

NEW MEXICO STATE PARK FEASIBILITY STUDY : BROAD CANYON RANCH

**New Mexico Energy, Minerals and
Natural Resource Department
State Parks Division**

JULY 10, 2024



New Mexico State Park Feasibility Study: Broad Canyon Ranch

Acknowledgements

The team would like to thank the following individuals and organizations for contributing their time to the development of this feasibility study:

New Mexico Energy, Minerals and Natural Resources Department - State Parks Division

Toby Velasquez, Director

Colleen Baker, Design and Development Bureau Chief

Robert Stokes, Program Support Bureau Chief

Jared Langenegger, Field Operations Bureau Chief

Saul Baquera, Southwest Region Manager

Joseph Fleming, Planner

Austin Wilson, Leasburg Dam State Park

Art Benavidez, Leasburg Dam State Park

Elected Officials

New Mexico Senator Jeff Steinborn

New Mexico Senator Nathan P. Small

Agency Representatives

Melissa Hovey, National Monument Manager, Organ Mountains Desert Peaks National Monument

David Casares, Las Cruces Field Supervisor, International Boundary and Water Commission

Elizabeth Verdecchia, Natural Resources Specialist, International Boundary and Water Commission

Enrique Ornelas, International Boundary and Water Commission

Maria Lohmann, Outdoor Recreation Specialist, State Land Office

Page Pegram, Rio Grande Basin Manager, New Mexico Interstate Stream Commission

Organizations and Individuals

Beth Bardwell, formerly with World Wildlife Fund

Michael Patrick, Trust for Public Lands

Patrick Nolan, Friends of Organ Mountains Desert Peaks

Coby Bartram, formerly with San Andres National Wildlife Refuge

David Crider, Southwest Expeditions

Contents

Acknowledgements.....	i
Figures.....	v
Tables.....	vi
Executive Summary.....	1
1. Introduction.....	3
Study Area Location.....	3
Study Area Geography.....	4
Study Area Description.....	4
Study Area Overview.....	6
Adjacent properties.....	6
Study Area Ownership and Management.....	8
Land Use Regulation.....	8
Senate Memorial 38.....	9
Purpose of Feasibility Study.....	9
Stakeholder Engagement Summary.....	9
2. Analysis of Chapter 26 Article 2: State Parks Division Criteria.....	10
B. Sites that may be designated as state parks shall be only those:.....	10
(1) having a diversity of resources, including areas of scientific, aesthetic, geologic, natural, or historic value.....	10
(2) providing recreational opportunities significant enough to assure patronage from a region or preferably from the state as a whole.....	17
(3) conforming to the state comprehensive outdoor recreation plan.....	23
C. Lands designated for acquisition or developed as state parks or state recreational areas shall be those that:.....	25
(1) are adjacent to existing parks or recreational areas and are necessary for successful park or recreational area protection and development.....	25
(2) help meet recreation and open space demands of metropolitan area residents by emphasizing park or recreational areas within easy access of population centers.....	28
(3) preserve the most significant examples of New Mexico natural scenic landscape.....	30
(4) meet the pressure on primary vacation regions not adequately supplied with public recreation opportunities.....	30
D. Lands that are acquired or developed as state parks or state recreational areas shall be managed and developed according to the following objectives:.....	31

(1) outdoor recreation shall be recognized as the dominant or primary resource management objective.....	31
(2) physical development shall promote the outdoor recreation objective through the use of proper design, materials, and construction to enhance and promote the use and enjoyment of the recreational resources in the area	32
(3) within economical limits, state parks or state recreational facilities shall be landscaped and developed to achieve an environment that is aesthetically pleasing, ecologically functional and complementary to the native environment.....	34
(4) use periods for parks or recreational facilities shall be extended by providing a variety of facilities that will attract visitors during all seasons of the year; and	34
(5) all significant historic structures contained in state parks or state recreational areas shall be, within economical limits, reconstructed, restored, or stabilized to provide for continued user benefit.....	36
E. Factors to be taken into consideration when lands are considered for acquisition or development as state parks or state recreational areas are:	37
(1) the character of the land resources, such as soil, vegetation, topography, and water, that affects the suitability of the lands for development as parks or recreational areas	37
(2) facilities development to meet the average and slightly higher than average demands rather than the peak demands of summer and the holiday weekends.....	45
(3) development priority based upon demonstrated use and demand, balance and distribution of existing facilities and the availability of lands suitable for development; and	46
(4) Resources protection shall also be considered a priority if the resources need urgent attention, but the priority shall be determined by the relative value of the resources involved.	56
F. The cost of lands to be proposed for acquisition or development as state parks or state recreational areas should be reasonable, with consideration given to the recreational value of the land on which the state park or state recreational area is to be located. No property shall be purchased that involves commitments, privileges, or conditions to any private interest, except that property may be purchased that has restrictions limiting its use to that of a state park or state recreational area.....	59
G. All lands considered for acquisition or development as new state parks or state recreational areas shall undergo a feasibility study prior to acquisition or development. Feasibility studies shall include:	59
(1) a determination that the proposed area meets the criteria set forth in this section	59
(2) an estimate of the total development cost, including land acquisition, planning and construction and recommendations for methods of financing the development costs.....	60
(3) an estimate of the annual costs for operation and maintenance	70
(4) an estimate of demand and a projection of visitor use for the proposed area.....	71
(5) an analysis of the proposed area as it relates to plans or development by other governmental agencies or the private sector in adjacent areas.	73

3. Management Alternatives.....	77
Alternative 1: No development.....	77
Alternative 2: Day-use state park or recreation area.....	77
Alternative 3: Full state park development with campground and visitor center.....	78
4. Preferred Alternative.....	79
Appendices.....	80
Appendix A: Senate Memorial 38.....	80
Appendix B: References.....	83
Appendix C: 2008 News Release: Critical Lad Protected Along the Rio Grande in Selden Canyon.....	84
Appendix D: Stakeholder Engagement Summary.....	87
Stakeholder Engagement.....	87
Site Visits.....	87
Stakeholder Interviews.....	87
Stakeholder Groups.....	88
Survey Results.....	89

Figures

Figure 1: Regional Map with the Study Area indicated in orange.....	3
Figure 2: ArcScene Image of the Study Area looking north.....	4
Figure 3: Map of Broad Canyon Ranch Study Area Parcels.....	5
Figure 4: View of Selden Hills across the Rio Grande from the Riverside Parcel.....	6
Figure 5: Overlooking Swan Pond on the Upland Parcel.....	6
Figure 6: View of the Northern Parcel from NM 185, looking west.....	6
Figure 7: Map of Broad Canyon Ranch adjacent properties.....	7
Figure 8: Chihuahuan Desert Ecoregion.....	10
Figure 9: Restoration ecology and wildlife monitoring at Broad Canyon Ranch. Image courtesy of Beth Bardwell.....	11
Figure 10: Photograph of Broad Canyon Ranch by Adriel Heisey, looking south. Note Swan Pond to the center right of the photo and the Rio Grande in the center. The ranch complex is located just below the bend in the river. Image provided by Trust for Public Lands.....	12
Figure 11: Map showing the location of the Study Area in relationship to vast public lands which serve as an ecological corridor within the Chihuahuan Desert.....	13
Figure 12: Image of Broad Canyon Ranch looking northwest across the Rio Grande. Photo by Adriel Heisey.....	14
Figure 13: Endangered southwestern willow flycatcher. Image source USFWS.....	15
Figure 14: Threatened species yellow-billed cuckoo. Image source Andy Reago & Chrissy McClarren.....	15
Figure 15: Results from stakeholder engagement survey.....	19
Figure 16: Map of adjacent recreation areas.....	26

Figure 17: Image of proposed Rio Grande Trail between Colorado and Mexico within the Rio Grande corridor.....	27
Figure 18: Image of Slot Canyon accessed via the Upland Parcel.....	28
Figure 19: Map of recreational areas within driving distance of Las Cruces	29
Figure 20: Chart showing survey input on the top priorities for management of the Study Area	32
Figure 21: Ranch House	36
Figure 22: EPA Level IV Ecoregions of BCR. The river valley (yellow) is the Rio Grande floodplain, and the uplands (sage green) are the Chihuahuan Basins and Playas. Outside of the project area to the southwest are the Low Mountains and Bajadas.....	37
Figure 23: Arroyo characteristic of the Upland Parcel	38
Figure 24: Soil map.....	39
Figure 25: HUC-12 Watersheds containing and/or upstream of Broad Canyon Ranch	40
Figure 26: Flood Map	41
Figure 27: Flood zones Riverside Parcel	42
Figure 28: Swan Pond was dry on 27 November 2023. The wetland in the background supports cattails and bulrushes.....	43
Figure 29: Chart showing average monthly visitation at parks in the Study Area region.....	46
Figure 30: Adjacent SLO and BLM properties.	48
Figure 31: Diagram showing considerations around land suitable for development on the Northern Parcel	49
Figure 32: Diagram showing considerations around land suitable for development on the Riverside Parcel	50
Figure 33: Diagram showing considerations around land suitable for development on the Upland Parcel.	51
Figure 34: Gate on private property to north of Riverside Parcel.....	52
Figure 35: Primary gate to Riverside Parcel	52
Figure 36: SLO gate providing unofficial access to Upland Parcel to the north.	53
Figure 37: Gate providing access to the Upland Parcel from the south.	53
Figure 38: Box Culvert located on SLO property.	55
Figure 39: Livestock well.	55
Figure 40: Domestic well on Riverside Parcel.	56
Figure 41: Map showing range of threatened and endangered species and proximity of the Study Area to Important Plant Areas.....	58
Figure 42: Context Map, Diagrammatic Trail Routes, and Parking.....	62
Figure 43: Riverside Parcel Development Opportunities	63

Tables

Table 1: Comparable state parks.....	20
Table 2: Top seasons for recreational activities at Broad Canyon Ranch	35
Table 3: Plant species observed by Biohabitats and the Broad Canyon Ranch Assessment team, 27 November 2023. Additional species found in the study area are included in Table 4 below (i.e., observations of species noted in iNaturalist are not included here).....	43
Table 4: Research Grade iNaturalist observations for Broad Canyon Ranch and the vicinity. This is not a comprehensive species list, just those positively identified in the area. Query from January 11, 2024. ...	44

Table 5: Property access assessment summary	53
Table 6: Alternative 2 - Development Cost Estimate for Riverside Parcel and Upland Parcel	68
Table 7: Alternative 3 - Development Cost Estimate for Riverside Parcel and Upland Parcel	69
Table 8: Alternative 2 - Day-Use Staffing	70
Table 9: Alternative 3 - Full State Park Staffing	70
Table 10: Alternative 2 and Alternative 3 – Operating Costs	71
Table 11: Potential revenue from day-use fees.....	72
Table 12: Potential revenue from camping fees.....	73
Table 13: Operating Cost to Revenue Ratio	73

Executive Summary

This Feasibility Study has been prepared on behalf of the State Parks Division of the New Mexico Energy, Minerals and Natural Resources Department (State Parks) in response to Senate Memorial 38 (SM 38) introduced by Senators Jeff Steinborn and Nathan P. Small, which passed in the 2023 session of the New Mexico State Legislature. SM 38 requested that State Parks complete a feasibility study to consider the establishment of a state park at Broad Canyon Ranch.

The Broad Canyon Ranch Study Area (Study Area) is located in Doña Ana County along a stretch of the Rio Grande in southern New Mexico. The Study Area is approximately 20 miles north of Las Cruces and straddles NM 185. The Study Area is comprised of three (3) separate tracts owned by State Parks, referred to in this report as the “Northern Parcel,” “Riverside Parcel,” and “Upland Parcel.”

The three Study Area parcels were evaluated based on the statutory criteria for establishing a state park (NMSA 1972 Chapter 16 Article 2). This involved an assessment of natural and cultural resources, potential recreational opportunities, and the suitability of lands available for recreational development within each parcel. Additionally, the study analyzes whether state park development would conform with the New Mexico State Comprehensive Outdoor Recreation Plan (SCORP).

This study finds that only some parcels in the Study Area meet the criteria for designation and development as a state park. The Riverside Parcel is the only parcel that meets the criteria in and of itself. Due to its location within a scenic stretch of the lower Rio Grande, the parcel has significant natural, scientific, and aesthetic value and provides habitat for both threatened and endangered bird species. The parcel offers a range of recreational opportunities that could draw visitors from the region and potentially the state including birdwatching, hiking, horseback riding, and non-motorized boating. It has land suitable for recreational development including opportunities for parking, trails, bird blinds, campgrounds, and a visitor center with an outdoor classroom. The Upland Parcel does not independently meet the criteria for development as a state park but could supplement the Riverside Parcel with the development of other recreational opportunities, possibly including parking and low-impact trails. The Northern Parcel does not meet state criteria for development as a state park.

Various development and management alternatives were considered based upon the findings of the feasibility study. Alternative 1 involves no development of the Study Area. Alternative 2 involves limited development of the Riverside and Upland Parcels (collectively Broad Canyon Ranch) for day-use as a state park or as a recreation area associated with Leasburg Dam State Park. Alternative 3 involves the full development of Broad Canyon Ranch as a state park with camping.

State Parks has selected Alternative 2 as the preferred alternative. Alternative 2 contemplates the development of the Riverside and Upland Parcels as either a day-use state park or a recreation area that functions as a satellite of Leasburg Dam State Park. Under Alternative 2, the Northern Parcel could remain under State Parks ownership, be transferred to another public agency, be managed for conservation and preservation, exchanged, leased, or sold. The feasibility study indicates that development under Alternative 2 of the Riverside and Upland Parcels would result in a unit which would perform similarly to comparable parks in the Study Area region and contribute value as part of a cohesive system of state parks. Alternative 2 meets the Land and Water Conservation Fund (LWCF) goals identified at the time of the purchase of Broad Canyon Ranch which include permanent public access to the property with parking and comfort station; non-intrusive trail alignment with the proposed Rio

Grande Trail; and future development of additional trails to support wildlife viewing. This alternative also allows for phased development if State Parks decides to pursue further recreational development of the Study Area in the future.

1. Introduction

The following study assesses the feasibility of establishing a state park at the Broad Canyon Ranch Study Area (Study Area) based on the criteria for state park designation in New Mexico statute (NMSA 1972 Chapter 16 Article 2). This report is the outcome of research, site visits, and stakeholder engagement conducted between July 2023 and March 2024.

Study Area Location

The Study Area is located in Doña Ana County along a stretch of the Rio Grande in southern New Mexico. The Study Area is approximately 20 miles north of Las Cruces and is directly adjacent to NM 185, which is an approximately 36-mile-long state highway between Hatch and Las Cruces.

