economics, July 17, 2024.

There were 124,640 full- and part-time jobs in Washington County (as defined by the U.S. Department of Commerce) in 2022 (**Table 3.16**). This represents an increase of 74,574 employed persons from 2001 to 2022. This growth rate is equivalent to population growth rates in the reference area.

Communities displaying continued population growth – especially in older age-bracket demographic sectors – often display economic shifts from non-service to service economies. It is estimated that in 2022, 18,791 jobs in Washington County (15.1 percent) were in non-services related sectors compared to 15.5 percent in the entire state of Utah (**Table 3.16**). Within the non-service sector, construction (12,535 jobs, 10.0 percent of total jobs) was the largest employer. There were an estimated 95,119 jobs (76.3 percent) in service-related employment sectors compared to 73.0 percent in the reference area. Within the service sector, retail trade (14,923 jobs, 12.0 percent of total jobs) and health care/social assistance (14,038 jobs, 11.3 percent of total jobs) were the largest employers. Additionally, there were 10,730 jobs (8.6 percent) in the government sector compared to 11.6 percent in the entire state of Utah. From 2001 to 2022, jobs in non-service sector industries grew by 106.2 percent. During that period jobs in service sector industries grew by 170.3 percent. Both growth rates are significantly higher than the state of Utah (non-service, 41.2 percent; service, 85.7 percent).

Table 3.16. Warner Valley Red Cliffs LEX Jobs by Industry (percent of total jobs)

-	Washington Co., Utah	State of Utah
Total Jobs 2022	124,640	2,367,996
Total Jobs 2001	50,066	1,391,757

-	Washington Co., Utah	State of Utah
Total Jobs Change (2001-2022)	+74,574 (+149.0 percent)	+976,239 (+70.1 percent)
Total Non-Service Jobs 2022	18,791 (15.1 percent)	366,312 (15.5 percent)
Total Non-Service Jobs 2001	9,112 (18.2 percent)	254,112 (18.3 percent)
Total Non-Service Percent Change	- 3.1 percent	- 2.8 percent
Total Service Jobs 2022	95,119 (76.3 percent)	1,728,097 (73.0 percent)
Total Service Jobs 2001	35,187 (70.1 percent)	930,582 (66.9 percent)
Total Service Change	+ 6.2 percent	+ 6.1 percent

*U.S. Department of Commerce. 2023. Bureau of Economic Analysis, Regional Economic Accounts, Washington D.C. Accessed via Headwaters Economics, July 16, 2024.

In many areas, including Washington County, UT, private agricultural lands are converted to other land uses. In 2022, there were 553 farms (including livestock operations and hay crop production) in Washington County, UT. Livestock ranching and production accounted for 63.3 percent of farms (U.S. Department of Agriculture, 2024).

Washington County per capita income in 2022 was \$52,826 (as measured in 2023 dollars) – an increase of 56.7 percent from 2000 to 2022. Over the same period, average earnings per job grew 14.1 percent. In 2023, total Washington County non-labor income accounted for 50.4 percent of all income. This is compared to 34.8 percent in the state of Utah. The highest categories of non-labor income were in Dividends, Interest and Rent and Age-Related Transfer Payment categories (U.S. Department of Commerce, 2023).

In 2022, 5.7 percent of families in Washington County were living in poverty. This is equal to the reference area (U.S. Department of Commerce, 2023).

Land and water-based recreation (including, but not limited to, OHV recreation) is an important social and economic driver in Washington County, UT. In 2021, visitors to Washington County spent an estimated \$911.9 million dollars. Moreover, Washington County visitor spending made up 10.3 percent of total statewide visitor spending (Gardner Policy Institute 2024).

Federal Parcel

The Federal Parcel is a popular and sanctioned OHV use site and includes portions of the Sand Mountain SRMA and Sand Mountain Open OHV area. Designated OHV trails, informal staging, and dispersed camping areas are present. The Sand Mountain SRMA and Open OHV area experience a high level of recreation use. Approximately 1,108 acres of four livestock grazing allotments are located within the Federal Parcel. For more information on Livestock Grazing, please see **Section 3.5.5**. Compensation received by Washington County through the federal Payment in Lieu of Taxes (PILT) program totaled

approximately \$2,911 in 2023 for the 929.14 acres of public lands located in the Federal Parcel (U.S. Department of the Interior, 2023).

Non-Federal Parcel

The Non-Federal Parcel is private property located within the Red Cliffs Reserve and NCA. There are no designated trails and roads present in the Non-Federal Parcel and no livestock grazing occurs on the property. The Non-Federal Parcel contributes to the Washington County tax base through property tax collection.

3.5.10.2. Environmental Effects—Proposed Action

Federal Parcel

Under the Proposed Action, 929.14 acres of federally administered and managed land in Washington County, UT would transfer into private ownership. It is anticipated that some or all of this land would be developed, potentially continuing the trend in Washington County, UT towards urban, suburban, and exurban expansion. In 2023, the WCWCD Board of Trustees published a resolution committing to keep the Federal Parcel, if it is transferred to WCWCD, open for public recreation until construction activities of the Reservoir infrastructure begins. Once development occurs, access to the Federal Parcel's recreational opportunities, as they are described in the affected environment, would likely cease to exist. While some Federal Parcel recreation users would likely shift their use to adjacent acreage in the Open OHV Area and Sand Mountain SRMA, access to recreation opportunities in the analysis area would change to be centered around the Reservoir.

Development of the Federal Parcel would result in the loss of non-market values – including the loss of approximately 307 acres of desert tortoise habitat. Private development, including built structures or infrastructure, would also impact local sense-of-place through the reduction of open space, access to public land and scenic values.

The Land Exchange would stop livestock grazing from the parcel area. While livestock grazing is not a major economic driver in Washington County, the potential loss of a permitted grazing outfit could have social and economic ripples on the grazing permittees and throughout the community.

Because the Federal Parcel would leave public ownership, PILT payments would cease on the approximately 930 acres of the Federal Parcel.

Non-Federal Parcel

Under the Proposed Action, 89.43 acres in the Non-Federal Parcel would be transferred into federal management. The parcel would be acquired and managed by the BLM in accordance with relevant federal laws, including OPLMA, which designated the Red Cliffs NCA, implementing federal regulations, and agency policies. While no substantial new revenue generating activities would occur, inholding land consolidation resulting in more cohesive habitat management opportunities would benefit non-market ecosystem services, sense of place, and associated valuations in Washington County (Walter, 2022).

3.5.10.3. Reasonably Foreseeable Effects

The socioeconomic effects of the Land Exchange would be additive to other exchanges or land tenure adjustments that have occurred or may reasonably occur in Washington County, UT. This would include 605 acres of habitat adjacent to the Federal Parcel that was recently transferred to private ownership (Long Valley Land Exchange). It is anticipated that the Long Valley parcel of land will be used for residential development, and therefore, would not be for use for public access or use after the development occurs. Additional impacts to socioeconomic resources would also include 801.71 acres that were transferred from TLA to WCWCD in 2019 that immediately abuts the Federal Parcel to the south. Alternative access would be required to areas used for livestock grazing (which often adds to permittees' costs for fuel, wear and tear, time to access the allotment to bring cattle on/off, etc.) recreational pursuits (shift of use, potentially causing conflicts of uses) (**Section 3.5.3**) in or around the Federal Parcel. As described in the analysis for the Proposed Action relative to the Federal Parcel, it is reasonable to assume that the exchange and development of a reservoir on the Federal Parcel would continue and encourage further development in the analysis area.

As described in the Federal Parcel analysis, it is reasonable to assume that the exchange would continue and encourage the trend toward suburban and exurban development, population growth, and associated environmental impacts in Washington County, UT. As such, there could be higher concentrations of recreationists using a diminished land pool. Construction of the Reservoir would likely provide greater water availability for agriculture and urban development.

3.5.11. Issue 11: How would the Land Exchange and reasonably foreseeable land uses affect fish, wildlife, and plant species, including BLM sensitive species, and their habitat?

The spatial scope of analysis associated with this issue is the 205,000 acres of Sonora-Mojave Creosotebush-White Bursage Desert Scrub, Mojave Mid Elevation Mixed Desert Scrub, Sonora Mojave Mixed Salt Desert Scrub, North American Warm Desert Wash, North American Warm Desert Bedrock Cliff and Outcrop vegetation communities that comprise the larger Mojave Desert Scrub community in Washington County. This is the spatial scope of analysis because these are the vegetation communities present on and near the Federal and Non-Federal Parcels.

3.5.11.1. Affected Environment

Washington County is composed of the vegetation community types described in **Tables 3.5 and 3.17**. These vegetation communities provide habitat for the wildlife species listed in **Table 3.18**.

Vegetation composition within both parcels consists largely of Sonora-Mojave Creosotebush-White Bursage Desert Scrub, which is characterized by broad valleys, lower bajadas, and low hills within the Mojave and Sonoran deserts (NatureServe 2024). Typical species representative within this habitat type includes creosotebush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*), which are evident throughout both the Federal Parcel and the Non-Federal Parcel. A wide variety of desert-adapted wildlife and bird

species utilize this type of scrub habitat as forage, breeding, and dispersal habitat. Another ecosystem type found in both the Federal Parcel and the Non-Federal Parcel is the North American Warm Desert Bedrock Cliff and Outcrop. This ecosystem is typically comprised of exposed sandstone and granite where sparse vegetation and lichen conglomerates grow in exposed rock surfaces, shallow soil deposits, and cracks (NatureServe 2024). Predominant species that are likely to grow here include specialized herbaceous annual plant species such as blazingstars (*Mentzelia* spp.) and buckwheats (*Eriogonum* spp.), as well as some cacti species in the *Cochemia* (fishhook), *Echinocereus* (hedgehog), and *Opuntia* (pricklypear) genera. For a complete list of ecosystem types and acreages found in both Parcels refer to **Table 3.17**.

More disturbance is evident within the Federal Parcel, which is situated within the Sand Mountain Special Recreation Management Area, than on the Non-Federal Parcel. Many areas within the Federal Parcel have been inundated with unauthorized trails created from OHV use and recreational target shooting. The Federal Parcel is also currently grazed, with disturbance from cattle trampling and browsing throughout. Neither parcel has a recorded wildfire occurrence (NIFC 2024). For habitat quality descriptions, see **Section 3.5.12**. **Table 3.17** describes the ecosystem types and acreage of that habitat type in relation to the Federal and Non-Federal Parcels.

Table 3.17. Ecosystem Types and Acreage of both Federal and Non-Federal Parcels

Ecosystem Type	Acreage in Federal Parcel*	Acreage in Non-Federal Parcel
Sonora Mojave Creosote White-Bursage	1,114 (81.2 percent)	26 (29.0 percent)
North American Warm Desert Bedrock Cliff and Outcrop	202 (14.7 percent)	5 (5.5 percent)
Mojave Mid Elevation Mixed Desert Scrub	50 (3.6 percent)	57 (63.3 percent)
Sonora Mojave Mixed Salt Desert Scrub	5 (0.4 percent)	0 (0 percent)
North American Warm Desert Wash	0 (0 percent)	2 (2.2 percent)

*The Federal Parcel in Warner Valley was buffered 300 feet to account for indirect effects like dust which may affect vegetation outside of the Project boundary. Data derived from Lowry et al. 2005.

Federal Parcel

The Federal Parcel contains a suite of wildlife species known to inhabit Mojave Desert scrub vegetation. As discussed for the tortoise in Section 3.5.2, much of the habitat within the parcel is low quality due to OHV use. No site-specific surveys were conducted for non-listed fish and wildlife species on the Federal Parcel. However, information obtained from the BLM ID Team Checklist (**Appendix B**) and studies conducted for other actions on adjacent lands containing Mojave Desert scrub community habitat identified several species of small mammals, birds, and reptiles that likely occur within the Federal Parcel (see **Table 3.18**). These species may use the area year-long or only for a portion of the year (BLM 2016b).

Table 3.18. Species Likely to Occur Within All Ecosystem Types in the Federal Parcel

Common Name (Scientific Name)	Federal Parcel Use
Badger (<i>Taxidea taxus</i>)	Year-round, resident
Antelope ground squirrel (<i>Ammospermophilus leucurus</i>)	Year-round, resident
Kangaroo rat (<i>Dipodomys</i> spp.)	Year-round, resident
Deer mouse (<i>Peromyscus maniculatus</i>)	Year-round, resident
Desert wood rat (<i>Neotoma lepida</i>)	Year-round, resident
Gambel's quail (<i>Callipepla gambelii</i>)	Year-round, resident
Mourning dove (<i>Zenaida macroura</i>)	Year-round, resident
Common raven (<i>Corvus corax</i>)	Year-round, resident, forage, breeding
Wrens (Family Troglodytidae)	Some species may stay year-round, while others would only use the parcel for breeding. Year-round, resident, forage, breeding
House finch (<i>Haemorhous mexicanus</i>)	Year-round, resident, forage, breeding
Sideblotched lizard (<i>Uta stansburiana</i>)	Year-round, resident
Western whiptail (<i>Aspidoscelis tigris</i>)	Year-round, resident
Coyote (<i>Canis latrans</i>)	Year-round, resident
Gray fox (<i>Urocyon cinereoargenteus</i>)	Year-round, resident
Burrowing owl (<i>Athene cunicularia</i>)*	Breeding
Mojave desert sidewinder (<i>Crotalus cerastes</i>)*	Year-round, resident
Western banded gecko (<i>Coleonyx variegates</i>)*	Year-round, resident
Gila monster (<i>Heloderma suspectum</i>)*	Year-round, resident
Western threadsnake (<i>Leptotyphlops humilis</i>)*	Year-round, resident
Zebra-tailed lizard (<i>Callisaurus draconoides</i>)*	Year-round, resident
Ferruginous hawk (<i>Buteo regalis</i>)*	Year-round, resident, forage, breeding
Northern goshawk (<i>Accipiter gentilis</i>)*	Year-round, forage
Allen's big-eared bat (<i>Idionycteris phyllotis</i>)*	Year-round, forage

Common Name (Scientific Name)	Federal Parcel Use
Big free-tailed bat (<i>Nyctinomops macrotis</i>)*	Year-round, resident
Fringed myotis (<i>Myotis thysanodes</i>)*	Year-round, resident
Kit fox (<i>Vulpes macrotis</i>)*	Year-round, resident
spotted bat (<i>Euderma maculatum</i>)*	Year-round, resident
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)*	Year-round, resident
Western red bat (<i>Lasiurus blossevillei</i>)*	Year-round, resident

*Denotes Utah BLM Sensitive Species

The Federal Parcel has a mix of low- to high- quality habitat for a wide range of wildlife species. The Federal Parcel may also provide habitat and support populations of BLM sensitive species that are known to use the Mojave Desert scrub community (**Table 3.17**). Additionally, during a 2023 threatened and endangered species survey, Transcon biologists observed and documented the presence of a Gila monster (*Heloderma suspectum*) within the Federal Parcel (**Appendix C, Photograph 3**). Evaluation for habitat quality was completed for the tortoise and found that 107.4 acres were high-quality, 70.4 acres were medium quality, and 128.8 acres were low-quality. The remainder of the acreage was extremely steep, degraded from human use, or consisted of sand dunes/soils that were too friable for burrowing. Habitat disturbance within the Federal Parcel is due in part to recreation uses such as OHV, hiking, mountain biking, and camping use. Additionally, the Federal Parcel is currently grazed. It should be noted that the tortoise is considered an umbrella or indicator species, as its habitat requirements and overall population health encapsulate the needs for most terrestrial wildlife species in the Mojave Desert and tortoise population trends can indicate the overall health of a landscape (Berry and Medica 1995).

Non-Federal Parcel

The Non-Federal Parcel contains Mojave Desert scrub community habitat similar to the Federal Parcel, and the same species are potentially present on both parcels (BLM 2016b). Within this community, the most dominant ecosystem within the Non-Federal Parcel (which accounts for over 63 percent cover within the Parcel) is the Mojave Mid-Elevation Mixed Desert Scrub. This system is dominated by species such as blackbrush (*Coleogyne ramosissima*), and species in the *Ericameria* and *Atriplex* genera. Plants in this system are typically scattered across rocky landscapes and dry washes and are usually too sparse to burn (NatureServe 2024). Multi-spectral aerial imagery and historical fire data show that there have been no incidences of recorded wildfires and also show no OHV use and is not currently grazed, therefore it is largely undisturbed and intact habitat for vegetation and wildlife species (NIFC 2024). Due to these reasons, the entirety of the Non-Federal Parcel is considered high-quality habitat that would support a wide variety of wildlife.

3.5.11.2. Environmental Effects—Proposed Action

Federal Parcel

The transfer of the Federal Parcel into Non-Federal ownership would result in the loss of federal protection provided to vegetation and non-ESA listed fish and wildlife species, including the BLM sensitive species, on approximately 929.14 acres. During any future development of the Parcel, individuals of species that use the area may be killed, injured, or displaced. While these effects are not quantifiable, it would not be expected to be widespread as abundant Mojave Desert scrub community habitat remains available adjacent to the Federal Parcel and many species could disperse into this area. Approximately 205,000 acres of Mojave Desert scrub vegetation are located in Washington County (BLM 2016b). A potential reservoir may not remove the entirety of the habitat however, it is unknown at this time if the remainder of the parcel would be developed in some other way. Whether or not a reservoir would be built, for analysis purposes, it is assumed that the entire 929.14 acres would be developed and therefore would be considered lost habitat. The loss of approximately 929.14 acres of this habitat type from the Federal Parcel would be less than one percent of this habitat type in Washington County. As commonly observed in the southwest United States, terrestrial animals have variations of mobility and speed at which they can flee. Highly mobile animals that would more readily disperse during and following potential construction activities include birds, bats, and winged invertebrates. Small rodents, lizards, and medium sized mammals such as coyotes, foxes, skunks, and badgers, are also likely to flee habitat destruction into adjacent habitat. Other animals that are slower moving or otherwise cannot relocate quickly include terrestrial arthropods like beetles, tarantulas, and scorpions; herptiles such as Gila monsters, chuckwallas, some snake species such as rattlesnakes and ground snakes, and toads may be more directly impacted by development of the Federal Parcel after the exchange is completed. More mobile species that rely on the scrub vegetation habitat in Warner Valley would have sufficient adjacent habitat available to migrate into. As loss of scrub habitat would be minor (less than one percent), it is not anticipated that the transfer of the Federal Parcel to private ownership and resulting potential habitat loss would lead to the need to consider listing any BLM sensitive species as threatened or endangered as outlined in the BLM 6840 Special Status Species Manual (BLM 2008b).

Non-Federal Parcel

The acquisition of the Non-Federal Parcel would result in approximately 89.43 acres of Mojave Desert scrub habitat being transferred to federal ownership. The Parcel is Mojave Desert scrub habitat and supports wildlife species, including the BLM sensitive species that are also found on the Federal Parcel (**Table 3.18**). This is undisturbed and high-quality habitat as defined in the Affected Environment. These acquired lands would be managed for conservation, protection, and restoration as part of the Reserve and the NCA. Once in federal ownership, this parcel would be less likely to be developed and would provide habitat for wildlife species for the foreseeable future. This impact would extend beyond the 89.43-acre parcel as acquisition would help consolidate federal ownership within the Reserve and the NCA, thereby improving management potential.

Acquisition of the Non-Federal Parcel would reduce the number of acres of wildlife habitat being transferred out of federal ownership from 929.14 acres to 834.26 acres.

3.5.11.3. Reasonably Foreseeable Effects

The loss of approximately 834.26 acres of plant and wildlife habitat from federal ownership (929.14 acres transferred from the Federal Parcel and 89.43 acres gained from the Non-Federal Parcel) would be added to the existing loss of habitat that has already occurred in the immediate area. This includes approximately 605 acres of habitat adjacent to the Federal Parcel that were transferred to private ownership (Long Valley Exchange). The Long Valley parcel is currently being used for residential development and therefore is not suitable wildlife habitat. Nearby, approximately 51.1 acres of Mojave Desert scrub on BLM land were recently developed as a result of the Long Valley Road Extension Right of Way. Additional impacts to scrub habitat would also include 801.71 acres that were transferred from TLA to WCWCD in 2019 that immediately abuts the Federal Parcel to the south. While no additional land exchanges have been formally proposed, it can be assumed that additional exchanges or other land tenure adjustments could be considered in the future. The lands involved in these potential exchanges would likely be used for residential, commercial, and other infrastructure-related purposes. The anticipated increase in human visitors to Warner Valley and the surrounding area would further stress wildlife in the area.