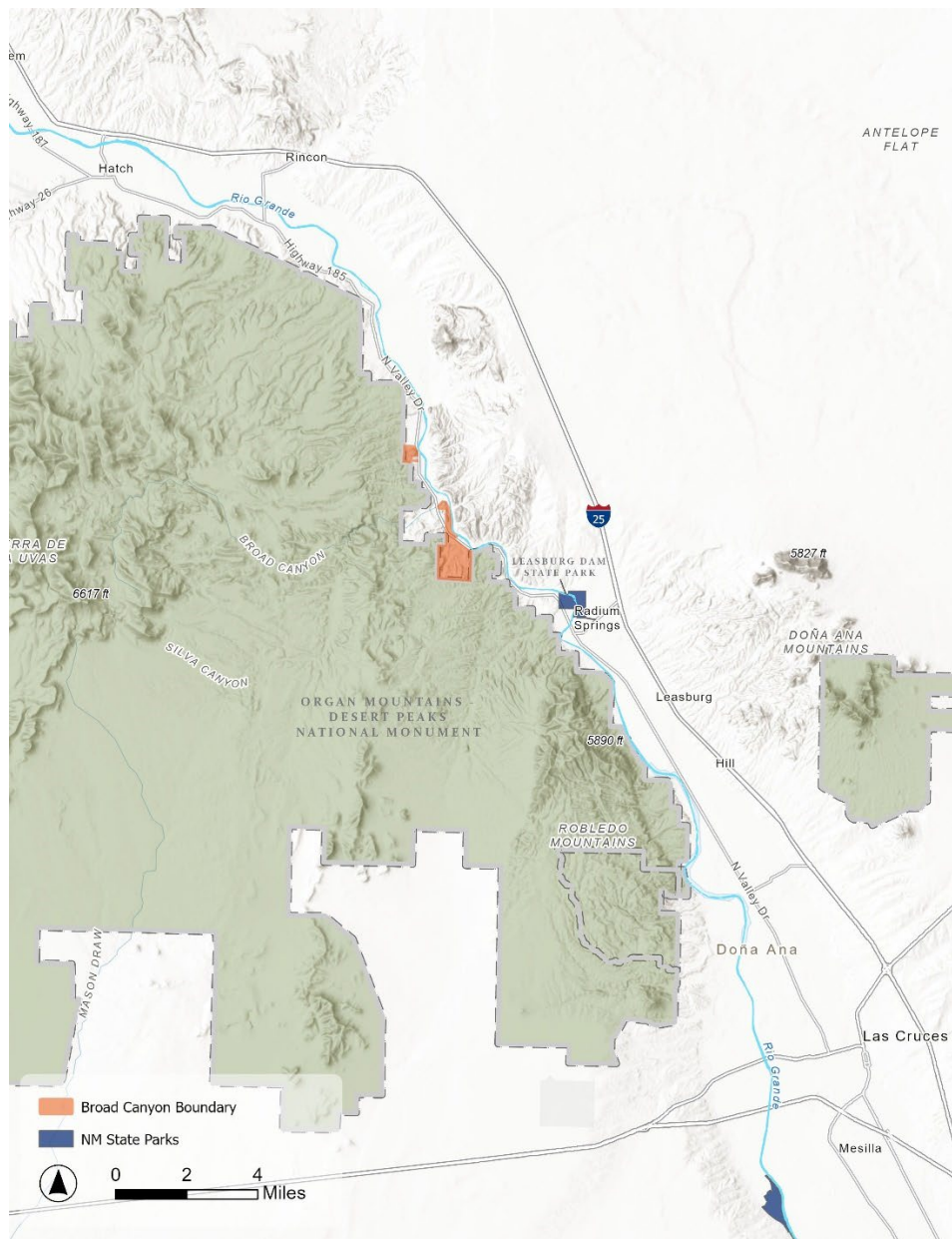


Figure 1: Regional Map with the Study Area indicated in orange.

Study Area Geography

The Study Area is nestled into the eastern flank of the Sierra De Las Uvas Mountains. It is located at the confluence of Broad Canyon and Selden Canyon within the lower Rio Grande south of Caballo Dam and north of Leasburg Dam. The canyon is located between Selden Hills to the northeast and Cedar Hills to the southwest. The elevations of the Study Area range from 3980 feet above sea level along the river to 4386 feet above sea level.



Figure 2: ArcScene Image of the Study Area looking north.

Study Area Description

The Study Area is comprised of three (3) separate tracts owned by State Parks that will be referred to by the following names throughout the report:

- Riverside Parcel – a tract along the Rio Grande to the north of Highway 185
- Upland Parcel – an adjacent tract to the south of the highway from the Riverside parcel
- Northern Parcel – a smaller parcel located approximately two miles north of the other parcels

Throughout this study, the three Study Area parcels will be evaluated both independently and in relationship to each other to determine if they meet the statutory criteria for state park designation and development.

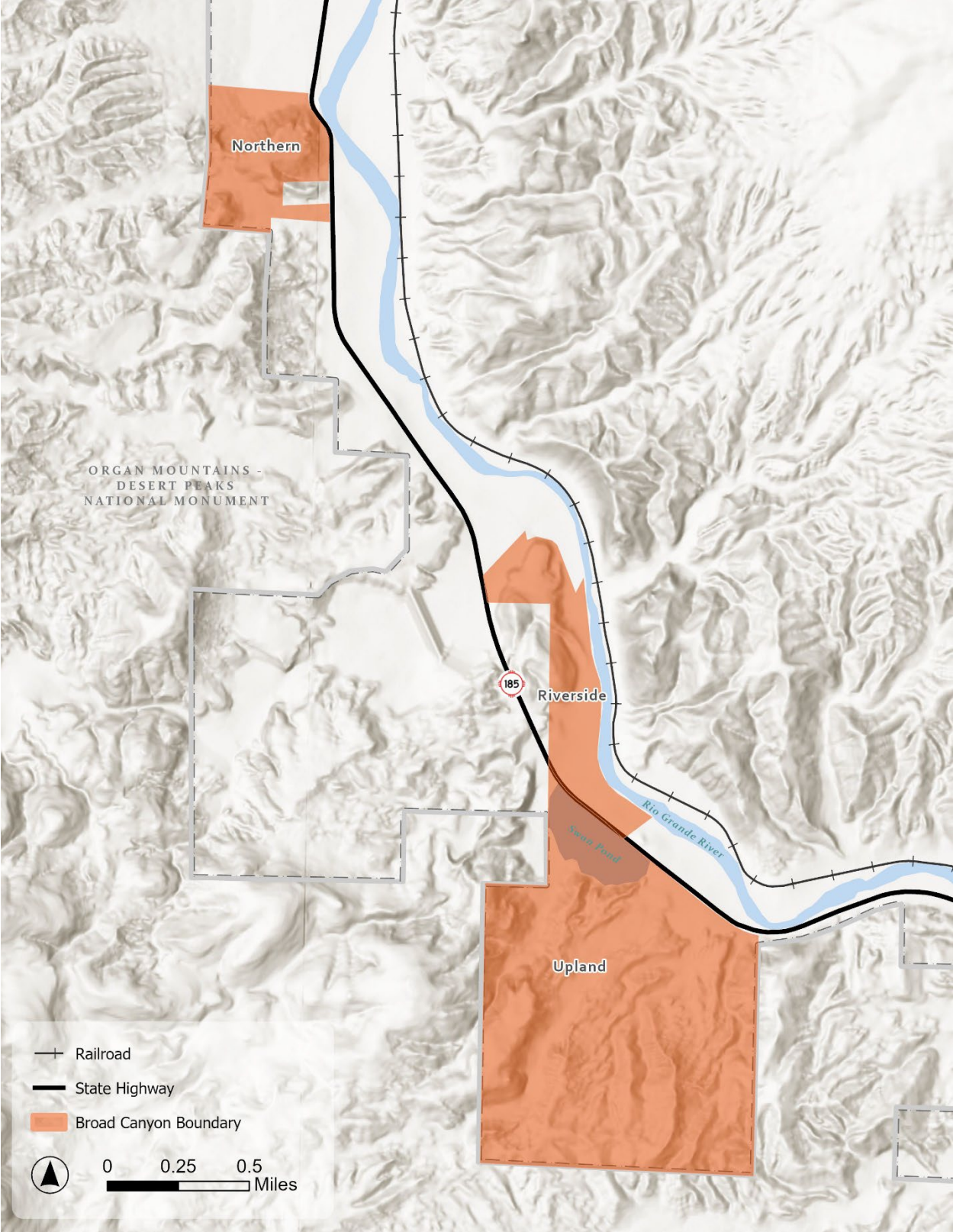


Figure 3: Map of Broad Canyon Ranch Study Area Parcels

Study Area Overview

The Riverside and Upland Parcels comprise 783 acres of a former homestead known as Broad Canyon Ranch. The Riverside Parcel is located along an approximately 1 mile stretch of the Rio Grande and contains a historic ranch house, evidence of former corrals, ranch infrastructure, and wetlands.

The Upland Parcel contains Swan Pond, a seasonal wetland adjacent to NM 185, and a series of drainages that lead southwest into the Cedar Hills within the Organ Mountains Desert Peaks (OMDP) National Monument.

The Northern Parcel comprises approximately 140 acres to the southwest of NM 185 that contains hills overlooking the highway and the Rio Grande. This parcel was not part of the 2008 Broad Canyon Ranch property acquisition. It has been State Parks property since the 1980s.

Adjacent properties

The Riverside Parcel is a 123-acre tract bordered by NM 185 along its southern edge, private property along the southeastern edge, the Rio Grande River along the northeastern edge, International Boundary Water Commission (IBWC) and private property to the north, and Bureau of Land Management (BLM) property to the west.

The Upland Parcel is a 658-acre tract bordered by NM 185 to the north, BLM land to the east and south, private property to the southwest, BLM land to the west, and State Land Office (SLO) property to the northwest. Broad Canyon Dam, which is managed by the Elephant Butte Irrigation District (EBID) is located on SLO property to the northwest of the property. The parcel abuts the OMDP National Monument on three sides.

The Northern Parcel is a 140-acre tract bordered by BLM and private property to the south, NM 185 to the east, private property to the north, and BLM land to the west. There is a small private property parcel that cuts into the property along its eastern edge. The parcel abuts the OMDP National Monument on two sides.



Figure 4: View of Selden Hills across the Rio Grande from the Riverside Parcel



Figure 5: Overlooking Swan Pond on the Upland Parcel



Figure 6: View of the Northern Parcel from NM 185, looking west.

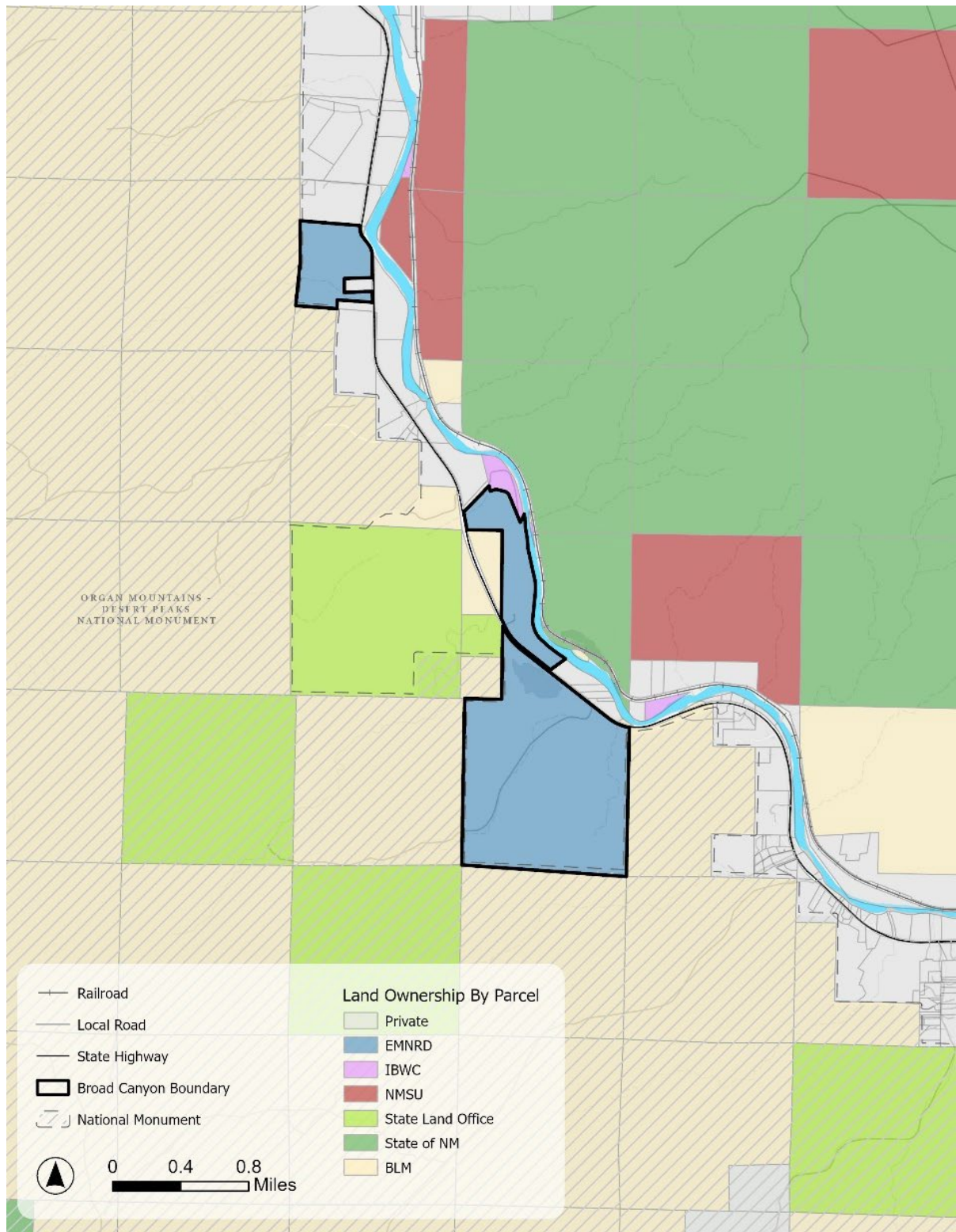


Figure 7: Map of Broad Canyon Ranch adjacent properties.

Study Area Ownership and Management

Broad Canyon Ranch, comprised of the Riverside Parcel and Upland Parcel, was acquired by State Parks in 2008 with fundraising support from the Trust for Public Lands and the World Wildlife Fund. A press release at the time of purchase announced that the Broad Canyon Ranch property would “advance State Parks’ long-range vision to establish more conservation reserves along the lower Rio Grande in order to accomplish river ecosystem restoration, expand education and recreation opportunities, and improve river access.” (Appendix C)

The property was purchased with Land and Water Conservation Funds (LWCF) and thus both the Riverside and Upland Parcels are LWCF obligated properties. The LWCF was designed to provide funds and matching grants to federal, state and local governments for the acquisition of land and water, and easements on land and water, to safeguard natural areas, water resources and cultural heritage, and to provide recreation opportunities to all Americans. LWCF documentation indicates that the original land use intent included:

- permanent public access to the property with parking and comfort station;
- non-intrusive trail alignment with the proposed Rio Grande Trail; and
- future development of additional trails to support wildlife viewing.

Since the time of acquisition, State Parks has supported ecological restoration activities on site through various partnerships, including with U.S. Fish and Wildlife, the New Mexico Interstate Stream Commission (NMISC), and Southwest Audubon. The property is fenced and gated and is managed through periodic visits by Leasburg Dam State Park staff.

The Northern Parcel was purchased in the 1980s, and since that time the property has remained fenced and has not been managed as part of the State Parks system.

Land Use Regulation

The study area properties are within Doña Ana County, within an area that is primarily zoned Rural (T2) by the county. Doña Ana County Rural (T2) zoning consists of sparsely settled lands in open or cultivated conditions. These include bosque, agricultural land and grazing land. Typical buildings include single-family residential site-built homes and mobile homes, farmhouses, and agricultural buildings.

The Broad Canyon Ranch property was purchased using LWCF funding. The LWCF agreement creates the obligation to maintain the property as described in the project agreement (outlined in the previous section above). In short, the LWCF obligations require the property to be maintained in perpetuity for public outdoor recreation. At present, the Riverside and Upland Parcels are not meeting the public access requirements of the LWCF agreement; both parcels are fenced with a locked gate. Neither parcel has been improved with parking or comfort stations as the LWCF application indicated they would be. In addition, the LWCF obligations require State Parks to receive the approval of the Secretary of the federal Department of the Interior if State Parks wishes to pursue a use conversion or land exchange.

The Northern Parcel is not under LWCF obligations.

Senate Memorial 38

In 2023, the New Mexico legislature passed Senate Memorial 38, introduced by Senators Jeff Steinborn and Nathan P. Small, requesting that New Mexico State Parks study the feasibility of establishing Broad Canyon Ranch as a State Park per the parameters outlined in NMSA Section 16-2.

Purpose of Feasibility Study

The purpose of this effort is to prepare a Feasibility Study in conformance with the requirements for acquisition and development of lands for park and recreational purposes under Chapter 16 Article 2 - State Parks Division of the New Mexico State Statutes.

Section 16-2-11-G NMSA mandates that:

G. All lands considered for acquisition or development as new state parks or state recreational areas shall undergo a feasibility study prior to acquisition or development. Feasibility studies shall include:

- (1) a determination that the proposed area meets the criteria set forth in this section (16-2-11);*
- (2) an estimate of the total development cost, including land acquisition, planning and construction, and recommendations for methods of financing the development costs;*
- (3) an estimate of the annual costs for operation and maintenance;*
- (4) an estimate of demand and a projection of visitor use for the proposed area; and*
- (5) an analysis of the proposed area as it relates to plans or development by other governmental agencies or the private sector in adjacent areas.*

The criteria for acquisition and development are specified in Subsections B through G of Chapter 16 Article 2. The feasibility study addresses each of the relevant criteria for the three Study Area parcels. SM 38 requested a study for Broad Canyon Ranch which is comprised of the Riverside and Upland Parcels. Due to the proximity of the Northern Parcel, this property was included in the study.

Stakeholder Engagement Summary

Stakeholder engagement was conducted to integrate stakeholder input and perspectives on the feasibility of establishing the Study Area as a state park. Many nonprofits and governmental agencies have an interest in Broad Canyon Ranch due to the area's history, natural value, location, and recreational development opportunities. Stakeholder groups included EMNRD State Parks Division; BCR land acquisition and feasibility study stakeholders; public land agencies; resource management jurisdictions; local and state government representatives; as well as nonprofit organizations, volunteer groups, businesses, and individuals. Stakeholder outreach consisted of multiple site visits, stakeholder interviews, emails, phone calls, and an online survey. Additionally, the EMNRD Tribal Liaison invited multiple tribes, nations, and Pueblos to provide input via formal letters sent in February 2024. Survey respondents indicated that the top types of development appropriate at Broad Canyon Ranch are parking, trails, picnic area, and vault toilets. Desired recreational activities include hiking, bird watching, picnicking, and educational programs. For more information about stakeholder engagement see Appendix D.

2. Analysis of Chapter 26 Article 2: State Parks Division Criteria

B. Sites that may be designated as state parks shall be only those:

(1) having a diversity of resources, including areas of scientific, aesthetic, geologic, natural, or historic value

Scientific value

The Riverside and Upland Parcels within the Broad Canyon Ranch Study Area have demonstrated scientific value. The parcels contain a rare and distinct riparian and wetland ecosystem within the greater context of the Chihuahuan Desert ecoregion. The Chihuahuan Desert faces a variety of threats, including habitat loss and fragmentation, climate change, changing wild fire regimes, and deterioration of freshwater resources (Briggs et al. 2020). The Riverside and Upland Parcels provide opportunities to conduct research into restoration ecology that can be done in few other places in the Lower Rio Grande.

The Riverside and Upland Parcels are in a location which connects Chihuahuan Desert uplands, located within vast expanses of protected public lands, with the Rio Grande river corridor (see Figure 11). The river corridor provides an essential lifeline for animal and plant communities in the Chihuahuan Desert, many of which have become threatened or endangered (Briggs et al. 2020). The Lower Rio Grande is a



Figure 8: Chihuahuan Desert Ecoregion.

prioritized area for habitat restoration for endangered species such as the Southwestern Willow Flycatcher, which has habitat within the Study Area (NMED SWQB 2006).

After the Broad Canyon Ranch property was acquired by State Parks, onsite partnerships with other state and federal agencies as well as nongovernmental conservation organizations have supported ecological restoration, groundwater monitoring, species surveys, and habitat protection for endangered and priority riparian woodland birds both on the Riverside and Upland Parcels. State Parks, U.S. Fish and Wildlife, the NM Interstate Stream Commission, and Southwest Audubon all have been involved in this work for many years. Restoration ecology research can aid in park management, deepen understanding of how climate change might affect threatened ecosystems, and support the development of field-based curriculum for local schools.



Figure 9: Restoration ecology and wildlife monitoring at Broad Canyon Ranch. Image courtesy of Beth Bardwell

The Northern Parcel does not contain any of the wetland or riparian habitat features that characterize Upland and Riverside Parcels and has not been a site for ecological monitoring or restoration. The Northern Parcel does not possess either significant or unique geologic or natural features, or water bodies which could facilitate scientific examination, discovery, data collection, or experimentation. The feasibility study determined that the Northern Parcel property does not have significant scientific value. It does, however, contain several cultural sites which will be discussed below.

Aesthetic value

The Study Area is situated within a beautiful landscape. The high slopes and cliffs of Selden Canyon and the Selden Hills are tight to the river on the east side and are visible from multiple vantages throughout the three parcels of the Study Area. The landscape shifts into a series of rolling hills, mesas, deeply cut arroyos, and alluvial fans to the west. The river cuts through the landscape providing a ribbon of green and shade. The presence and impact of water is visible everywhere within the Riverside and Upland Parcels. The river has pushed back and forth between the hills and cliffs on the east and west sides of the canyon, creating the relatively lush landscape between the Swan Pond and the railroad tracks. Major arroyos concentrate runoff from the OMDP National Monument to the west and south and fan out into deltas where the water enters the Rio Grande. The Upland and Northern Parcels provide panoramic views of the river and Selden hills.



Figure 10: Photograph of Broad Canyon Ranch by Adriel Heisey, looking south. Note Swan Pond to the center right of the photo and the Rio Grande in the center. The ranch complex is located just below the bend in the river. Image provided by Trust for Public Lands.

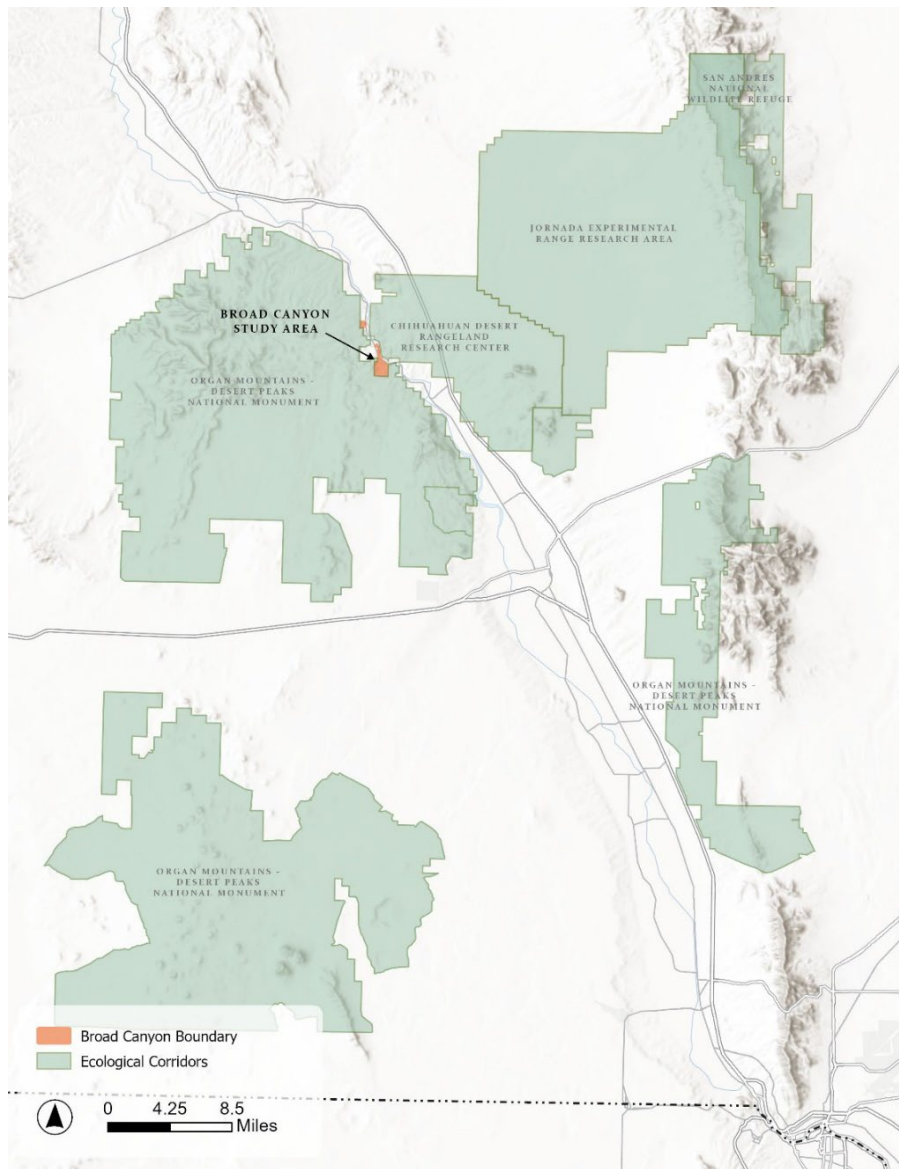


Figure 11: Map showing the location of the Study Area in relationship to vast public lands which serve as an ecological corridor within the Chihuahuan Desert

Geologic value

The geologic resources of Broad Canyon and Selden Canyon have been documented in multiple studies, although there are not significant or rare geologic resources evident within any of the Study Area parcels. The Study Area lies within the southern part of the Rio Grande Rift whose formation began 30 million years ago (New Mexico Environment Department Surface Water Quality Bureau Wetlands Program 2006). A rift is a long, narrow feature where tectonic forces pull apart the earth's crust. Selden Canyon physically separates two ancient basins within the rift: the Palomas and Mesilla, which make up two important basin fill aquifer systems in south-central New Mexico (Hawley, Kennedy, and Creel n.d.). Much of the land in the area is comprised of an Olivine Basalt, called "Selden Basalt," (Seager and Wiley

1975) and Uvas Basaltic Andesite, a basaltic andesite high in minerals associated with volcanic activity (Seager and Clemons 1975). The presence of volcanic rock is one indicator that the Cedar Hills Fault was channeling magma twenty-six million years ago. Also present throughout Broad Canyon are tuffaceous Sandstone, pumice fragments, and, accenting the iconic Slot Canyon, aesthetically pleasing Bell Top formations (Clemons 1979).

Natural value

The Study Area, in particular the Riverside and Upland Parcels, have significant natural value. The area contains a regionally rare and distinct riparian and wetland ecosystem within the greater context of the Chihuahuan Desert. The Riverside and Upland Parcels have significant diversity reflected in landforms, hydrology, habitat types, and resident species. This multifaceted diversity is testimony to the area's natural value and its contributions to both local and regional biodiversity.

Landscapes with a granular patchwork of distinctive ecosystems and ecotones between biological communities, such as that found within the Riverside and Upland Parcels, have a general tendency to exhibit high species diversity relative to more homogenous landscapes. In addition to the riparian zone, the landscape also includes arroyos with alluvial shrub communities, mesa tops with low grasses, cacti and forbs, and a hilly landscape between with variable and diverse habitat and plant community. The hills and arroyos serve as wildlife corridors funneling many species from the drier uplands to the water in the riverbed.



Figure 12: Image of Broad Canyon Ranch looking northwest across the Rio Grande. Photo by Adriel Heisey.

The Rio Grande River borders the Study Area to the east and its influence is fundamental to the character of the Riverside Parcel, especially in a landscape that receives on average less than 9 inches of precipitation every year. The most endangered habitat in this region is riparian habitat in the Rio Grande corridor (NMED SWQB 2006). According to the Important Bird Area (IBA) Nomination Form for the Lower Rio Grande Bosques, Selden Canyon, where the Study Area is located, contains some of the best remaining wetland and riparian habitats along the lower Rio Grande in Doña Ana County (Scott and Stoltz, 2011).

Native riparian and wetland habitats within the Riverside and Upland Parcels include the 40-acre Swan Pond wetland, smaller seasonal wetlands, cottonwood, and coyote willow stands, screwbean mesquite woodlands, salt grass meadows, and arroyo-shrub habitats along drainages leading to the river. The Riverside and Upland Parcels provide significant breeding habitat for a number of sensitive species.