The Proposed Action anticipates that some or all this land would be developed, potentially continuing the trend in Washington County towards urban, suburban, and exurban expansion. Reservoir development on the Federal Parcel would result in the removal of Mojave Desert Scrub vegetation with no potential for regrowth after the Reservoir is inundated with water. In addition to loss of habitat and plant life, creation of a reservoir would permanently displace local wildlife from the inundated area.

The Land Exchange would result in approximately 89.43 acres of Non-Federal habitat within the Reserve and NCA being transferred to federal ownership. This would further the BLM goal of consolidating land ownership in the Reserve and the NCA to better protect and manage wildlife habitat. This Land Exchange would be additive to other actions taken to consolidate habitat ownership within the Reserve and NCA.

Past and reasonably foreseeable future actions in the NCA and Reserve include construction of roads, trails, fences, powerlines, pipelines, and water storage facilities, mostly on Non-Federal lands. The most substantial of these reasonably foreseeable future actions is the construction and use of the proposed Northern Corridor highway. This multi-lane divided highway would be located immediately adjacent to the west side of the Non-Federal Parcel. If the Northern Corridor highway is built, the Non-Federal Parcel may experience a reduction in wildlife habitat quality due to fragmentation and isolation from the remainder of the habitat located within the Red Cliffs NCA and Reserve. The Northern Corridor would disturb from 0-373 physical acres of wildlife habitat for the ROW (depending on the alternative selected), and from 0-3,278 acres for total indirect impacts, which includes habitat fragmentation effects. See the Present and Reasonably Foreseeable Future Trends and Actions Scenario (Section 3.3) of this EA for more information about the effects to the NCA.

3.5.12. Issue 12: How would the Land Exchange and reasonably foreseeable land uses affect modeled suitable habitat for dwarf bear-claw poppy, Shivwits milkvetch, and Siler's pincushion cactus?

The spatial scope of the analysis associated with this issue is the Sonora-Mojave Creosotebush-White Bursage Desert Scrub, Mojave Mid Elevation Mixed Desert Scrub, Sonora Mojave Mixed Salt Desert Scrub, North American Warm Desert Wash, North American Warm Desert Bedrock Cliff and Outcrop vegetation communities in Washington County. This is the spatial scope of analysis because these are the vegetation communities present on and near the Federal and Non-Federal Parcels and encompass habitat for the three ESA-listed plant species.

3.5.12.1. *Affected Environment*

Habitat suitability models, which are largely based on soil type and developed by the USFWS for use in their IPaC to identify potential presence of listed species, were used to determine where surveys should be focused (Appendix B). The USFWS IPaC website identified the following plant species that may occur in the Federal Parcel: dwarf bear-claw poppy (*Arctomecon humilis*), Shivwits milkvetch (*Astragalus ampullarioides*), and Siler's pincushion cactus (*Pediocactus sileri*). The models show that there are approximately 203,967 acres of bear-claw poppy habitat, 56,938 acres of Shivwits milkvetch habitat, and 267,982 acres of Siler's pincushion habitat located in Washington County (USFWS 2024).

Non-Federal Parcel

No listed plant species (including bear-claw poppy, Holmgren milkvetch, Siler's pincushion cactus, Shivwits milkvetch) or their habitat were identified by IPaC as potentially occurring within the Non-Federal Parcel. The Non-Federal Parcel was not surveyed because the parcel is not currently managed by the BLM and the reasonably foreseeable land use associated with this parcel does not include surface disturbing activity. In addition, future actions on the Non-Federal Parcel following an exchange would be subject to appropriate laws, regulations, or requirements for the protection and management of listed species.

Federal Parcel

A survey of the Federal Parcel was conducted for bear-claw poppy, Siler's pincushion cactus, and Shivwits milkvetch in April and May 2021 (this survey covered the original proposed Land Exchange acreage of 881 acres). None of the three plant species were located; however, at the time of the survey, Washington County was experiencing extended drought conditions, making habitat conditions sub-optimal (Transcon 2021). Therefore, additional USFWS protocol level surveys (USFWS 2011) were conducted for the three species in April and May of 2023. Areas surveyed are shown in **Figure 3.7**. While suitable habitat is located within the Federal Parcel, none of the three species were located. Not all the Federal Parcel was determined to be suitable habitat (**Appendix C, Photographs 6 and 7**). **Table 3.19** summarizes the extent of the suitable habitat surveyed in 2023 as shown in **Figure 3.7**.

Table 3.19. Federal Parcel Suitable Habitat Surveyed in 2023

Species	Modeled Suitable Habitat (Acres)	Actual Suitable Habitat (Acres)
Bear-claw poppy	405	21
Shivwits milkvetch	344	17
Siler's pincushion cactus	555	28

3.5.12.2. Environmental Effects—Proposed Action

Federal Parcel

Under the Proposed Action the Federal Parcel would be transferred to the WCWCD. It is expected that 724 acres are to be occupied by the reasonably foreseeable land use of a reservoir. No occupied habitat for bear-claw poppy, Siler's pincushion, and Shivwits milkvetch are located within the Federal Parcel (Transon 2023c). Pockets of unoccupied suitable habitat were identified during surveys that would support individual plants should the species disperse into the Parcel (**Figure 3.7**). The Proposed Action would not represent a loss of occupied habitat identified during surveys because there is no occupied habitat. Actual suitable habitat is present on the Federal Parcel for the threatened and endangered plant species (21 acres of bear-claw poppy, 28 acres of Siler's pincushion cactus, 17 acres of Shivwits milkvetch). The existing habitat would not be replaced by the Land Exchange as the Non-Federal Parcel does not contain suitable habitat for any of the three listed plant species (USFWS 2024).

Potential loss of suitable habitat would not exceed one percent (0.2 percent of total poppy habitat; 0.6 percent of Shivwits milkvetch; 0.2 percent of Siler's pincushion cactus) of total modeled suitable habitat within Washington County. It is unlikely that any of the three species would migrate to the Federal Parcel due to limited dispersal mechanisms, however, if migration of any of the three species onto the Federal Parcel occurs in the future, prior to the construction of a reservoir but after transfer from Federal to private ownership, they would potentially be lost. There are no plants found in the suitable habitat of the Federal Parcel. Of the three listed plant species, only Shivwits milkvetch has designated critical habitat, but none of this habitat is located within or near the Federal Parcel. Therefore, no designated critical habitat would be affected by the Land Exchange. Construction and use of a reservoir would render the Federal Parcel as unsuitable habitat in perpetuity due to water inundation and increased surface disturbance.

Non-Federal Parcel

Under the Proposed Action, the 89.43-acre Non-Federal Parcel would be transferred to BLM management within the NCA. The conditions on the Non-Federal parcel would be expected to continue as described in the Affected Environment. Should any suitable habitat be discovered in the Non-Federal Parcel, any future action would be subject to laws, regulations and policies for the protection of threatened and endangered species and would require additional analysis prior to any future action taking place. Therefore, no impacts would occur to any listed plant species as a result of the Proposed Action.

3.5.12.3. *Reasonably Foreseeable Effects*

The loss of approximately 814 (total number adjusted from overlap of habitat models) acres of modeled suitable habitat from federal ownership would be additive to the loss of modeled suitable habitat that has already occurred in the immediate area surrounding the Federal Parcel resulting from recreation (primarily OHV use), livestock grazing and other land tenure adjustments. Six-hundred and five acres of Mojave desert scrub habitat adjacent to the Federal Parcel were transferred to private ownership in the 2016 Long Valley Exchange. The Long Valley parcel is currently being used for residential development and therefore is not suitable habitat for threatened and endangered plant species. Approximately 51.1 acres of BLM land were recently developed as a result of the Long Valley Road Extension Right of Way, of which approximately 10 acres were determined as suitable but unoccupied habitat for bear-claw poppy. While no additional land exchanges have been formally proposed, it can be assumed that additional exchanges or other land tenure adjustments could be considered in the future. The lands involved in these potential exchanges would likely be used for residential, commercial, and other infrastructure-related purposes. Future exchanges resulting in the removal of land from federal ownership in the Warner Valley area could add to the potential loss of habitat for the three listed plant species discussed above.

Past and reasonably foreseeable future actions in the Red Cliffs NCA and Reserve include construction of roads, trails, fences, powerlines, pipelines, and water storage facilities, mostly on Non-Federal lands. The most substantial of these reasonably foreseeable future actions would be the construction and use of the Northern Corridor highway. This divided multi-lane highway would be located immediately adjacent to the west-side boundary of the Non-Federal Parcel. If the Northern Corridor highway is built, the Non-Federal Parcel may experience a reduction in wildlife habitat quality due to fragmentation and isolation from the remainder of the habitat located within the Red Cliffs NCA and Reserve. However, no impacts to ESA-listed plants would occur as a result of construction of the Northern Corridor highway as there is no occupied or suitable habitat for T&E plants within the NCA.

3.5.13. Issue 13. How would the Land Exchange and reasonably foreseeable land uses affect migratory birds and their habitat?

The spatial scope of the analysis associated with migratory birds and their habitats are the Sonora-Mojave Creosotebush-White Bursage Desert Scrub, Mojave Mid-Elevation Mixed Desert Scrub, Sonora-Mojave Mixed Salt Desert Scrub, North American Warm Desert Wash, North American Warm Desert Bedrock Cliff and Outcrop vegetation communities in Washington County. This is the spatial scope of analysis because these are the dominant vegetation communities supporting migratory birds on the Federal and Non-Federal Parcels.

3.5.13.1. *Affected Environment*

Washington County is composed of the vegetation community types described in **Table 3.5**. These vegetation communities provide habitat for the species listed in **Table 3.18**.

Federal and Non-Federal Parcels

Habitat within both parcels consist largely of Sonora-Mojave Creosotebush-White Bursage Desert Scrub which is characterized by broad valleys, lower bajadas, and low hills within the Mojave and Sonoran deserts (NatureServe accessed July 2024). Typical species representative within this habitat type includes creosotebush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*), which are evident throughout both the Federal Parcel and the Non-Federal Parcel. A wide variety of bird species utilize this type of scrub habitat as forage, breeding, and dispersal habitat as shown in **Table 3.20**.