Two wildlife species with habitat in the Study Area are the southwestern willow flycatcher (*Empidonax traillii extimus*) (figure 13), which is endangered, and the yellow-billed cuckoo (*Coccyzus americanus*) (figure 14), which is threatened. Southwest willow flycatcher and yellow-billed cuckoos have been spotted in the Study Area between 1993-2010, according to the IBA Nomination Form (Scott and Stoltz, 2011). Southwest willow flycatcher was noted on both the Riverside and Upland Parcels while the Yellow-billed cuckoos were spotted on the Riverside Parcel only. Swan Pond is noted as a Birding Hotspot on eBird, an online database of bird observations run by the Cornell Lab of Ornithology.

The Northern Parcel does not contain significant natural value in its current state. The property has no river access and no evidence of wetlands or significant habitat for threatened or endangered species.

Historic and cultural value

As part of the Feasibility Study, State Parks completed a cultural resource inventory of the three Study Area parcels and identified both historic and prehistoric cultural resources. The identified cultural resources include the Broad Canyon Ranch complex, one historic trash dump, one undefined prehistoric lithic scatter site, eight prehistoric rock ring/burned rock concentration feature sites, one prehistoric rock art site with features, and one prehistoric rock shelter site. The ranch complex, the rock art site, and the rock shelter site have been previously recorded and will be updated. Most of the prehistoric sites are located on the ridges and high outcrops overlooking the Rio Grande corridor and other large tributary drainages, while the historic sites are mostly located on the canyon floors. Eleven sites were determined to be eligible for inclusion on the National Register of Historic Places (NRHP) by State Parks, pending concurrence by the State Historic Preservation Office (SHPO). Eligibility is yet to be determined for one of



Figure 13: Endangered southwestern willow flycatcher. Image source USFWS



Figure 14: Threatened species yellow-billed cuckoo. Image source Andy Reago & Chrissy McClarren

the rock ring feature sites, while the historic trash dump will not be recommended to SHPO as eligible for inclusion on the NRHP. To minimize potential impacts to these sites, State Parks recommends avoidance of all cultural resources that are recommended or have been determined to be eligible for listing in the NRHP as future development of the property is planned, with the exception of the ranch complex pending park development plans and mitigation efforts. The isolated occurrences were adequately documented and are not eligible for listing on the NRHP.

The natural resources of the Rio Grande and the surrounding landscape have attracted people to the Study Area for centuries. Many important events in New Mexico history occurred within the vicinity of the Study Area and may have passed within the Study Area boundaries. The Study Area witnessed the major historical periods of southern New Mexico including the prehistoric period, Spanish Colonial and Territorial periods, the arrival of the railroad, statehood, and ranching and homesteading. There are opportunities for historical interpretation within the existing ranch complex if any of its features, such as the house and adobe brick garage, are to be repurposed. Beyond the ranch complex there is little specific interpretive value related to these periods extant on-site.

A brief discussion of some of these major historic periods and events is included below.

Prehistoric

The Southwest borderlands of New Mexico, Arizona, western Texas, and northern Mexico have a distinct archaeological culture known as the Mogollon. The Mogollon people lived in earthen pit houses often atop bluffs and mesas overlooking agricultural fields along riverbanks and in washes. Significant examples of the Mogollon culture can be found at the Gila Cliff Dwellings National Monument, Three Rivers Petroglyph area in the Tularosa Basin, and the Mimbres Cultural Heritage Site in the Mimbres Valley, all within 150 miles of the Study Area. Prehistoric sites can be found on the ridges and high outcrops of the Study Area overlooking the Rio Grande corridor and other large tributary drainages.

Long before the Spanish arrived in the Southwest, Indigenous peoples had established trade routes in the Rio Grande corridor linking ancient cultures in present-day Mexico and present-day New Mexico (National Park Service n.d.). Trade routes linked the Mogollon with peoples in Mexico and groups to the north.

Spanish Colonial – 1540-1821

The Camino Real diverted from the Rio Grande Valley to the Jornada del Muerto just south of Selden Canyon from a place called Paraje Robledo (Ft. Selden Website, NM Historic Sites). Artifacts and possibly a feature related to this paraje were found at Leasburg Dam State Park seven miles north of the Study Area (Stokes, Robert 2016). Paraje San Diego was the longer used paraje which occurs at San Diego Mountain at the north end of Selden Canyon (Staski 1998). At the time, the area north of Robledo including Selden Canyon was known as the Bosque de Santa Barbara. The Camino traveled north from Robledo across the plains of the Jornada del Muerto and met the river again just north of the Fra Cristobal mountain range. In the Camino Real nomination, the reasons given for the divergence from the river to the Jornada are the “steep embankments, deep arroyos, low cliffs, dunes, thickets and other obstacles to travel” in the Bosque de Santa Barbara which provides historical insight to the historical landscape of Broad Canyon Ranch (National Park Service n.d.).

Territorial and Railroad – 1848-1912

In the mid-19th century, hundreds of thousands of American settlers began migrating west. Cooke's Wagon Road was the first wagon road between the Rio Grande and the Colorado River providing a route through the desert towards California. The San Diego Crossing was a major ford on the Rio Grande located approximately six miles north of the Riverside Parcel. Fort Selden was established near Paraje Robledo near the mouth of Selden Canyon in April 1865 to protect settlers from escalating hostilities as the settlers encroached on the homelands of the Mescalero Apache.

The development of the railroad in the late 19th century and the completion of the line from Rincon, NM to El Paso, TX in 1881 played an important role in territorial expansion in the region (Myrick 1990). Just across the Rio Grande from the Riverside Parcel is the Burlington Northern Santa Fe (BNSF) rail line. The train can be viewed from the property when it travels through Selden Canyon between Hatch and Las Cruces. The railroad's old riverside bed, now the lower road at Leasburg Dam State Park, was moved to its current location along the outer edge of the park in the early 1900s due to flood washouts.

Statehood/Ranching/Homesteading – 1908-2008

Agriculture has been the core of New Mexico's traditional economy since as early as 1500 B.C. (Merlan 2010). During the 20th century, the U.S. Reclamation Service (later U.S. Bureau of Reclamation) pursued significant engineering of the Rio Grande water flow. This Rio Grande Project focuses on irrigation, hydroelectricity, flood control and interbasin water transfer. The project led to the construction first of Leasburg Dam completed in 1908 followed by Elephant Butte Dam in 1915. The hydrology, aquatic, and riparian ecosystems throughout the river corridor including Selden Canyon where the Study Area is located, has been significantly altered due to this project (Sandoval-Solis et al. 2022).

The Homestead Act (1862) allowed settlers to claim up to 160 acres of land after occupying the land for 5 years, making improvements, and paying a filing fee. In 1909, the Enlarged Homestead Act was passed allowing claims of up to 320 acres. In 1916, congress passed the Stock Raising Homestead Act allowing claim of a full section (640 acres)(Merlan 2010). This led to homesteading within Selden Canyon.

Parcels within the Study Area were homesteaded. Patents were issued between 1908 and 1924. The Northern Parcel was patented to Quirino Lobato on February 3, 1908, and included 160 acres. Most of the Riverside parcel was patented to William McCall on April 28, 1910, and included 163.2 acres. The Upland Parcel was patented to Edward T. Morris on July 7, 1924, and included approximately 619 acres.

The Riverside parcel contains a ranch complex (the McCall Homestead) which is anchored by a ranch house that was constructed in the early to mid-20th century. It also contains an adobe-brick garage beside it, and an old river intake system (long abandoned). The ranch house and adobe garage both offer opportunities for interpretation. The Ranch Complex has potential for adaptive reuse as a visitor center with museum displays to share ranching history.

(2) providing recreational opportunities significant enough to assure patronage from a region or preferably from the state as a whole

State Parks relies heavily on self-generated revenue to accomplish its mission. Revenue is generated through day-use and camping fees, concessions, and other related revenue streams. As enterprise facilities, state parks are expected to cover approximately 75 percent of their operating costs through

various revenue streams that include park-generated revenue. Year-round visitation and repeat visitors are essential to meeting this goal. This means that the Study Area parcels must provide recreational opportunities significant enough to ensure patronage from the Las Cruces—El Paso—Ciudad Juarez region or preferably from the state as a whole.

In its current undeveloped state, the Study Area attracts local visitation but does not offer recreational opportunities which would draw visitors from the greater Las Cruces—El Paso—Ciudad Juarez region, state, neighboring states, or Mexico. The Riverside and Upland Parcels are a draw for local birdwatchers who come to spot wetland birds such as the southwestern willow flycatcher and yellow-billed cuckoo along the river and at Swan Pond. The Upland Parcel is a destination for hikers who come to access neighboring BLM land to explore Slot Canyon. The Northern Parcel lacks pedestrian and vehicular access and is not currently used for recreation.

The Riverside and Upland Parcels have potential to draw broader visitation with the right recreational development. Hiking, birdwatching, picnicking, education and interpretation, non-motorized boating, and horseback riding were the top recreational activities that survey participants indicated were appropriate for the area. In a stakeholder interview, Southwest Expeditions, a local tour operator, indicated that with development of non-motorized boat facilities on the Riverside Parcel, including a concessionaire with raft and kayak rental and a river put-in and take-out locations, the property would be attractive for visitors from Las Cruces, El Paso and Ciudad Juarez who currently have limited access to family friendly river activities. There is also the opportunity to support alignment with the future Rio Grande Trail, by providing river access, serving as an access point to the trail, and offering camping accommodations for trail users.

Opportunities for recreational development at the Northern Parcel are limited due to topography, access, and the presence of sensitive cultural resources at key locations. The location of the property on NM 185 creates a dangerous approach from the highway at any current or potential entry points. The property is fenced and has no gate or driveways resulting in challenges with property access. Steep and erosive terrain are not ideal for development of any kind, and there are cultural resources on the Northern Parcel that should be protected from recreational development.

If Broad Canyon Ranch were developed as a state park, what types of park activities would be appropriate? (select your top three choices)

509 Responses- 3 Empty

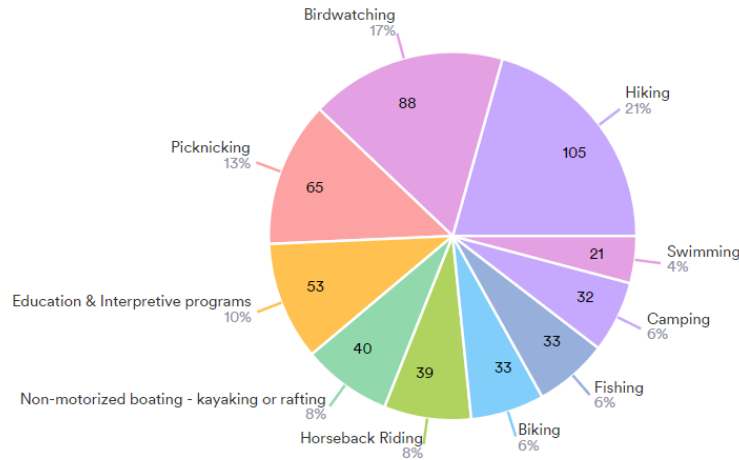


Figure 15: Results from stakeholder engagement survey

Comparable state parks

To better understand how attractive the Study Area might be to visitors locally, regionally, and from the state it is helpful to compare the area to comparable state parks. By assessing Broad Canyon Ranch within the context of state parks that are a comparable size and/or that offer similar recreational amenities and activities to those that have been proposed for the Study Area, it is possible to evaluate potential visitation draw. Comparable state parks include:

Cerrillos Hills State Park: A year-round day use park located off the Turquoise Trail Scenic Byway 30 minutes from Santa Fe and 45 minutes from Albuquerque. The park offers visitors stunning views of the Sandia, Ortiz, Jemez, and Sangre de Cristo mountain ranges from a network of dirt trails. The park encompasses 1,085 acres of trails and interpretive information about the area’s mining history. The park has group facilities, historic sites, a visitor center, and restrooms. It is a popular destination for horseback riding.

Rio Grande Nature Center: A year-round day use park located in the North Valley of Albuquerque. The park offers excellent birdwatching opportunities throughout the year from indoor and outdoor wildlife viewing areas. The park has ponds, a native plant garden, and a pollinator garden as well as access to the city-managed trails to the Rio Grande and Bosque. The Visitor Center offers informative displays and a Nature Shop. This is a popular destination for local K-12 schools, scouts, and other groups for guided tours and learning opportunities.

Mesilla Valley Bosque: A year-round day use park located in Mesilla and fifteen minutes from Las Cruces. The park offers opportunities to view wildlife in natural bosque surroundings while strolling nature trails on self-guided or ranger-led tours. There is an amphitheater, gardens, visitor center, and wildlife viewing blinds. The park is a designated Important Bird Area, is a stop along NM’s Birding Trail, and has been

home to the Bosque Ecosystem Monitoring Site (BEMP) student/citizen scientist site through a partnership with the Bosque School in Albuquerque.

Oliver Lee Memorial: A year-round overnight park located 20 minutes from Alamogordo. The park offers hiking, wildlife viewing, camping and guided tours in the Chihuahuan Desert against the dramatic background of the Sacramento Mountains. Springs flow year-round. The state park is 1.5 miles from the Oliver Lee Ranch House, a historic ranch headquarters at the mouth of Dog Canyon, settled by the park’s namesake, Oliver Milton Lee. The house was rebuilt from ruins to provide a glimpse of what traditional ranch life was like.

Rockhound: A year-round overnight park located fourteen miles from Deming. The park offers rockhounding, hiking, picnicking, wildlife viewing, and education programs in the Chihuahuan Desert against the backdrop of the Little Florida Mountains. The park contains campground facilities, restrooms with showers, gardens, and a visitor center. It is a popular destination for collecting agate and quartz crystals.

Leasburg Dam: A year-round overnight park located 18 miles from the City of Las Cruces. The park offers hiking, non-motorized boating, wildlife viewing, education programs and camping along a stretch of the Rio Grande surrounding the Leasburg Dam and Leasburg Canal which are important irrigation infrastructure for Mesilla Valley. Nearby is the historic Fort Seldon State Monument and crossing point for the Jornada del Muerto. The park features trails, RV camping, restrooms, native plant gardens, amphitheater, visitor center, and observatory.

Table 1: Comparable state parks

Location	Acreage	10 Yr Avg Visitors	Nearest City Center & Distance	Population of nearest residential center	Day Use Only	Visitor Center	Trail Mileage	Activities
Cerrillos Hills	1085	9,356	Santa Fe – 30 miles	88,193	Y	Y	5	Education programs, horseback riding, picnicking, hiking, mountain biking
Leasburg Dam	288	42,108	Las Cruces – 18 miles	112,914	N	Y	2.25	Non-motorized boating, camping, education programs, picnicking, fishing, swimming, hiking, mountain biking, birding
Mesilla Valley Bosque	272	16,083	Las Cruces – 6 miles	112,914	Y	Y	2.3	Education programs, picnicking, hiking, birding
Oliver Lee Memorial	638	39,261	Alamogordo – 15 miles	31,652	N	Y	5.87	Camping, education programs, picnicking, hiking, birding, guided tours
Rio Grande Nature Center	39	193,644	Albuquerque – 5 miles	562,599	Y	Y	1.2	Education programs, annual festivals, picnicking, hiking, birding
Rockhound	913	56,921	Deming – 14 miles	14,835	N	Y	3	Camping, education programs, picnicking, hiking, birding
Broad Canyon Ranch Study Area	923	NA	Las Cruces – 22 miles	112,914	NA	NA	NA	(Potential) Hiking, biking, picnicking, education programs, fishing, non-motorized boating, birding, camping

Comparison to existing state parks

Day-use: If the Study Area is to be considered for day-use development, it is helpful to compare it to other day-use parks. Cerrillos Hills, Mesilla Valley Bosque (MVB), and the Rio Grande Nature Center (RGNC) are day-use state parks comparable to the Study Area.

RGNC is the most visited state park that does not contain a lake, with a 10-year average of 193,644 visitors per year. It is a small park, 38 acres, and has a relatively short trail network, but its location within the City of Albuquerque, a robust birding program, and its link to the paved 16-mile Paseo del Bosque multi-use trail contribute to its high levels of visitation. Additionally, strong relationships with local schools and a robust environmental education program supports frequent visits throughout the school year. The Study Area offers opportunities for similar types of recreational development to RGNC but is not situated within a large metropolitan area and is unlikely to experience such the same level of visitation.

Mesilla Valley Bosque State Park (MVB) opened in 2006 and was celebrated as Las Cruces' version of the RGNC. Similar to the RGNC, MVB is located within a metropolitan area and offers hiking, wildlife viewing and environmental education within the Rio Grande bosque. The park is a designated Important Bird Area and is a Bosque Ecosystem Monitoring Program site. Despite its location within a residential center and broad range of park facilities, the park has significantly lower visitors than most parks statewide with a 10-year annual average of 16,083. Like MVB, the Riverside and Upland Parcels have been designated as an Important Bird Area and offer similar opportunities for hiking, wildlife viewing and environmental education. Potential recreational opportunities at Broad Canyon Ranch such as kayaking and horseback riding could provide an additional draw for day-use visitation, but this must be balanced with consideration of the Study Area's location 20 miles outside Las Cruces.

Cerrillos Hills is a destination for hiking, horseback riding, and education about New Mexico's historic mining economy. State Parks has a concessionaire agreement with Broken Saddle Riding Company at Cerrillos Hills. The park is located 30 minutes outside of Santa Fe and 45 minutes from Albuquerque. It is the most remote day-use park of the three comparison parks. The park has the lowest 10-year average annual visitation rate of all state parks (9,356). This could speak to challenges in drawing visitation to more remote day-use parks, particularly if they do not provide amenities such as river access. Like Cerrillos Hills, the Study Area is not located within a population center. The Riverside and Upland Parcels offer opportunities for recreational development as well as concessionaire agreements to support activities such as non-motorized boating and horseback riding, but these are likely not sufficient on their own to support significant annual visitation.

It will be important to consider what types of recreational development could ensure return visitation as well as patronage from the region and state. As a day-use park, visitation rates will likely be more similar to MVB or Cerrillos Hills and could pose challenges to meeting enterprise agency goals.

Camping: Leasburg Dam, Oliver Lee Memorial, and Rockhound are state parks with campgrounds that attract visitors from the region and around the state. These parks attract significantly higher visitation than Cerrillos Hills or MVB which could indicate that campgrounds are an important draw for state parks, particularly those located farther from population centers. Camping could provide an additional draw to the Study Area to ensure more consistent patronage of the park. Additionally, on-site camping generates revenues supporting State Parks' enterprise agency goals. The Riverside Parcel is suitable for overnight camping within areas that are not prioritized for ecological restoration and habitat protection or cultural

resource protection. The Northern and Upland Parcels are not suitable for camping development due to site limitations that include erosive soils, steep grades, large drainages prone to infrequent but sudden flooding, and lack of utility access. Additionally, the Northern parcel lacks safe vehicular access.

Trails: Rockhound, Cerrillos Hills, and Oliver Lee Memorial all offer relatively extensive trail networks. Cerrillos Hills is a popular destination for hiking and horseback riding and offers approximately 5 miles of trail network within the park boundary. The Oliver Lee Memorial contains approximately 6 miles of trails, some of which leave State Parks' property into adjacent public lands. Rockhound offers approximately 3 miles of trails.

There is potential for trail development at both the Riverside Parcel and the Upland Parcel at Broad Canyon. The Riverside Parcel can likely accommodate approximately 1.5 miles of trail, excluding the opportunity to walk in the riverbed when the river is low or dry. In combination with the development of parking at the north end of the site, the Upland Parcel can accommodate approximately 1 mile of loop trail to access the Swan Pond. Another potential parking area, including limited horse trailer parking, can provide access to approximately 3 miles of additional trail. See Figure 40 for potential trail locations.

Lower Rio Grande River and wetland habitat: It is useful to consider which landscape attributes the Study Area offers that are comparatively unique within the Lower Rio Grande region where the Study Area is located. MVB and Leasburg Dam provide recreational activities along the lower Rio Grande which are easily accessible by the Las Cruces-El Paso region. MVB contains a floodplain grassland, a riverside mixed woodland, and along the river basin's western escarpment, Chihuahuan Desert scrubland. Leasburg Dam was constructed in 1908 to channel water from the Rio Grande for irrigation in the Mesilla Valley. The riparian landscape and habitat in MVB has been significantly altered and State Parks is partnering with the Bureau of Reclamation and EBID on restoration of native vegetation.

The Riverside and Upland Parcels offer similar diversity of landscape and habitat to MVB in a more remote location and have significant potential for habitat restoration for endangered and threatened bird species. The river setting in the Riverside Parcel is far more natural than at Leasburg Dam or at MVB. The landscape value will likely encourage visitation from the region by those who are looking to experience the natural ecosystem of the Rio Grande and its unique wildlife. The Upland Parcel contains a unique seasonal wetland known as Swan Pond. The Northern Parcel does not contain riparian or wetland habitat.

Additional Recreational Opportunities: When considering recreational development opportunities, it is helpful to evaluate potential recreational activities in relationship to comparable parks in the region. MVB is popular for wildlife viewing, environmental education, and hiking. Leasburg Dam is a popular destination for camping and non-motorized boating. There are no established kayaking launches at MVB. There is a 10-mile kayaking route that launches from Leasburg Dam and ends in Las Cruces. This section of the river is predominantly agricultural. The Riverside Parcel is situated in the scenic Selden Canyon within a long stretch of more natural river channel. The property offers unique kayaking and rafting opportunities compared to other parks in the area. The Northern and Upland Parcels do not offer river recreation opportunities.

The Riverside and Upland Parcels both offer habitat for endangered and threatened bird species. Low impact trail networks and bird blinds could provide unique opportunities for bird watching.

(3) conforming to the state comprehensive outdoor recreation plan.

The New Mexico Statewide Comprehensive Outdoor Recreation Plan (SCORP) is a plan that provides strategies to strengthen the state's outdoor heritage. The SCORP identifies various statewide priorities and provides guidance for allocating funds from the Land and Water Conservation Fund.

1. Economic Development

Goal 1: Grow a Robust and Sustainable Outdoor Recreation Economy

At present, there are no outdoor recreation facilities at the Study Area that would promote a robust and sustainable outdoor recreation economy. The Riverside Parcel and Upland Parcel would require additional investment in ecosystem restoration and infrastructure to meet the objectives of supporting sustainable growth, the health and wellbeing of New Mexicans, and the local tourism economy.

Development of parking, vault toilets, trails, a campground, and a visitors' center could support recreation opportunities for residents of the metropolitan area and tourists from the broader region while improving rural access to parks. State Parks could work with concessionaires to support small outdoor recreation businesses and promote tourism along the alignment of the proposed Rio Grande Trail. Facilities development could support activities such as hiking, naturalist and wildlife identification programming, camping, and kayaking in the Study Area's unique section of the Rio Grande.

Goal 2: Develop Outdoor Recreation Economy to Protect New Mexico's Outdoor Heritage

The Study Area's eons-old rock formations, cultural sites, and ranching and homesteading history, plus the recent efforts at habitat restoration and species protection, present opportunities to connect visitors to New Mexico's cultural, economic, and recreational heritage.

New Mexico's unique outdoor heritage includes hunting, fishing, ranching, herding, horseback riding, rafting, hiking, camping, and birdwatching. The Study Area is anchored by a ranch complex, has a history of ranching and horseback riding, and currently offers opportunities for hiking and birdwatching. By collaborating with partner agencies and Indigenous communities in the region, State Parks has an opportunity to activate the Study Area with ecologically compatible outdoor recreation activities.

3. Recreation Resource Protection

Goal 1: Build Volunteer Capacity and Support Natural Resource Stewardship.

State Parks could foster an ethic of land stewardship at the Study Area by further engaging stakeholder organizations that are currently invested in the Study Area as well as the network of outdoor recreators and conservationists that exists in the region at present. Volunteer participation/volunteerism at the Study Area could be supported through organizations like the Friends of OMDP, Southwest Audubon, Nuestra Tierra Conservation, and education providers such as local schools and other non-profit agencies. The Study Area could play a role in the larger New Mexico outdoor economy by allowing access to well-cared for lands and resources for present and future generations to enjoy.

Goal 2: Foster Greater Collaboration to Accomplish Significant Resource Protection

State Parks could continue collaborations with organizations and agencies such as U.S. Fish and Wildlife, the NM Interstate Stream Commission, and Southwest Audubon, to develop ecological restoration and resource management plans for the site that provide balance between the conservation and recreation

goals of the area. This might include engaging regional organizations and volunteers in monitoring the site and compiling and disseminating data to legislators and the public. Neighboring State Land Office (SLO) land could be available for a recreational lease which could support continued recreation resource protection in collaboration with SLO. A critical component of resource protection will be inviting adjacent tribes and tribes with historical ties to the region to collaborate in processes and decisions for the site.

Goal 3: Restore and Protect Natural and Ecological Resources that Support Outdoor Recreation

Within the Riverside Parcel and Upland Parcels there are native riparian habitats that include the 40-acre Swan Pond wetland, smaller seasonal wetlands, coyote willow stands, screwbean mesquite woodlands, salt grass meadows, and arroyo-shrub habitats along drainages leading to the river. Significant restoration activities have taken place through partnerships with NM Interstate Stream Commission and US Fish and Wildlife amongst other local organizations and volunteer groups. Activities included exotic vegetation removal, native plant restoration, restoration of wetlands, and other activities to improve and protect habitat for migratory birds and other wildlife.

State Parks could identify opportunities to work with relevant agencies to develop and implement further resource management and ecological restoration/protection plans. With these agencies and local groups, State Parks could develop projects and programs that support the smart stewardship of Swan Pond, the Rio Grande, and water in the area to create plant, bird, insect, and wildlife habitat.

Natural resource protection also includes the creation and location of restrooms, trash receptacles, and dog waste facilities, plus educational signage that boosts and supports outdoor recreation and ecological literacy.

4. New Mexico Wetlands

Goal 1: Continue Statewide Wetland Mapping, Characterization, and Assessment

There are seasonal wetlands on the Study Area property that could contribute to a larger understanding of the regional watershed. Any source of water in the region is important for wildlife, and the wetlands should be considered in decisions pertaining to the property's future. The area provides opportunities to conduct analysis of wildlife habitat, watershed health, and resource conservation efforts.

5. Outdoor Education

Goal 1: Grow Quality Curriculum and Facilities for Outdoor Education

Development of parking lots (with sufficient area for bus parking and turnaround), campgrounds, and outdoor classroom space would increase the capacity of the site to host field trips and otherwise function in an educational capacity. Development of the ranch house into an interpretive or informational site, or as a full visitor center – or creation of informational interpretive signage on the property – would similarly serve a variety of communities including the public school system. The development of an outdoor classroom and/or interpretation facilities was proposed by Friends of OMDP amongst other stakeholders.

6. Access & Equity

Goal 1: Increase Awareness of, Access to, and Equitable Participation in Outdoor Recreation Among Historically Marginalized and/or Underrepresented Peoples

Increasing access to natural areas close to Las Cruces is essential to cultivating equitable access to the outdoors in the region. The Study Area can play a role in diversifying the cultural, racial, and ethnic diversity of outdoor recreators by including a wide variety of residents and organizations in educational programming and restoration activity within the Study Area. Las Cruces' Nuestra Tierra Conservation, a 501 (c)(3) non-profit, is working to engage Latino communities in outdoor recreation and conservation work in the region's borderlands and was a past stakeholder at Broad Canyon Ranch.

Cultivating relationships between State Parks and the local school districts could encourage year-round utilization of the Study Area in an educational capacity. Transportation provided by schools and other educational outfits enables school-age youth and underserved communities to visit State Parks and outdoor areas when they otherwise might lack access due to transit inequities.

State Parks could consider collaborating with Tribal governments to utilize traditional land management practices for restoration and create culturally reflective curriculum. State Parks should consult Tribal governments in the region in the creation of culturally accurate, respectful, and inclusive interpretive signage.

C. Lands designated for acquisition or developed as state parks or state recreational areas shall be those that:

(1) are adjacent to existing parks or recreational areas and are necessary for successful park or recreational area protection and development

The Study Area is located within a large public lands complex with adjacent properties owned by Bureau of Land Management (BLM), State Land Office (SLO), International Boundary and Water Commission (IBWC), and New Mexico State University (NMSU). The Riverside and Upland Parcels are important for providing and managing access to various recreational areas as well as supporting trail alignment with the Rio Grande Trail.