More disturbance is evident within the Federal Parcel, which is situated within the Sand Mountain Special Recreation Management Area. Many areas within the Federal Parcel have been inundated with unauthorized trails created from OHV users. The Federal Parcel is also currently grazed, with disturbance from cattle trampling and browsing throughout.

Migratory bird species, including raptors, songbirds, and shorebirds, are protected under the MBTA of 1918 and Executive Order 13186. Eagles are also protected under the Bald and Golden Eagle Protection Act. Information obtained from the BLM ID Team Checklist (**Appendix B**), USFWS IPaC website, Utah Natural Heritage Program website, and studies conducted for other actions on adjacent lands containing Mojave Desert scrub community habitat identified several species of migratory birds that likely occur within the Federal and Non-Federal Parcels. It was determined that the following Birds of Conservation Concern may use both Parcels:

Table 3.20. Migratory Bird Species in the Federal and Non-Federals Parcels

Common Name	Scientific Name	Occurrence
Bald eagle	<i>Haliaeetus leucocephalus</i>	Likely (non-breeding)
Black-chinned sparrow	<i>Spizella atrogularis</i>	Likely (breeding season only, foraging)
California gull	<i>Larus californicus</i>	Potential (migrating, foraging)
Cassin's finch	<i>Carpodacus cassinii</i>	Likely (year-round, breeding, foraging)
Clark's grebe	<i>Aechmophorus clarkia</i>	Potential (breeding, foraging, requires water bodies)
Lesser yellowlegs	<i>Tringa flavipes</i>	Potential (migrating, foraging)
Lewis's woodpecker	<i>Melanerpes lewis</i>	Likely (year-round, foraging)
Olive-sided flycatcher	<i>Contopus cooperi</i>	Likely (migrating, foraging)
Pinyon jay	<i>Gymnorhinus cyanocephalus</i>	Likely (year-round, foraging)
Virginia's warbler	<i>Vermivora virginiae</i>	Likely (year-round, foraging)
Western grebe	<i>Aechmophorus occidentalis</i>	Potential (breeding, foraging, requires water bodies)

Migratory bird surveys did not result in any visual observation or sign of bald or golden eagles within the Federal Parcel (Transcon 2023c). However, both bald and golden eagles have been documented near the Sand Hollow Reservoir, approximately two miles east of the Federal Parcel. Since habitat within the Non-Federal Parcel is similar to the Federal Parcel, it is assumed that that same species, including bald and golden eagles, would be found in both Parcels.

3.5.13.2. Environmental Effects—Proposed Action

Federal Parcel

Under the Proposed Action, 929.14 acres of BLM land would be transferred into private ownership. The Land Exchange would not result in any immediate effects to migratory birds on the Federal Parcel, as protections of the MBTA are afforded to species protected by the Act regardless of land ownership. The protections afforded by the MBTA would help reduce the mortality of birds and destruction of active nests during any development of the Parcel. However, the MBTA does not prohibit modification of habitats, and construction of a reservoir would reduce the amount of Mojave Desert scrub habitat available for the species that use the Parcel over the long term. There are approximately 205,000 acres of Mojave Desert scrub vegetation in Washington County (BLM 2016b) that provide habitat and are used by a migratory bird species. A potential reservoir may not remove the entirety of the habitat however, it is unknown at this time if the remainder of the Parcel would be developed in some other way. Whether or not a reservoir would be built, for analysis purposes, it is assumed that the entire 929.14 acres would be developed and therefore would be considered lost habitat. The long-term loss of approximately 929.14 acres of this habitat type from the development of the Federal Parcel would be less than one percent of this habitat type in Washington County. However, reservoir development would also provide aquatic and riparian habitat for migratory bird species that use these habitat types. Construction and use of a reservoir on the Federal Parcel could increase threats of disturbance to migratory birds from recreation use associated with the Reservoir.

Non-Federal Parcel

Under the Proposed Action, approval of the Land Exchange would result in the acquisition of approximately 89.43 acres of habitat described in the affected environment that supports the same migratory bird species that may be present in the Federal Parcel. The acquired lands would be managed for conservation, protection, and restoration as part of the management of the NCA and Reserve. Migratory birds would receive additional protection under the NEPA, ESA, and other federal laws, regulations, and policies. Acquisition of the Non-Federal Parcel would reduce the number of acres of migratory bird habitat being transferred out of federal ownership from 929.14 acres to 834.26 acres.

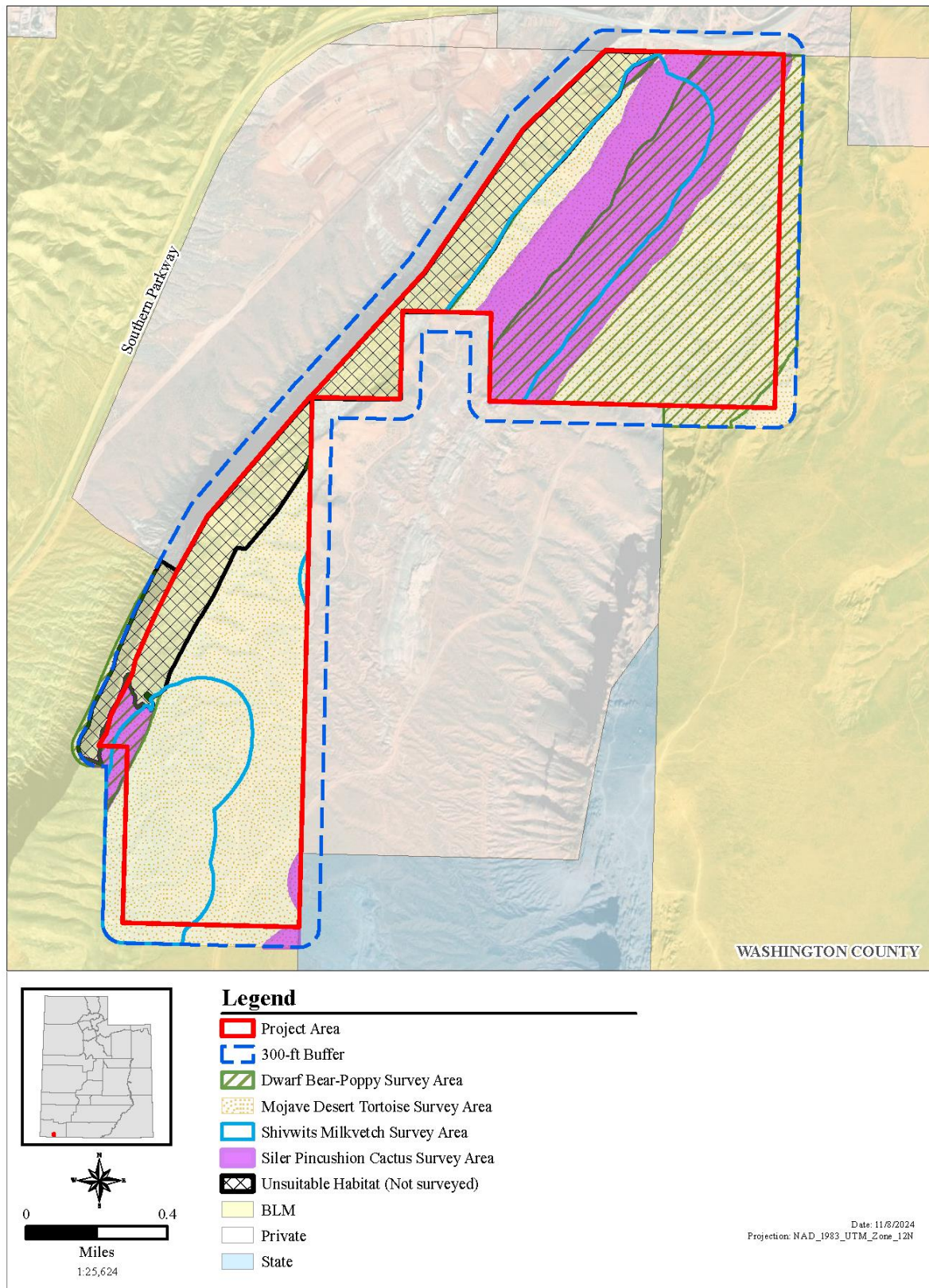
3.5.13.3. Reasonably Foreseeable Effects

The loss of approximately 834.26 acres of migratory bird habitat from federal ownership (929.14 acres transferred from the Federal Parcel and 89.43 acres gained from the Non-Federal Parcel) would be additive to the loss of habitat that has already occurred in the immediate area. This would include 605 acres of habitat adjacent to the Federal Parcel

that was recently transferred to private ownership (Long Valley Land Exchange). It is anticipated that the Long Valley parcel of land will be used for residential development, and therefore, would not be suitable migratory bird habitat after the development occurs. Additional impacts to migratory bird habitat would include 801.71 acres that were transferred from TLA to WCWCD in 2019 that immediately abuts the Federal Parcel to the south. The anticipated increase in human visitors to the Warner Valley area, as discussed in the Recreation Section (**Section 3.5.3**), would further stress migratory bird species in the area due to resulting increases in noise and surface disturbance associated with the Reservoir.

Reasonably foreseeable future actions in the Reserve and NCA potentially includes the construction of roads, trails, fences, powerlines, pipelines, and water storage facilities, mostly on Non-Federal lands. The proposed Northern Corridor Highway would abut the west side of the Non-Federal Parcel. If the highway is approved and built, the Non-Federal Parcel may experience a reduction in migratory bird habitat quality due to increased traffic noise on the adjacent parcel.

Figure 3.8. T&E Plant Species Map



3.5.14. Issue 14. How would the Land Exchange and reasonably foreseeable land uses affect the introduction and spread of invasive species on the Federal and Non-Federal Parcels?

The spatial scope of analysis associated with this issue is Washington County. The county was chosen as the analysis area because invasive and noxious weeds spread easily throughout Washington County, including the Federal and Non-Federal Parcels.