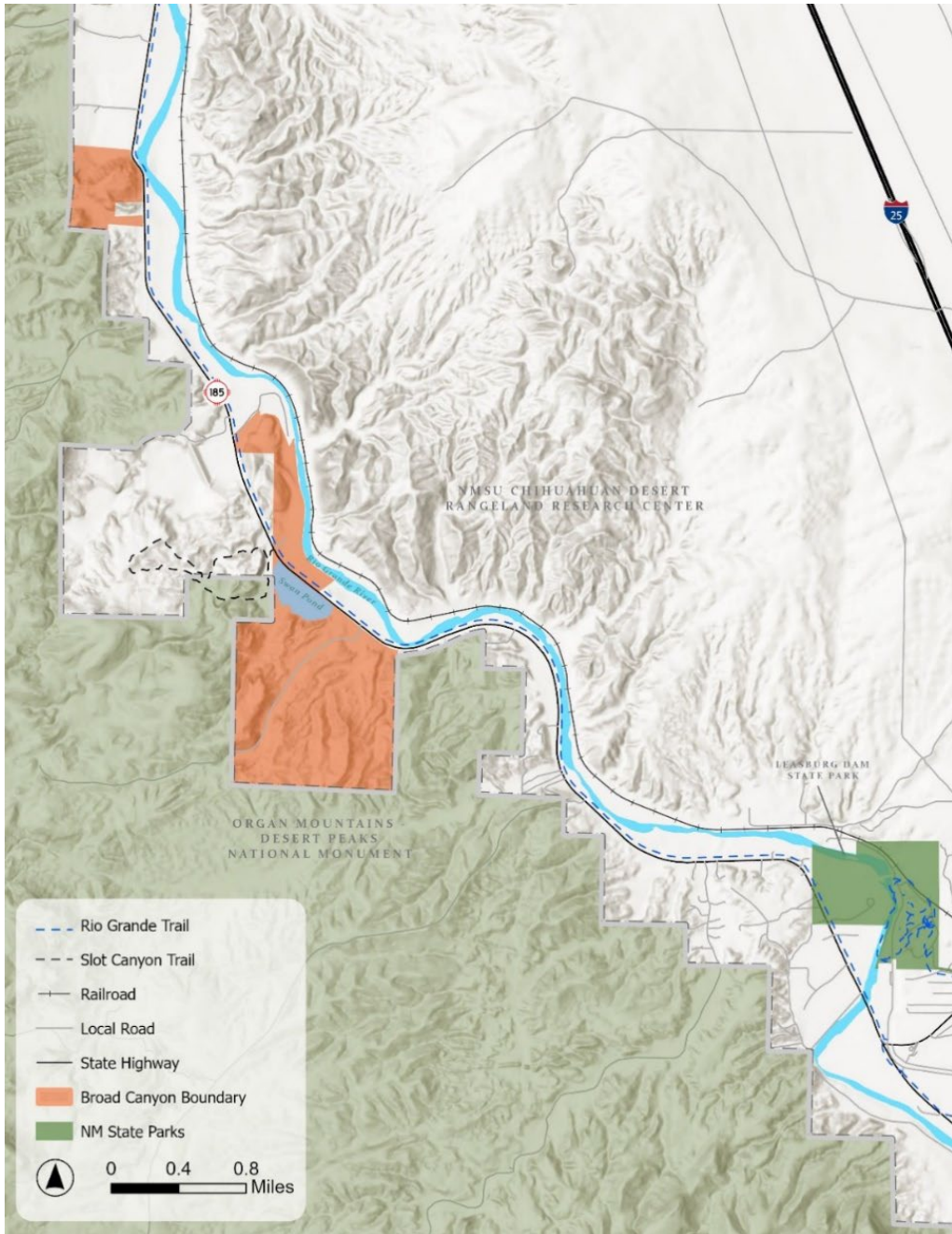


Figure 16: Map of adjacent recreation areas.

Other Recreational Adjacencies

Leasburg Dam State Park: The Study Area is not adjacent to any existing State Park property but is seven miles north of Leasburg Dam State Park (LDSP). While the Study Area is not necessary for the successful operation of LDSP, it could possibly operate as an extension of LDSP and provide additional recreation opportunities to state park visitors due to its proximity. This possibility will be discussed further in the section on management alternatives below.

Rio Grande Trail: The Study Area is adjacent to the proposed Rio Grande Trail which is a master planned recreational route for hiking, biking, and horseback riding that will extend from the Mexican border to the state line with Colorado within the Rio Grande corridor. The Riverside and Upland Parcels were purchased with the intention of supporting access and alignment with the Rio Grande Trail.

Through the directive of the Governor, the first segments of the Rio Grande Trail were established within the boundaries of six New Mexico State Parks, including trails within the Study Area region at Caballo Lake State Park, Percha Dam State Park, Leasburg Dam State Park, and the Mesilla Valley Bosque State Park. Although much of the trail has not yet been constructed, existing trails around Las Cruces have already been designated as trail segments and organizations such as Southern New Mexico Trail Alliance are working on designating additional sections.

In the Selden Canyon area, the preferred trail alignment is on NM 185 adjacent to all three parcels of the Study Area. If it becomes a tangible trail in the area, there could be multi-directional travel on shoulders on both sides of the road.

The Riverside Parcel could provide a number of supportive elements for the Rio Grande Trail including parking, trail access, river access, and overnight camping. Southern NM Trail Alliance, Trust for Public Lands, and Southwest Expeditions have all indicated that the property is ideal for supporting trail alignment and as a stopping point or destination between Las Cruces and Hatch. It would be beneficial to take advantage of the State ownership of the Riverside Parcel to bring trail connections to the river. The property could support a pedestrian access trail while keeping the biking alignment on NM 185.

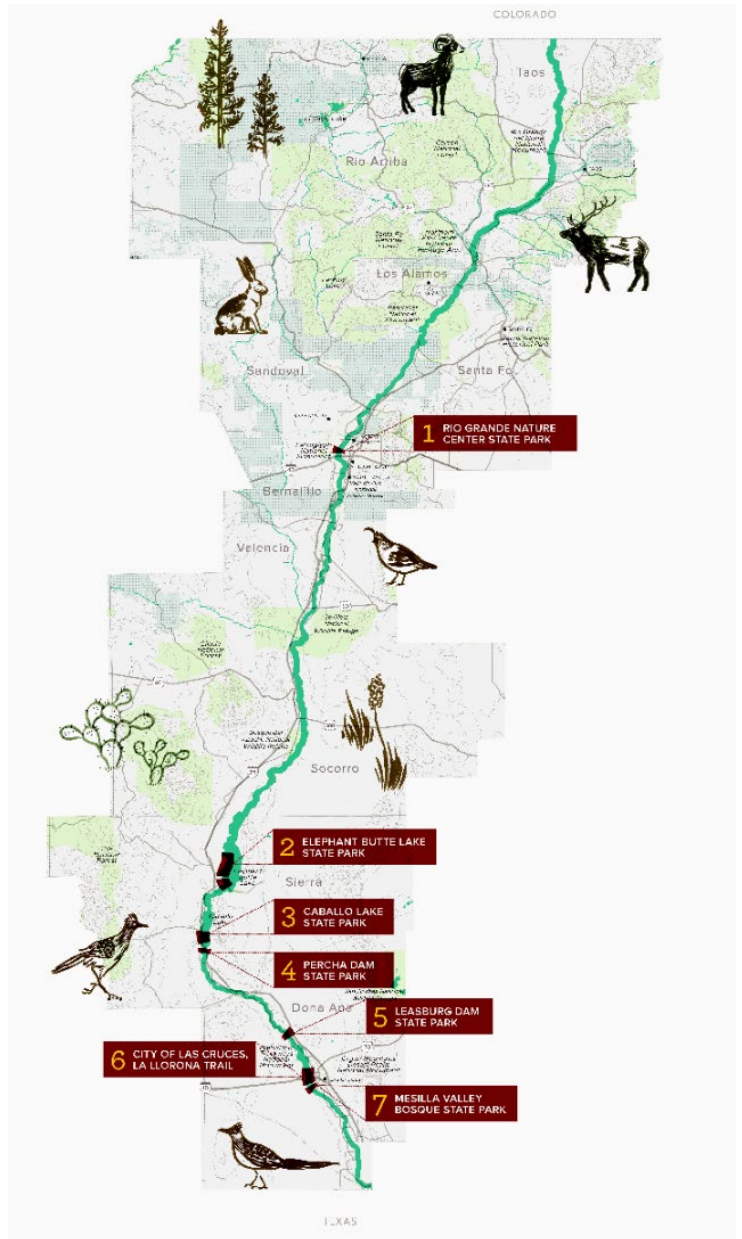


Figure 17: Image of proposed Rio Grande Trail between Colorado and Mexico within the Rio Grande corridor.

Organ Mountains Desert Peaks National Monument: Both the Northern and Upland Parcels are directly adjacent to the Organ Mountains Desert Peaks National Monument (OMDP). The Desert Peaks Complex of the OMDP contains the Broad Canyon Wilderness which is a remote area of the National Monument with very few vehicular access points. Visitors access a popular hike within the National Monument, known as Slot Canyon, by way of the Upland Parcel. Currently visitors park along NM 185 in the NMDOT right of way, hop a gate, and hike on unofficial trail networks via State Park property into the Slot Canyon which is located on BLM property. National monument staff and the Friends of OMDP group have indicated that providing safe and legal access to Slot Canyon through the Study Area is an important priority for their agency. If the Study Area were to be developed as a state park, it will be essential to collaborate with BLM to manage access to the area. The Northern Parcel is also adjacent to the OMDP. It does not provide access or connectivity to existing trail networks in the monument but could offer linkages if trails were to be extended in the future.



Figure 18: Image of Slot Canyon accessed via the Upland Parcel

Other Adjacent Considerations: The development of the Riverside and Upland Parcels as a State Park could support safer, legal, and managed access to various recreational areas. Note that there is the Broad Canyon Dam located on State Land Office property and managed by the Elephant Butte Irrigation District to the north of the Upland Parcel and extensive earthworks on the IBWC owned parcel to the north of the Riverside Parcel. These areas are restricted to public access and the Elephant Butte Irrigation District (EBID) expressed concerns about how state park development might increase activity in the area.

(2) help meet recreation and open space demands of metropolitan area residents by emphasizing park or recreational areas within easy access of population centers

The Study Area is located within the Las Cruces metropolitan area. It is within a 30-minute drive of the city and just over an hour from El Paso, Texas and Ciudad Juarez, Mexico. Recreational development within the Study Area would help to meet the recreational demands of the greater Las Cruces-El Paso-Ciudad Juarez area which has a population in the Combined Statistical Area of approximately 2.4 million. The Study Area is accessible via NM 185. The Riverside and Upland Parcels are already popular destinations for bird watching and as a connector to the Slot Canyon hike within the OMDP. Recreational development on these parcels would better support day trips and repeat visitation from the metropolitan area.

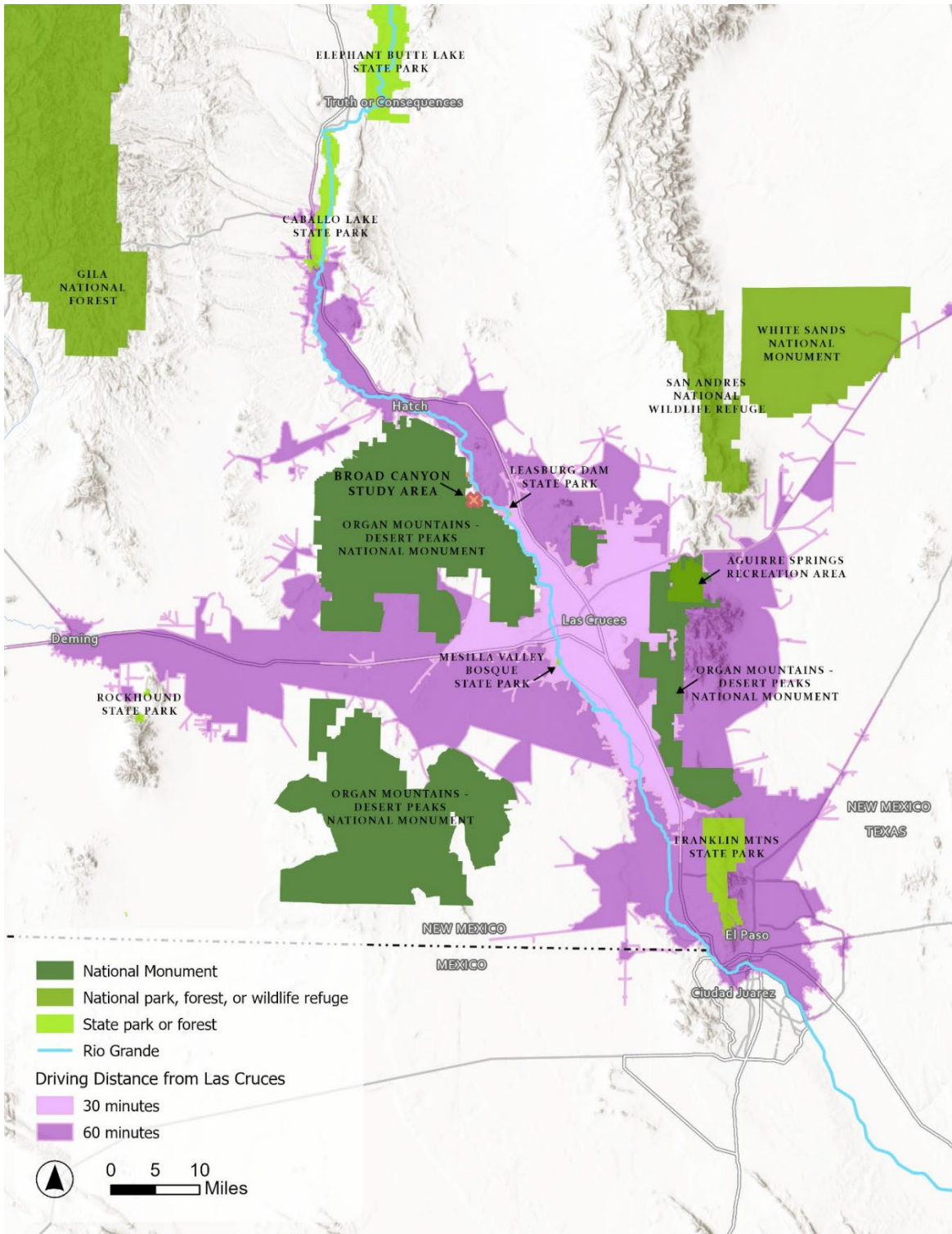


Figure 19: Map of recreational areas within driving distance of Las Cruces

(3) preserve the most significant examples of New Mexico natural scenic landscape

State park development at Broad Canyon Ranch could support the preservation of a unique New Mexico natural scenic landscape. The landscape at Broad Canyon Ranch is majestic, with the relief of the Rio Grande River valley marked by buttes, meadows, ridges, gullies, and wetlands. The Study Area is within a key ecological corridor for the northern Chihuahuan Desert, one of the world's most biologically significant deserts; a landscape that is increasingly threatened by population growth, agricultural expansion, and water management practices. The Riverside and Upland Parcels act as a bridge within the Rio Grande corridor between the Chihuahuan Desert uplands in the Sierra de Las Uvas and Robledo Mountains and the large Chihuahuan Desert Rangeland Research Center ranch owned by New Mexico State University, which provides connections to the Doña Ana Mountains, the Jornada Experimental Range, and the San Andres National Wildlife Refuge (see Figure 10).

While the ecosystem at the Riverside and Upland Parcels has experienced significant human impact related to histories of ranching and grazing, the area is strongly recommended for conservation, including all water-related features (Swan Pond, wetlands, floodplains, and gullies). Conservation of these parcels will contribute to landscape-level protection efforts along the 11-mile Selden Canyon on the Rio Grande (IBWC 2009).

The Northern Parcel provides a view of the river from atop the two main bluffs on the property but does not contain unique example of the New Mexico natural scenic landscape.

(4) meet the pressure on primary vacation regions not adequately supplied with public recreation opportunities.

The Study Area is located within the Southwest New Mexico vacation region as defined by the New Mexico Tourism Department. This region is connected to Tucson, El Paso, and Ciudad Juarez via U.S. Route 10. Within the region are various recreation areas and vacation destinations which offer significant features and attractions including cultural resources, historical sites, wilderness areas, and unique rock formations. Regional recreation areas/destinations include but are not limited to:

- White Sands National Park
- Gila National Forest & Gila Cliff Dwellings National Monument
- Organ Mountains Desert Peaks National Monument
- Prehistoric Trackways National Monument
- Bosque del Apache National Wildlife Refuge
- Elephant Butte State Park
- City of Rocks State Park
- Caballo Lake State Park
- Percha Dam State Park
- Leasburg Dam State Park
- Mesilla Valley Bosque State Park
- Pancho Villa State Park
- Rockhound State Park

While the primary vacation region is not underserved with public recreation opportunities, there are limited opportunities to experience the natural riparian and wetland environments of the Rio Grande. Much of the Rio Grande in southwest New Mexico has been altered for irrigation, flood control, and other forms of development. At the time of acquisition, the Broad Canyon Ranch property was seen as an important link in a chain of state parks along the lower Rio Grande that includes Elephant Butte Lake, Caballo Lake, Percha Dam, Leasburg Dam, and Mesilla Valley Bosque. While many of these parks offer river access and non-motorized boat activities, all but Mesilla Valley Bosque are centered around dam infrastructure.

The Riverside Parcel is located within an extended scenic stretch of the river between dams. Southwest Expeditions is a local concessionaire that hosts visitors from the entire region for guided river adventures and has indicated this stretch of river through Selden Canyon is their most popular destination. The Upland Parcel contains a unique seasonal pond feature with historic hydrologic connections to the Rio Grande but does not offer unique recreational opportunities for the vacation region. The Northern Parcel does not have river or wetland access and does not provide unique recreational opportunities for the vacation region.

D. Lands that are acquired or developed as state parks or state recreational areas shall be managed and developed according to the following objectives:

(1) outdoor recreation shall be recognized as the dominant or primary resource management objective

Recreation is recognized as one of three primary resource management objectives for the Study Area along with ecosystem restoration/protection and establishment of public access. At the time of property acquisition, Broad Canyon Ranch (Riverside and Upland Parcels) was seen as an important site for establishment of conservation reserves along a critical stretch of the Rio Grande that could support State Parks in accomplishing their objectives of river ecosystem restoration, expanding education and recreation opportunities, and improving river access.

The original LWCF application for Broad Canyon Ranch identified habitat protection, non-intrusive trail alignment, and permanent public access as the primary uses for the property. Stakeholder engagement conducted during this Feasibility Study, including interviews and a survey, indicate that these remain the top priorities among stakeholders for management of the property. Outdoor recreation is not recognized as the dominant or primary resource management objective for the Northern Parcel. Due to the presence of cultural resources that are recommended for protection (discussed on page 15), there is not sufficient area available for recreational development.

What should NM State Parks' top priorities be for management of Broad Canyon Ranch? (select your top three choices)

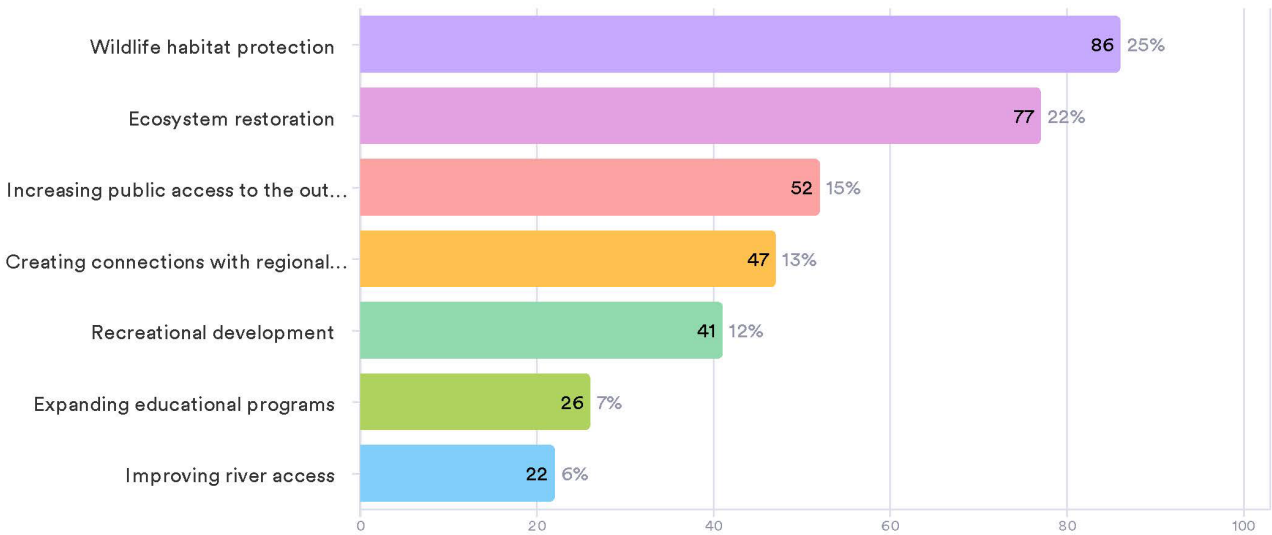


Figure 20: Chart showing survey input on the top priorities for management of the Study Area

(2) physical development shall promote the outdoor recreation objective through the use of proper design, materials, and construction to enhance and promote the use and enjoyment of the recreational resources in the area

The Riverside and Upland Parcels could both be developed at varying levels of intensity to promote outdoor recreation objectives identified by stakeholders including river access, education and interpretation, wildlife viewing, hiking, biking, non-motorized boating, and camping. Stakeholders from IBWC and NMISC have indicated that while recreation is not necessarily in conflict with the primary objectives of ecological restoration and habitat protection, there is concern about managing the intensity of recreation so as not to negatively impact habitat, cultural resources, or other sensitive areas on the property.

LEED

All new buildings over 15,000 SF constructed by the State of New Mexico are required to be certified LEED Silver. If a new building were to be built within the existing ranch complex, it would likely fall well below this square footage threshold. While pursuing LEED certification in the reconstruction or renovation of the existing structure for use as a visitor center is broadly compatible with the LWCF requirements of habitat restoration and improvement, LEED certification has the potential to drive up design and construction expense significantly. It is recommended that State Parks strive to incorporate green building best practices and materials, whether or not LEED certification is pursued in a future development phase.

Driveways & Access

The New Mexico Department of Transportation (NMDOT) owns NM 185 and any driveway access to the Study Area would require a driveway permit application to be reviewed and approved by NMDOT. The NMDOT District 1 Engineer indicated that if new driveway access were to be developed or if a driveway were to be moved to provide access to the properties, NMDOT would likely conduct a traffic study to evaluate need for acceleration and deceleration lanes. According to FHWA access management standards, driveways should be located where highway alignment and grades are favorable. Driveways should not be located near sharp curves, steep grades, or points that unnecessarily interfere with free and safe movement of traffic. Drivers need a clear line of sight in both directions to see approaching vehicles or vehicles entering the roadway. Other factors to consider include lighting and marking the driveway entrance and providing signage in advance of the driveway. The current location of the driveway to the Riverside Parcel is located at the base of a hill which limits sight lines and could interfere with safe movement of traffic. If the Riverside Parcel is to be developed as part of a state park, it is recommended that State Parks consider relocating the driveway to an alternative location further to the south to provide proper sight distance and discuss with NMDOT whether a traffic study is required.

Drainage/First Flush/Isolation of Parking Lot Runoff/GSI/LID

The Riverside and Upland parcels are subject to sudden and intense runoff conditions, where surface water moves through the area rapidly as it drains from upland locations to the Rio Grande after storm events. Care should be taken to carefully and sustainably direct, slow, and dissipate stormwater runoff near developed areas of the site to reduce the likelihood of sudden catastrophic flooding. Similarly, development of the site must occur in locations least susceptible to flooding and direct impact from runoff. In general, the intent of the diagrammatic program layouts below is to work with the existing topography as much as possible in order to limit the need for extensive site grading and to limit exposure to flood conditions. Additionally, most of the proposed development occurs within areas that are already disturbed, limiting the impact to critical habitat features.

Compacted base course is recommended as the primary road and parking lot material. Hard pavement (concrete and/or asphalt) should be limited to areas requiring handicap accessibility. While base course surfacing will increase runoff compared with current conditions, it will be less than asphalt or concrete pavement. This should reduce requirements for first flush capture.

Implementation of green stormwater infrastructure/low impact development (GSI/LID) features may be used to help isolate and clean parking lot runoff and to protect the river and wetlands from any concentrated runoff generated by site development. GSI/LID should be an integral component of any site development.

Trail Alignment: It is recommended the trail alignments be designed by a PTBA qualified trail designer or similarly qualified trail design professional. Trails can be constructed in-house by State Parks or by a PTBA qualified trail construction contractor. Trail alignment and profile should follow best practices for sustainable trail design including, but not limited to those advocated for by the PTBA and discussed in the International Mountain Biking Association (IMBA)'s "Guide to Building Sweet Singletrack" and Troy Scott Parker's "Natural Surface Trails by Design."

Trails alignments must be coordinated to avoid sensitive habitat and erosive slopes. The majority of trails should be natural surface trails (native mineral soil; no imported trail surfacing material). Parks should endeavor to avoid trail alignments through wetland areas, but if it is necessary to traverse a wetland,

Parks may consider using boardwalks to prevent trampling and compaction of sensitive wetland plants and animals. In this case, consideration should be made to material selection that is relatively easy to maintain and long-lasting. Trails should be built with cultural resource protection in mind, or spur trails leading to resources that State Parks wishes to interpret.

(3) within economical limits, state parks or state recreational facilities shall be landscaped and developed to achieve an environment that is aesthetically pleasing, ecologically functional and complementary to the native environment

Landscape design should take into consideration microclimatic conditions on the site when selecting plant material in order to complement the local conditions and habitat. A plant palette of native plants found within a five-mile radius of the site is recommended. Continued promotion of prior ecological restoration efforts should be prioritized.

Automatic irrigation systems present maintenance challenges for State Parks staff. Adding to that, in remote locations such as the Study Area, it is not uncommon for wildlife to chew through the lines of such systems to access water. An ideal landscape design would be one that would thrive without a permanent automatic irrigation system. This is challenging in New Mexico, even when using native plants, due to the low rate and unpredictability of rainfall. Therefore, planting areas should be located strategically and designed to capture and slow stormwater runoff to maximize infiltration of water for the benefit of plantings. Parks may consider installation of a temporary automatic drip irrigation system to provide supplemental irrigation during plant establishment. Once plants are established, they should be weaned off of supplemental irrigation gradually from late summer through fall to minimize shock and to allow them to acclimate to the local precipitation regimen. Some plant loss should be anticipated if no automatic irrigation is regularly provided.

(4) use periods for parks or recreational facilities shall be extended by providing a variety of facilities that will attract visitors during all seasons of the year; and

The landscape at Broad Canyon Ranch (Riverside and Upland Parcels) offers opportunities to develop a wide range of recreational facilities that extend use periods and attract visitors during all seasons of the year. Stakeholders have indicated that parking, trails, picnic areas, vault toilets, campgrounds, and a visitor center would all encourage visitation. These facilities could support activities such as picnicking, wildlife viewing, education and interpretation, hiking, biking, non-motorized boating, fishing, and camping.

Table 2: Top seasons for recreational activities at Broad Canyon Ranch

Activity	Top Seasons for Activity	Considerations
Picnicking	Year-round	Adequate shade during summer
Wildlife viewing	Spring, fall	Bird migrations
Education and interpretation	Spring, fall, winter	School year
Hiking, biking	Spring, fall, winter	Summer heat limits this activity
Horseback riding	Spring, fall, winter	Summer heat limits this activity
Non-motorized boating	Spring, summer	River flow
Camping	Year-round	Some regional parks experience a decline in visitation during hottest months

Hiking: The Upland Parcel could be developed for more extensive hiking especially if trails could be extended onto BLM and SLO lands. The Riverside Parcel could support low impact trails near and within wetlands, providing access to the river, as well as trails on hills overlooking the river. The best season for these activities will be spring, fall, and winter when temperatures are relatively cooler.

Horseback Riding: The Upland Parcel could support equestrian use on shared hiking trails. There could be opportunities to extend trails into adjacent public lands which could offer places for cross-country horseback riding primarily during the spring, fall, and winter.

Non-motorized Boating: Kayaking, rafting, and tubing are popular activities in the area. Southwest Expeditions, a company based in Las Cruces, runs non-motorized boating trips through Selden Canyon when the river flows each spring and summer from approximately May through September. The Riverside Parcel is a more desirable take-out location than farther downstream at Leasburg Dam State Park due to the risk of needing to rescue paddlers who get too close to the dam. The Riverside Parcel could function as a safe take-out location for boating trips which launch from various locations north of the site. River access will promote visitation to the Riverside Parcel during river flow in the spring and summer.

Camping: If Broad Canyon Ranch were to be developed as a state park with camping facilities, this could support overnight stays throughout the year. While visitation to state parks in the region tends to dip during the heat of the summer, Leasburg Dam State Park, which provides river access, experiences a peak in visitation during the summer. Site analysis indicates that the Riverside Parcel offers opportunities for campground development which could attract visitation year-round.

Visitor Center & Concessionaire: The ranch complex on the Riverside Parcel provides a potential location for a visitor center. A visitor center could support recreational opportunities such as education and interpretation programs as well as provide facilities for a concessionaire to support non-motorized boating shuttle and service during months when the river is flowing. However, visitor centers do not tend to attract significant enough visitation and usage to justify the development costs. Additionally, there can

be challenges associated with finding and retaining concessionaires. The proposed use of a visitor center should be carefully evaluated and right-sized in future development plans.