3.5.14.1. *Affected Environment*

Washington County comprises of 205,000 acres of Sonora-Mojave Creosotebush-White Bursage Desert Scrub, Mojave Mid Elevation Mixed Desert Scrub, Sonora Mojave Mixed Salt Desert Scrub, North American Warm Desert Wash, North American Warm Desert Bedrock Cliff and Outcrop vegetation communities. For a list of plants that occur in these ecosystems, refer back to **Section 3.5.2.1, Table 3.5**.

Weeds have become prevalent in many corners of Washington County. Weeds are spread through vehicle usage, animals, wildfires, recreation, seed dispersal through wind, grazing, construction. Fires, which have been increasingly prevalent in Washington County, often lead to a greater density of weeds in burned areas as non-native plants will often outcompete native plants for resources. As such, many burned areas in Washington County have been dominated with invasive weeds and very little native vegetation. A list of weeds commonly found within Washington County can be found in **Table 3.21**.

Table 3.21. Utah Noxious and Invasive Weed Species Currently Managed Within Washington County:

African mustard (<i>Brassica tournefortii</i>)	Puncturevine (<i>Tribulus terrestris</i>)
Bull thistle (<i>Cirsium vulgare</i>)	Redstem storksbill/filaree (<i>Erodium cicutarium</i>)
Cheatgrass (<i>Bromus tectorum</i>)	Red brome (<i>Bromus rubens</i>)
Canada thistle (<i>Cirsium arvense</i>)	Russian Knapweed (<i>Acroptilon repens</i>)
Field Bindweed (<i>Convolvulus arvensis</i>)	Russian Olive (<i>Elaeagnus angustifolia</i>)
Giant Reed (<i>Arundo donax</i>)	Russian thistle (<i>Salsola paulsenii</i>)
Halogen (<i>Halogenton glomeratus</i>)	Salt Cedar (<i>Tamarix ramosissima</i>)
Hoary Cress (<i>Cardari araba</i>)	Scotch Thistle (<i>Onopordum acanthium</i>)
London rocket (<i>Sisymbrium irio</i>)	Silverleaf nightshade (<i>Solanum elaeagnifolium</i> cav.)
Malta Starthistle (<i>Centaurea melitensis</i>)	Whorled milkweed (<i>Asclepias subverticillata</i>)
Phragmites (<i>Phragmites australis</i>)	-

Federal Parcel

The Federal Parcel comprises of 929.14 acres, is located within Warner Valley, and falls within the Sand Mountain OHV Area, which experiences heavy motorized recreation and camping. There are also four livestock grazing allotments overlapping the Federal Parcel

(**Section 3.5.5**). The control and eradication of noxious and invasive plant species on the Federal Parcel are authorized under the management goals, objectives, and action decisions from the BLM SGFO Record of Decision and Resource Management Plan (1999, as amended 2016, 2021), and management guidance in the Programmatic Environmental Analysis of Herbicide Applications to Control Noxious Weeds and Exotic Invasive Species on Certain Public Lands (BLM 2016). Authorized noxious weed/invasive plant species treatments on the Federal Parcel include hand removal, herbicide, mechanical methods, or a combination of methods for weed treatments, depending on target species, infestation level, site characteristics, and project scale.

Non-Federal Parcel

The 89.43-acre Non-Federal Parcel is located within the administrative boundary of the Red Cliffs NCA. Although vegetation surveys have not been completed, the following noxious and invasive plant species have been documented on adjacent public lands in the NCA and may be present on the Non-Federal Parcel: Sahara mustard, Russian thistle, London rocket, red brome, cheatgrass, and redstem storksbill/filaree (BLM 2022). Existing weed management, conditions and trends are unknown due to the parcel being in private ownership.

3.5.14.2. Environmental Effects—Proposed Action

Federal Parcel

Under the Proposed Action, the WCWCD would acquire 929.14 acres that is currently open for recreational use within the Sand Mountain OHV Area and livestock grazing, where the risk of invasive species spread is high but is managed in accordance with the RMP. Once the Federal Parcel is transferred into private ownership, it would not be subject to management under the BLM's current weed management program.

Construction of a 742-acre reservoir on the Federal Parcel following the Land Exchange is considered a reasonably foreseeable land use. Upon the construction of the Reservoir, 742-acres of the Warner Valley parcel would be underwater, which would reduce the risk of typical invasive plants found in desert scrub environments. Having a larger reservoir on the Federal Parcel would also reduce the risk of fire and the likelihood that invasive weeds would take over burned areas. A new management challenge would also potentially arise with construction of the Reservoir: preventing the invasion of Quagga Mussels. This is assuming the Reservoir would be used for recreational activity such as boating (see **Section 3.5.3**). The introduction and spread of invasives via off-road vehicles is expected to decline with reduced OHV use if the potential reservoir is constructed.

Livestock grazing in the Warner Valley Allotment would be reduced by 140 AUMs, although some grazing would still occur in areas not submerged by the potential reservoir (see **Section 3.5.5**). Overall, the risk of invasive species spreading via livestock would decrease after the Land Exchange due to the decrease of livestock grazing within the Federal Parcel. OHV usage would be limited within the Federal Parcel after the construction of a reservoir, which would reduce the possibility of invasive weeds being introduced through this vector. However, the non-submerged areas of the Federal Parcel

could still be subject to invasive weed proliferation through non-motorized recreation and seed dispersal through wildlife and wind.

Non-Federal Parcel

Under the Proposed Action, the 89.43-acre Non-Federal Parcel would be acquired and managed by BLM in accordance with relevant federal laws, including OPLMA, which designated the Red Cliffs NCA, implementing federal regulations, and agency policies. Management goals, objectives, and decisions would further the Congressionally defined purpose of resource conservation and protection for the NCA (BLM 2016a, as amended). Acquisition of the Non-Federal Parcel would allow BLM to conduct weed treatments to control and eradicate noxious and invasive plant species which would have beneficial, long-term effects on wildlife habitat, including for migratory bird, federally-listed, and BLM Sensitive species. Using herbicides and manual removal to reduce or eliminate invasive grasses and other wildfire fuels would lessen the risk of future catastrophic wildfire (BLM 2022). Without management intervention to control brome grasses, the Red Cliffs NCA would likely experience continued increases in wildfires that negatively impact desert tortoise population resiliency and recovery efforts, cultural sites, and other NCA resource values (USFWS 2021, BLM 2022). Therefore, the Proposed Action would result in long-term, beneficial impacts to the resource values located on the Non-Federal Parcel and adjacent public lands for which the Red Cliffs NCA was established under OPLMA, and meet the goals, objectives, and management decisions in the Red Cliffs NCA RMP/ROD (BLM 2016a, as amended).

3.5.14.3. Reasonably Foreseeable Effects

The impacts of the Proposed Action would be aggregate to other land exchanges in Washington County. This includes 605 acres of land adjacent to the Federal Parcel that was recently transferred to private ownership (Long Valley Land Exchange). It is anticipated that the Long Valley parcel of land will be used for residential development. Construction of residential properties can lead to an increased presence of invasive weeds through vehicle usage, construction, and ground disturbance. Furthermore, the 801.71 acres that immediately abuts the Federal Parcel to the south were purchased and transferred from TLA to WCWCD in 2019. While the purchased parcel would not be used for residential development, this exchange is additional to the Proposed Action and the Long Valley Land Exchange in that there is a contiguous area of land that is not subject to BLM's weed management plan. Without an adequate management plan, weeds could invade these parcels and potentially spread to nearby BLM lands, including Warner Ridge/Fort Pearce ACEC.

Construction of a reservoir on the Federal Parcel could be used as a water source to help fight fires in Washington County. As weeds proliferate in burned areas, controlling and reducing fires would also prevent invasive weeds from spreading.

While development is limited within the Reserve and NCA, past and reasonably foreseeable future actions in the Reserve and NCA include construction of roads, trails, fences, powerlines, pipelines, and water storage facilities, mostly on adjacent Non-

Federal lands. The construction of these facilities can lead to the introduction and spread of invasive species in the NCA.

In consideration of past, present, and reasonably foreseeable future actions, construction and use of the Northern Corridor highway is another possible vector for the spread of invasive weeds. Both the construction and use of the Northern Corridor highway directly adjacent to the Non-Federal Parcel could assist in the spread of weeds within the NCA.

3.5.15. Issue 15. How would the Land Exchange and reasonably foreseeable future land uses impact the visual resources of the Federal and Non-Federal Parcels?

The spatial scope of the analysis associated with this issue is the Scenic Quality Rating units (Federal: Sand Mountain, Virgin Anticline, and Urbanized Lowlands; Non-Federal Parcel: Red Cliffs Sandstone) that encompass the Federal and Non-Federal Parcels.

3.5.15.1. *Affected Environment*

Visual Resource Inventory

BLM Manual H-8410-1 – Visual Resource Inventory provides a framework for BLM managers to determine visual values. General guidance provided in the manual states “The inventory consists of a scenic quality evaluation, sensitivity level analysis, and a delineation of distance zones. Based on these three factors, BLM-administered lands are placed into one of four visual resource inventory classes. These inventory classes represent the relative value of the visual resources with Class I being the most valued and Class IV being of least value. The inventory classes provide the basis for considering visual values in the resource management planning (RMP) process. Visual Resource Management classes are established through the RMP process for all BLM-administered lands (see also Manual 1625.3). During the RMP process, the class boundaries are adjusted as necessary to reflect the resource allocation decisions made in RMP's. Visual management objectives are established for each class.”

The scale for scenic quality includes A through C, where A is highest quality and C is lowest quality. The scale for sensitivity level includes A through C, where A means maintenance of visual quality has high value and C means maintenance of visual quality has low value. Sensitivity levels are a measure of public concern for scenic quality. The following factors are used in determining sensitivity: 1) Type of user; 2) amount of use; 3) public interest; 4) adjacent land uses; 5) special areas; and 6) other relevant factors that include indicators of visual sensitivity. Distance zones include Foreground-Middleground (0-5 miles), Background (5-15 miles), and seldom seen (beyond 15 miles). Visual resource inventory classes are assigned through the inventory process and include Class I through Class IV. Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape. Classes II, III, and IV are assigned based on a combination of scenic quality, sensitivity level, and distance zones. Inventory classes are informational in nature and not used as a basis for constraining or limiting surface disturbing activities.

Federal Parcel

The Federal Parcel is within three Scenic Quality Ratings units rated as having B or C quality scenery. It is within two Sensitivity Level Ratings units, one where maintenance of the visual quality has high value and the other where maintaining the visual quality is moderately valued. The Parcel is within the Foreground-Middleground Visual Distance Zone. Different portions of this Parcel are inventoried as VRI Class III, and IV.

Non-Federal Parcel

The Non-Federal Parcel is within the Red Cliff Sandstone Scenic Quality Rating Unit which is rated A quality scenery. It is within an area where maintenance of visual quality has high value and is within the Foreground-Middleground Visual Distance Zone. This area inventoried as VRI Class II. See **Table 3.22** below for Visual Resource Inventory acreage details.

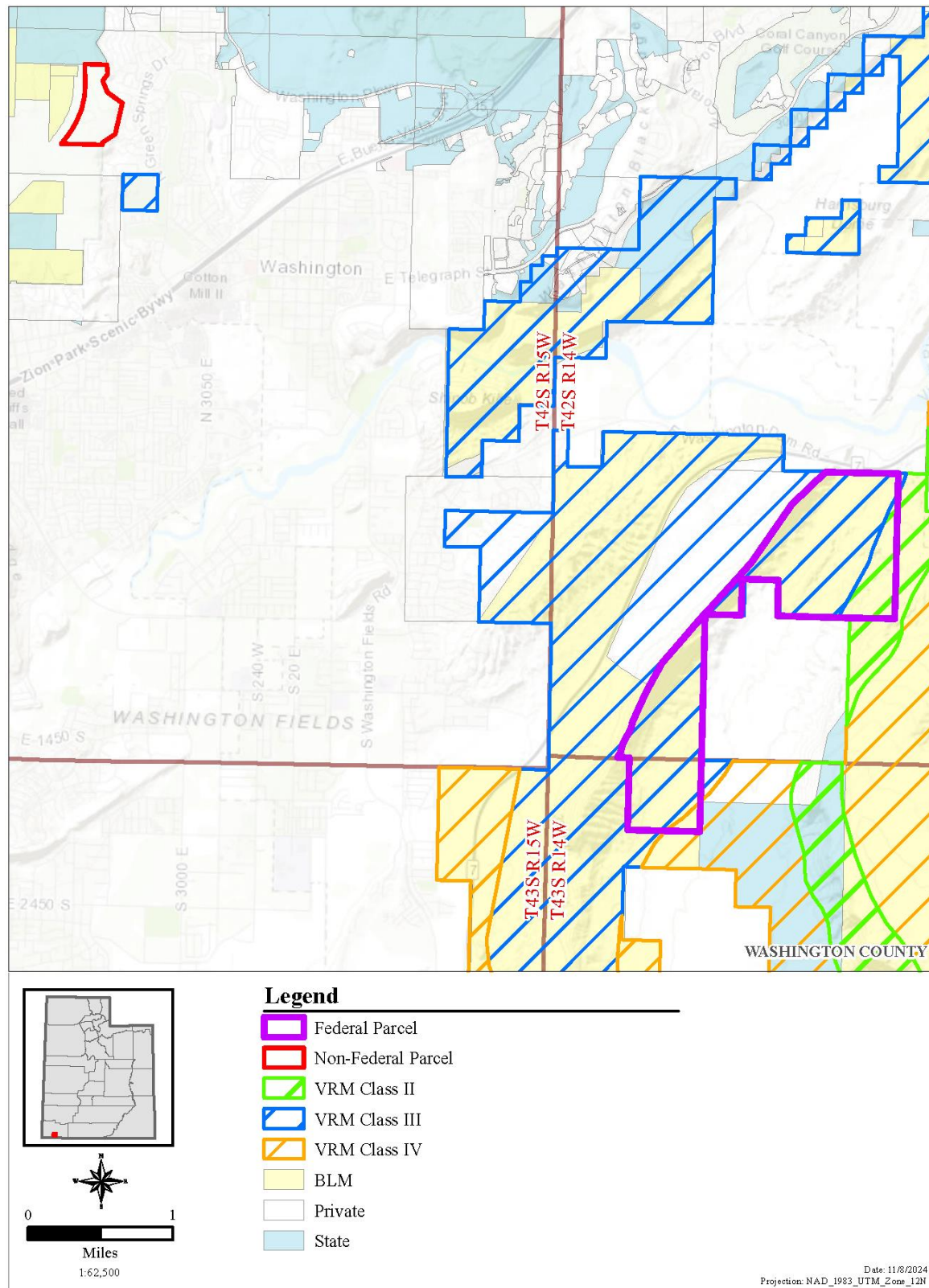
Table 3.22. Visual Resource Acreages for Non-Federal Parcel Compared to Federal Parcel

Rating Type	Level	Non-Federal Parcel acres	Federal Parcel acres
Visual Resource Inventory Class	II	89.43	0
Visual Resource Inventory Class	III	0	648.04
Visual Resource Inventory Class	IV	0	275.65
Scenic Quality Rating	A (High quality scenery)	89.43	0
Scenic Quality Rating	B (Moderate quality scenery)	0	292.96
Scenic Quality Rating	C (Low quality scenery)	0	630.73
Sensitivity Level Rating	A (Maintenance of visual quality has high value)	89.43	348.46
Sensitivity Level Rating	B (Maintenance of visual quality has moderate value)	0	575.23
Sensitivity Level Rating	C (Maintenance of visual quality has low value)	0	0
Distance Zone	Foreground-Middleground (0-5 miles)	89.43	929.14
Distance Zone	Background (5-15 miles)	0	0
Distance Zone	Seldom seen (beyond 15 miles)	0	0
Visual Resource Management Class (include table note that non- federal is proposed)	I	0	0

Rating Type	Level	Non-Federal Parcel acres	Federal Parcel acres
Visual Resource Management Class (include table note that non- federal is proposed)	II	0	94.65
Visual Resource Management Class (include table note that non- federal is proposed)	III	89.43	822.80
Visual Resource Management Class (include table note that non- federal is proposed)	IV	0	6.24

3.5.15.2. Visual Landscape Characteristics

Figure 3.9. VRM Map Overview



Federal Parcel

The Federal Parcel is bordered by Warner Ridge which rises 100-400 feet above the valley floor on the west, and the cliffs of Sand Mountain rise 100-800 feet above the valley floor to the east. The valley bottom is predominantly orange-red sands and compacted soils, interspersed with rolling hills of purple-gray bentonite clay characteristic of the Chinle Formation. Vegetation includes low-lying desert shrubs including creosote, rabbit brush, and associated grasses and forbs. Pockets of mesquite can be found at the northern end of the Parcel. Warner Ridge, part of the Shinarump Conglomerate, is a brown-gray rocky ridgeline that makes up the western boundary of the Parcel. The rust-colored cliffs of Sand Mountain are predominantly Navajo sandstone. Areas of deep, orange-red sand are interspersed throughout the Parcel. From within the Parcel, dominant landforms, including the Shinarump Conglomerate of Warner Ridge, the Chinle Formation found on the valley floor, and the Navajo Sandstone of Sand Mountain, offer a color palette of oranges, reds, pinks, browns, grays, yellows, tans, and whites. Sparse vegetation provides a hint of green while desert wildflowers add an occasional spark of color. The bentonite clays and wind-blown sands are contrasted with the rugged, sharp Warner Ridge and the rocky cliffs of Sand Mountain. The Parcel is bounded on the north by State Highway 7. The graded, natural-surface Pipeline Road cuts across two corners of the Parcel on the western boundary. Although the Parcel is in close proximity to building developments, including a golf course less than one mile to the northwest, and a medium/high-density neighborhood located on the other side of Warner Ridge, these developments are not seen due to the surrounding ridges and cliffs. The St. George Regional Airport is located just under three miles to the west of the Parcel. OHV-use, staging areas, a vault toilet, and dispersed campsites occur throughout the Federal Parcel. Livestock grazing infrastructure on the Federal Parcel include troughs and mineral licks. Vegetation is also trampled or consumed on the Federal Parcel due to livestock grazing.

Non-Federal Parcel

The Non-Federal Parcel is characterized by rocky, sandy soils, low desert scrub vegetation including creosote, blackbrush, and sagebrush, and is interspersed with expanses of slickrock and outcrops comprised of Navajo sandstone. Most of the Non-Federal Parcel is a gently sloped, plateau-like feature, with the eastern boundary dropping 120-150 feet down to the adjacent neighborhood of Green Springs. Views to the north include the towering Pine Valley Mountains with hues of deep greens and blues, bands of dark basalt from ancient lava flows, and the pinks, oranges, and whites of the streaked, multi-hued cliffs of the Cottonwood Canyon Wilderness. The Hurricane Cliffs rise to the east, forming a horizontal band of ash-whites, grays and purples. Elevated areas of the Arizona Strip, including the dark gray-green Seegmiller Mountain, are visible to the south. To the west, the Middleton Black Ridge, T-Bone Hill, and beyond that, the upper elevations of the Beaver Dam Mountains are visible. A north-south utility corridor, located in the NCA, runs approximately 1.5 miles west of the Non-Federal Parcel and includes multiple high-voltage transmission lines and two substations. The nearest transmission line passes less than 0.5 miles to the southwest of the Parcel. Because the topography of the Parcel elevates it above lower lying developed areas, much of that development is not visible, with the exception of the eastern boundary which offers a vantage point above Green

Springs. From the adjacent neighborhoods that sit lower than the Parcel, only the broken, rust-colored sandstone cliffs of the eastern boundary are visible. From within the NCA, the Parcel is visible from the Middleton Powerline and Cottontail Trails that lie to the north, and from here, one can see the intact desert scrub vegetation community that is characteristic of the Parcel and adjacent NCA lands. Landforms in this part of the NCA are mostly flat, with gentle undulations in terrain that slope gradually to the south. NCA lands immediately north and west of the Parcel are predominantly Navajo Sandstone and associated sands and soils, and just three miles further, the sandstone is capped by the dark basalt of the Middleton Black Ridge.

3.5.15.3. Environmental Consequences—Proposed Action

Federal Parcel

Under the Proposed Action, the 929.14-acre Federal Parcel would transfer from BLM-management to private (WCWCD) ownership and would no longer be subject to BLM's Visual Resource Classes objectives. The reasonably foreseeable future land use for the Parcel includes the development of a reservoir. If a reservoir is developed, it would have a strikingly different visual landscape character to what currently exists. A 742-acre, flat and smooth textured body of water with a gray-blue-black color would create a glint under certain light conditions. The Reservoir would overlay the narrow dark vermilion valley floor and would eliminate the dark-green and gray shrubby desert vegetation. Though the landscape character of the Federal Parcel would dramatically change with the addition of a reservoir, two existing reservoirs (Quail Creek and Sand Hollow) are within the two of the existing Scenic Quality Rating Units that overlap the Parcel. Quail Creek and Sand Hollow reservoirs were already included in the scenic quality rating determinations for those units. The Federal Parcel has been given A and B public sensitivity ratings over 348.46 and 575.23 acres, respectively, meaning the public has a high or moderate sensitivity to change. Public sensitivity to change is unlikely to increase due to the addition of the Reservoir. There would be no change in the VRI factors, which are sensitivity to changes in visual quality, distance zones, and scenic quality as defined in the Affected Environment.

Non-Federal Parcel

Under the Proposed Action, the BLM would assume ownership of the 89.43 acres of the Non-Federal Parcel and would incorporate it into the NCA. According to the Red Cliffs NCA RMP, "the open spaces, natural aesthetics, and scenic vistas of the NCA are protected for social, economic, and environmental benefits" (2016). There would be no change in the VRI factors, which are sensitivity to changes in visual quality, distance zones, and scenic quality. The Non-Federal Parcel is not currently subject to BLM's VRM requirements and there is no RMP decision relative to VRM for the Parcel. The BLM would need to incorporate VRM classification in a future land use planning decision.

3.5.16. Reasonably Foreseeable Effects

The impacts to visual resources from past, present, and reasonably foreseeable actions, include residential and commercial development, reservoirs, utility infrastructure (powerlines and communications sites), recreational facilities (trailheads, day use areas,

etc.), general recreational use including motorized play areas, livestock grazing management facilities (corrals, fences, water developments, storage buildings, etc.), and interstate and state highway and road construction and maintenance activities. Much of the analysis area is heavily altered and is projected to continue to be altered with similar changes to those described in the Affected Environment. In 2019, 801.71 acres were transferred from TLA to WCWCD that immediately abuts the Federal Parcel to the south. While no developments on these parcels have occurred, it is reasonable to assume that they might, which could result in impacts to visual resources. The BLM would ultimately manage the 89.43-acre Non-Federal Parcel consistent with the NCA RMP (2016), which states the BLM will pursue acquisition of Non-Federal lands from willing sellers within the NCA (RMP, Section 6.33) to protect the ecological, cultural, recreational, and scenic values of the NCA.

CHAPTER 4. PUBLIC INVOLVEMENT, CONSULTATION, AND COORDINATION

4.1. Persons, Groups, Agencies, and Tribes Notified and Consulted

Persons, groups, agencies, and Tribes contacted or consulted during this EA are identified in **Table 4.1**.

Table 4.1. Coordination and Communication

Name	Activity	Findings and Conclusions
USFWS	Coordination with federal agency.	The BLM prepared a biological assessment to analyze the impacts of the Land Exchange. To comply with the ESA and BLM Manual 6840 (BLM 2008b), the BLM initiated informal consultation on 11/10/2020, and a request for concurrence was sent on 5/9/2024. Concurrence was received on July 8, 2024.
Utah SHPO	Consultation as required by the NHPA (Public Law 89-665; 54 U.S.C. 300101 et seq.).	The BLM initiated consultation with the Utah SHPO on June 6, 2022. The SHPO concurred with the area of potential effect, identification efforts, and eligibilities of the sites in June 2023. Consultation is continuing for the finding of effects, which will include a Historic Properties Treatment Plan (HPTP) and associated MOA to resolve adverse effects.
Affiliated Tribes	Consultation as required by the NHPA (Public Law 89-665; 54 U.S.C. 300101 et seq.).	The BLM initiated consultation with affiliated Tribes in April 2022, including identification efforts. Consultation is continuing for the finding of effects, which will include an HPTP and associated MOA to resolve adverse effects.
Consulting Parties	Consultation as required by the NHPA (Public Law 89-665; 54 U.S.C. 300101 et seq.).	The BLM initiated consultation with consulting parties in January 2023, including identification efforts. Consultation is continuing for the finding of effects, which will include an HPTP and associated MOA to resolve adverse effects.
Initial Project Mailing List (79 initial interested parties)	Scoping notifications.	Outreach to persons, groups, agencies, and Tribes as described in Summary of Public Involvement .

Name	Activity	Findings and Conclusions
Public	Public scoping notification postings.	Placement of six sandwich boards, four flyers, and updates to the BLM website as described in Summary of Public Involvement .

4.2. Summary of Public Involvement

Summary of the NOEP process and the NEPA scoping process are included below. For additional information, please see the Scoping Report, included as **Appendix D**.

4.2.1. NHPA Consultation

Table 4.2. NHPA Consultation

Name	Organization Name	Notification Letter (certified & email)	Response	Present to Paiute Indian Tribe of Utah Council	Mailing of NOEP	Consulting Party Invite Sec 106	Response	Email Draft Historic Property Treatment Plan for Input and Review	Email Field Visit Invite	Response	Email Additional Field Visit	Response	Email MOA Workshop	Response
Stewart Koyiyumptewa	The Hopi Tribe	4/6/2022	-	-	Oct-22	1/5/2023	Attended virtually 2/7/2023	6/16/2023	7/29/2023	-	-	-	9/18/2023	-
Ona Segundo	Kaibab Tribe of Paiute Indians	4/6/2022	-	-	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Deryn Pete	Las Vegas Paiute Tribe	4/6/2022	-	-	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Greg Anderson	Moapa Band of Paiute Indians	4/6/2022	-	-	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Shanan Anderson	Moapa Band of Paiute Indians	-	6/7/2022 No comments at this time, defer to Shivwits Band	-	-	-	-	-	-	-	-	-	-	-
Darren Daboda	Moapa Band of Paiute Indians	4/6/2022	-	-	Oct-22	1/5/2023	Attended virtually 2/7/2023	6/16/2023	7/29/2023	-	-	-	9/18/2023	-
Richard Begay	Navajo Nation	4/6/2022	5/10/2022 Proceed without further consultation	-	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Delice Tom	Cedar Band of Paiutes	4/6/2022	-	4/11/2022	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Autumn Gillard	Paiute Indian Tribe of Utah	-	-	-	-	-	-	6/16/2023	7/29/2023	Attended 8/24/2023	9/14/2023	Could not attend	9/18/2023	Attended virtually 11/1/2023
Carmen Clark	Shivwits Band of Paiutes	4/6/2022	-	-	-	1/5/2023	attended virtually 2/7/2023	6/16/2023	7/29/2023	Shanan Anderson attended for Carmen 8/24/2023	9/14/2023	Shanan Anderson attended for Carmen 9/28/2023	9/18/2023	-

Name	Organization Name	Notification Letter (certified & email)	Response	Present to Paiute Indian Tribe of Utah Council	Mailing of NOEP	Consulting Party Invite Sec 106	Response	Email Draft Historic Property Treatment Plan for Input and Review	Email Field Visit Invite	Response	Email Additional Field Visit	Response	Email MOA Workshop	Response
Toni Kanosh	Koosharem Band of Paiutes	4/6/2022	-	4/11/2022	-	1/5/2023	-	-	-	-	-	-	-	-
Darlene Arrum	Kanosh Band of Paiutes	4/6/2022	-	4/11/2022	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Carlene Yellowhair	San Juan Southern Paiute Tribe	4/6/2022	-	-	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Val Panteah, Sr	Pueblo of Zuni	4/6/2022	-	-	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Kurt Dongoske	Pueblo of Zuni	4/6/2022	-	-	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Charles Wood	Chemehuevi Indian Tribe	4/6/2022	-	-	Oct-22	1/5/2023	-	-	-	-	-	-	-	-

Table 4.3. NHPA Consultation

Organization Name	Mailing of NOEP	Consulting Party Invite Sec 106	Responses	Email Draft Historic Property Treatment Plan for Input and Review	Email Field Visit Invite	Field Visit Responses	Email Additional Field Visit	Additional Field Visitor Responses	Email MOA Workshop	Response
Utah Trust Land Association	-	1/5/2023	Virtually attended 2/7/2/2023	6/16/2023	7/29/2023	-	-	-	9/18/2023	-
Utah Department of Transportation	-	1/5/2023	-	6/16/2023	7/29/2023	Attended 8/24/2023	-	-	9/18/2023	Attended 11/1/2023
St. George	-	1/5/2023	-	-	-	-	-	-	-	-
Washington City	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Washington County Water Conservancy District	Oct-22	1/5/2023	-	6/16/2023	7/29/2023	Attended	9/14/2023	Attended 9/28/2023	9/18/2023	Attended 11/1/2023
His Family Matters	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Washington County Historical Society	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Conserve Southwest Utah	-	1/5/2023	Holly Snow Attended 2/7/2023	6/16/2023	7/29/2023	-	9/14/2023	Attended 9/28/2023	9/18/2023	Holly Attended 11/1/2023

Organization Name	Mailing of NOEP	Consulting Party Invite Sec 106	Responses	Email Draft Historic Property Treatment Plan for Input and Review	Email Field Visit Invite	Field Visit Responses	Email Additional Field Visit	Additional Field Visitor Responses	Email MOA Workshop	Response
Utah Rock Art and Research Association	Oct-22	1/5/2023	Nina Bowen attended 2/7/2023	6/16/2023	7/29/2023	-	-	-	-	-
Utah Statewide Archaeological Society	Oct-22	1/5/2023	-	-	-	-	-	-	-	-
Utah State Historic Preservation Office	Oct-22	1/5/2023	-	6/16/2023	7/29/2023	-	-	-	9/18/2023	-
Washington County Commission	Oct-22	1/5/2023	Adam Snow and Eric Clark attended 2/7/2023	6/16/2023	7/29/2023	-	9/14/2023	Attended 9/28/2023	9/18/2023	Gil Almquist, Adam Snow, and Devin Snow Attended 11/1/2023

4.2.2. NOEP Process

The BLM released the NOEP on October 14, 2022, initiating a 45-day public comment period. The NOEP announced the proposal to exchange the Federal Parcel for the Non-Federal Parcel pursuant to Section 206 of the FLPMA of 1976 (43 U.S.C § 1716), as amended. The public was notified of the NOEP through publication in the St George Spectrum, a press release, and interested party notification letters.

4.2.2.1. NOEP Comments

The BLM received six comments, all via email, during the NOEP comment period. Of these, one was a duplicate; therefore, the BLM received a total of five unique, substantive comments during this period. Issue categories and analysis are included in **Table 4.4** NOEP Comment Issues, below. Please see **Appendix D** for additional information.

Table 4.4. NOEP Comment Issues Categories

Issue	Count of Issue Categories from Submissions* Non-substantive	Count of Issue Categories from Submissions* Substantive
Alternatives	-	1
ACECs	-	1
Reasonably Foreseeable Effects	-	2
Effects Analysis	-	1
Invasive Species	-	1
NEPA Process	-	3
Sensitive Species	-	3
Water Resources	-	6
Other	-	4

*Unique submissions are broken down into comment categories; therefore, each submission has the potential to produce several categories. This is why the number of comment categories identified is greater than the number of submissions received.

4.2.3. NEPA Scoping Process

The public was notified of the proposed project through multiple channels, including:

- Mailed letter, scoping notice, and map
- Webpage information
- Posted flyers and sandwich boards

Public scoping under the NEPA process was scheduled to last for 30 days, beginning March 14, 2023, and concluding at 5:00 PM on April 13, 2023. The BLM provided a six-day extension, pushing the final deadline to midnight on April 19, 2023. Outreach methods are summarized below.

4.2.4. NEPA Public Outreach

As part of the NEPA scoping announcement effort, 79 interested parties and stakeholders were mailed hard copies of the scoping letter, scoping notice, and project map on March 14, 2023. This outreach was timed in conjunction with the placement of six sandwich boards and four flyers announcing the public scoping meeting at locations near the project area. Additional individuals who attended the public meeting or otherwise participated in the scoping and public comment processes having been included on the revised contact list.

The public scoping notice and information on how to submit a comment was provided on the BLM's E-Planning website: <https://eplanning.blm.gov/eplanning-ui/project/2022389/570>.

4.2.5. Agency and Tribal Outreach

Scoping materials were mailed to relevant Tribes, senators, congressmen, state and local elected officials, and government agencies and officials on March 14, 2023.

4.2.6. NEPA Public Scoping Meeting

A NEPA public scoping meeting was held at:

St. George Library: Forsyth Community Room B

88 W 100 S

St. George, Utah 84770

Tuesday, March 21, 2023, 5:00 P.M.–7:00 P.M. (MT)

A total of 630 people (not including the BLM, WCWCD, Washington County, or Transcon-affiliated individuals) attended, based on the meeting's sign-in sheets.

The meeting was conducted in an open-house format. Posters describing the project background, location, schedule, NEPA process, resources to be considered, and methods for involvement were placed throughout the room. Project leadership from the BLM, WCWCD, and Washington County were present to discuss the project with the public. Participants were encouraged to sign in at the meeting and submit all comments in writing. Participants were able to provide written comments in the following ways: 1) comment cards provided at the scoping meeting, 2) email and/or email attachments, and 3) any other form of mail.

4.2.7. NEPA Scoping Comments

During the public open house, 1,476 comment submissions were received via email, hard-copy letter, and comments forms received during the public meeting. Guidance from the BLM NEPA Handbook (2008) was followed in classification of the comments. Thirty comments were found to be substantive, each often addressing multiple issue categories. A breakdown of these categories is provided below in **Table 4.5** NEPA Comment Issues Please see **Appendix D** for additional information.

Table 4.5. NEPA Comment Issues Categories

Issue	Count of Issue Categories from Substantive Submissions*
Areas of Critical Environmental Concern	3
Affected Environment	5
Air Quality	-
Alternatives	14
Biological Resources	3
Climate Change	1
Reasonably Foreseeable Effects	4
Economics	11
Effects Analysis	7
Environmental Justice ³	4
General Health and Safety	3
Invasive Species	-
Land Use	12
Livestock Grazing	-
Monitoring and Mitigation	1
NEPA Process	12
Paleontological Resources	-
Purpose and Need	4
Recreation	38
Sensitive Species	9
Tribal and Cultural Resources	2
Visual Resources	1
Water Resources	11
Watershed Protection	-

³ Executive Order 14154, Unleashing American Energy (Jan. 20, 2025), and a Presidential Memorandum, Ending Illegal Discrimination and Restoring Merit-Based Opportunity (Jan. 21, 2025), require the Department to strictly adhere to the National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 et seq. Further, such Order and Memorandum repeal Executive Orders 12898 (Feb. 11, 1994) and 14096 (Apr. 21, 2023). Because Executive Orders 12898 and 14096 have been repealed, complying with such Orders is a legal impossibility. The [bureau] verifies that it has complied with the requirements of NEPA, including the Department's regulations and procedures implementing NEPA at 43 CFR Part 46 and Part 516 of the Departmental Manual, consistent with the President's January 2025 Order and Memorandum.

Issue	Count of Issue Categories from Substantive Submissions*
Wetlands	-
Wild and Scenic Rivers	-
Other	6

Unique submissions are broken down into comment categories; therefore, each submission has the potential to produce several categories. This is why the number of comment categories identified is greater than the number of submissions received.

4.2.8. NEPA Public Comment Period and BLM Response

On November 15, 2024, the BLM issued the Red Cliffs Warner Valley Land Exchange preliminary environmental assessment for a 30-day public comment period that ended on December 16th, 2024. A total of 31 comments were received of which 12 comments were considered substantive in part or whole. The BLM has responded to the summarized comments in **Appendix I**, to direct where the information is already contained in the EA, to indicate what changes may have been made to the final EA document, or to provide clarifying information. The comments received in their entirety are contained in the administrative record for this proposal.

4.3. **List of Preparers**

Table 4.6. List of Preparers

Name	Company	Title	Resource Areas
Stephanie Trujillo	BLM—Utah SGFO (Review and Coordination)	Realty Specialist and Project Lead	Lands and Realty
Susan Griffith	BLM—Utah SGFO (Review and Coordination)	Realty Specialist	Lands and Realty
Amber Van Alfen	BLM—Utah SGFO (Review and Coordination)	Archaeologist	Cultural Resources
Katie Cleek	BLM—Utah SGFO (Review and Coordination)	Archaeologist	Cultural Resources
Hayden Houston	BLM—Utah SGFO (Review and Coordination)	Planning and Environmental Coordinator	EA Analysis/Environmental Resources
Katherine Chiasson	BLM—Utah SGFO (Review and Coordination)	Planning and Environmental Specialist	EA Analysis/Environmental Resources

Name	Company	Title	Resource Areas
Stephanie Taylor	BLM—Utah SGFO (Review and Coordination)	Wildlife Biologist	Biological Resources
John Kellam	BLM—Utah SGFO (Review and Coordination)	NCA Wildlife Biologist	Biological Resources
Jacqueline J. Russell	BLM—Utah SGFO (Review and Coordination)	Public Affairs Specialist	Public Affairs, Scoping, Communication
Jacob Stout	BLM—Utah SGFO (Review and Coordination)	Ecologist (Aquatics)/Fish Biologist (Aquatics)	Water Resources
Thomas Jacques	BLM—Utah SGFO (Review and Coordination)	Natural Resource Specialist	Natural Resources, Livestock and Grazing
Alan Titus	BLM—Utah SGFO (Review and Coordination)	Paleontologist	Paleontology
Kyle Voyles	BLM—Utah SGFO (Review and Coordination)	Recreation Planner	Recreation, Geology, Paleontology
Ryan Reese	BLM—Utah SGFO (Review and Coordination)	Rangeland Management Specialist	Rangeland, Forestry & Fuels
Edward Ginouves	BLM—Utah SGFO (Review and Coordination)	Geologist	Geology
Robert Wells	BLM—Utah SGFO (Review and Coordination)	Recreation Planner	Recreation/Visual Resources
Alicia White	BLM—Utah SGFO (Review and Coordination)	GIS Specialist	Mapping and Cartography
Jason West	BLM—Utah SGFO (Review and Coordination)	Field Manager	Authorized Officer
Matthew Ritter	Eocene, formerly Transcon (EA Preparation)	Environmental Planner	Project Coordination, NEPA Analysis

Name	Company	Title	Resource Areas
Ron Bolander	Eocene, formerly Transcon (EA Preparation)	Senior Environmental Planner	NEPA Analysis
Debra Budrow	Eocene, formerly Transcon (EA Preparation)	Environmental Planner	EA Analysis
Lindsey Evenson	Eocene, formerly Transcon (EA Preparation)	Principal Investigator	EA Analysis
Jennifer Bannick	Eocene, formerly Transcon (EA Preparation)	Archaeologist—Field Supervisor	Archaeology
Cassidee Thornhill	Eocene, formerly Transcon (EA Preparation)	Archaeologist	Archaeology
Brian Parker	Eocene, formerly Transcon (EA Preparation)	Senior Biologist, Project Manager	Biological Resources, Project Management
Ron Rodriguez	Eocene, formerly Transcon (EA Preparation)	Senior Biologist	Biological Resources
Maribel Glass	Eocene, formerly Transcon (EA Preparation)	Biologist	Biological Resources
Larkin McCormack	Eocene, formerly Transcon (EA Preparation)	Paleontologist	Paleontological Resources
Stephanie Grossart	Eocene, formerly Transcon (EA Preparation)	Paleontologist	Paleontological Resources
David Sims	Eocene, formerly Transcon (EA Preparation)	GIS Specialist	Mapping and Cartography
Matthew Gill	Eocene, formerly Transcon (EA Preparation)	GIS Specialist	Mapping and Cartography
Morgan White	Eocene, formerly Transcon (EA Preparation)	Technical Editor	Document Compilation and Editing

Name	Company	Title	Resource Areas
Katie DeSandro	Eocene, formerly Transcon (EA Preparation)	Project Coordinator and Technical Editor (former)	Document Compilation and Editing
Maggie Draper	Eocene, formerly Transcon (EA Preparation)	Technical Editor	Document Compilation and Editing
Colin Ganong	Eocene, formerly Transcon (EA Preparation)	Project Manager	Scoping

CHAPTER 5. LITERATURE CITED

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