(5) all significant historic structures contained in state parks or state recreational areas shall be, within economical limits, reconstructed, restored, or stabilized to provide for continued user benefit.

State Parks completed a cultural resource inventory which identified the Broad Canyon Ranch complex as one of the cultural resources on the Riverside Parcel. The ranch complex is anchored by a ranch house which was likely built in the early 20th century. Several of the ranch features appear to be modern and may not be contributing elements to the eligibility of the ranch complex site on the National Register of Historic Places.



Figure 21: Ranch House

The ranch house structure was evaluated for its significance and potential eligibility to the National Register of Historic Places in 2012 and was recommended to the NRHP as being of undetermined status until further archival research was completed. This additional archival research will be completed and included in the full cultural resource report prepared by State Parks. Any future development or restoration of the ranch house will need to be performed in accordance with the federal Department of Interior's Standards for the Treatment of Historic Properties under the guidelines for rehabilitation.

The windows and doors of the ranch house are currently boarded up and the building is showing significant deterioration inside. Additionally, a deep hole behind the house and other site conditions present public safety hazards. Due to the age and condition of the ranch house, it will be important to conduct a Phase I environmental assessment of the property to evaluate potential contamination from lead, asbestos, and other hazardous materials. This will be the first step in determining whether it is feasible to restore and repurpose the building. The New Mexico Environmental Department Brownfields Program has funding to provide free Phase I and Phase II environmental assessments to local and state agencies. If it is economically feasible to restore the complex, adaptive reuse could include a visitor center and concessionaire.

E. Factors to be taken into consideration when lands are considered for acquisition or development as state parks or state recreational areas are:

(1) the character of the land resources, such as soil, vegetation, topography, and water, that affects the suitability of the lands for development as parks or recreational areas

Ecoregion

The Study Area is in the Chihuahuan Deserts Level III EPA Ecoregion. This ecoregion is almost 250,000 square miles, extending from southeast Arizona to south-central Texas and another 500 miles southwest into Mexico. The Level IV Ecoregions of the Study Area are the Rio Grande floodplain and the Chihuahuan Basins and Playas (Figure 20).

Today's Rio Grande Floodplain is highly altered from a perennially flowing, meandering, braided river with wetlands and ponds to one altered by upstream impoundments and channelization. Riparian forests and shrublands have diminished, and invasive tamarisk have increased, along with decreased annual inundation of the floodplain.

The Chihuahuan Basins and Playas Level IV Ecoregion, which surrounds the Rio Grande floodplain ecoregion, is characterized by alluvial fans, internally draining basins, and river valleys. Extremely hot and dry, these basins and playas feature saline and/or alkaline soils, salt flats, dunes, and windblown sand.

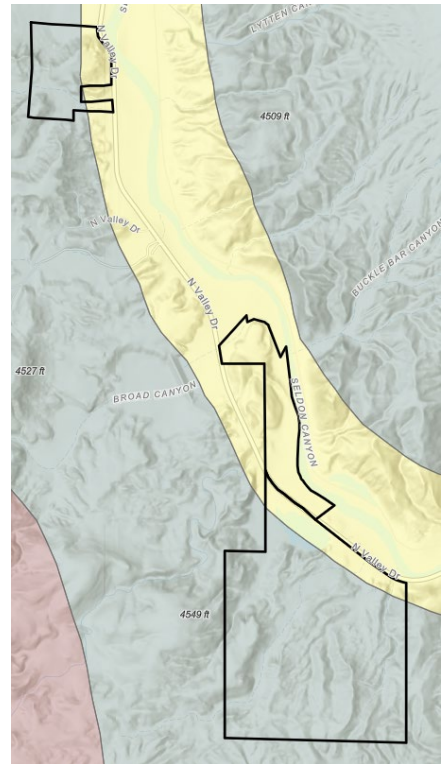


Figure 22: EPA Level IV Ecoregions of BCR. The river valley (yellow) is the Rio Grande floodplain, and the uplands (sage green) are the Chihuahuan Basins and Playas. Outside of the project area to the southwest are the Low Mountains and Bajadas.

Terrain

The elevations of the Study Area range from 3,980 feet above sea level along the river to 4,386 feet above sea level in the southeast corner of the parcel. Much of the Upland Parcel is comprised of a network of canyons, arroyos, and ridges. The role of the arroyos in conveying transient water flow is unmistakable (figure 26).

This terrain provides both opportunities and constraints to recreational development, as the flashy and erosive nature of surface water can limit formal trail development but offer ideal informal trail networks that can be explored while hiking, biking, and horseback riding.



Figure 23: Arroyo characteristic of the Upland Parcel

Soils

The remarkable landscape diversity of the Riverside and Upland Parcels, including the Rio Grande River valley and floodplain and upland network of ridges and canyons, is reflected in considerable soil diversity (Figure 22). All of the soils in the Study Area are in the soil order Entisols, which are young in development due to limited weathering, which in turn is often a byproduct of precipitation (<9" annually). Each soil type found in the project area is described below.

Agua variant and Belen variant soils (aqua blue, Fig. 22) are associated with Swan Pond and the floodplain. These well-drained soils are associated with drainages and valleys. They are comprised of coarse loams overlying sand.

Agua variant soils (yellow, Fig. 22) are in the floodplain of the river, adjacent to the Agua/Belen variant complex. They occur in floodplains and valleys. These are somewhat poorly drained soils and so are considered moderately wet.

Canutio and Arizo gravelly sandy loams (gray-blue) are also adjacent to the Agua/Belen variant complex and are located in lower elevations of the numerous major canyons. These are well, excessively drained soils associated with alluvial fans, piedmont slopes, and terrace landforms. Compared to the Agua and Belen variant soils, these have finer texture dominated by loams.

Bluepoint-Caliza-Yturbide complex (darker gray) occurs at higher elevations than the Canutio and Arizo gravelly sandy loams. These are not known to flood despite being affiliated with alluvial fans, piedmont slopes, and valley sides.

Riverwash-Arizo complex (light green nestled in the ‘horseshoe’ of the Bluepoint-Caliza-Yturbide complex) is just upslope of the Canuto and Arizo gravelly sandy loam soils on the northeast boundary of the southern portion of the project area. The water table here is approximately 31” below the surface and it occasionally floods. These are gravelly soils deposited by fluvial processes and are associated with drainages and valleys.

Rock outcrop-Torriorthents (yellow, southern portion of project area) occur in the highest elevations of the site and do not flood. As they are outcrops, their geomorphologic type is hills.

An assessment conducted in 2008 by the San Andres National Wildlife Refuge indicates high salinity in the upper soil profile throughout many zones of the Riverside and Upland Parcels. Further assessment should be conducted prior to large scale replanting effort (San Andres National Wildlife Refuge 2009).

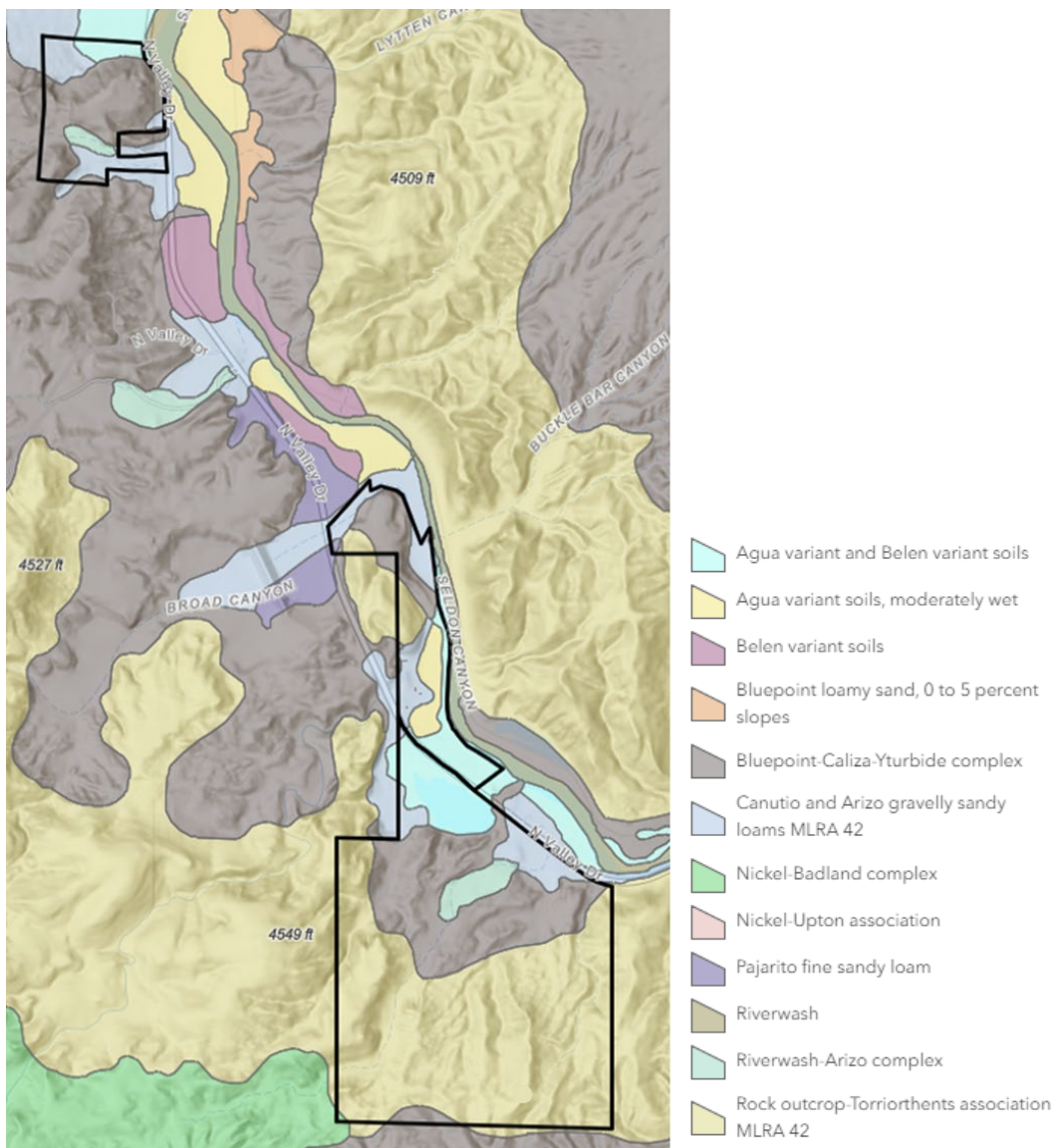


Figure 24: Soil map.

Water & Flooding

The Study Area is located at the meeting point of three HUC-12 watersheds (Figure 6). The Riverside and Upland parcels are almost entirely in the Faulkner Canyon Creek-Rio Grande watershed. The northernmost edge of the Riverside Parcel spans a ridge (Figure 24) that demarcates Faulkner Canyon Creek with the Broad Canyon Creek watershed. North of and abutting both of these is the Broad Canyon-Rio Grande watershed, which contains the Northern Parcel.

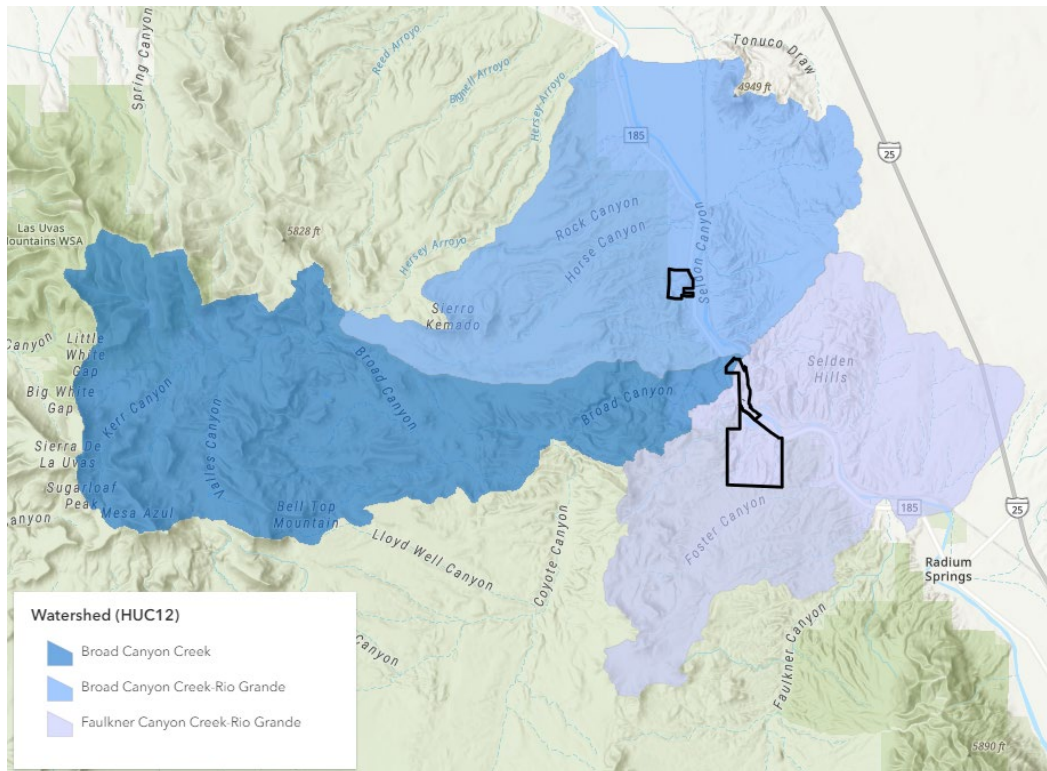


Figure 25: HUC-12 Watersheds containing and/or upstream of Broad Canyon Ranch

The Rio Grande River heavily influences the landscape character and habitat of the Riverside and Upland Parcels. The seasonal Swan Pond, located at the northern edge of the Upland Parcel, is something of an oasis. It had water during a site assessment on October 12, 2023, and was dry during the site assessment on November 27, 2023. New Mexico Interstate Stream Commission (NMISC) indicated that Swan Pond was previously hydrologically connected to the Rio Grande.

The flashy nature of water in the Chihuahuan landscape is indicated by the distribution and frequency of ephemeral streams throughout the watershed (Figure 25). The Rio Grande is the only perennial drainage in this landscape. Large portions of the Riverside Parcel and the Swan Pond area of the Upland Parcel are within the Rio Grande floodplain where flooding probability is greater than 1% annually (Figure 25 & 26). Recreational development must consider the potential for flooding and plans for development should be discussed with the Doña Ana County Flood Commission. Prior to developing trails or parking in the Riverside and Upland Parcels, it is recommended a more thorough study of flood patterns be conducted. Due to the alluvial nature of the Upland Parcel, some trails will inevitably need to follow arroyos.

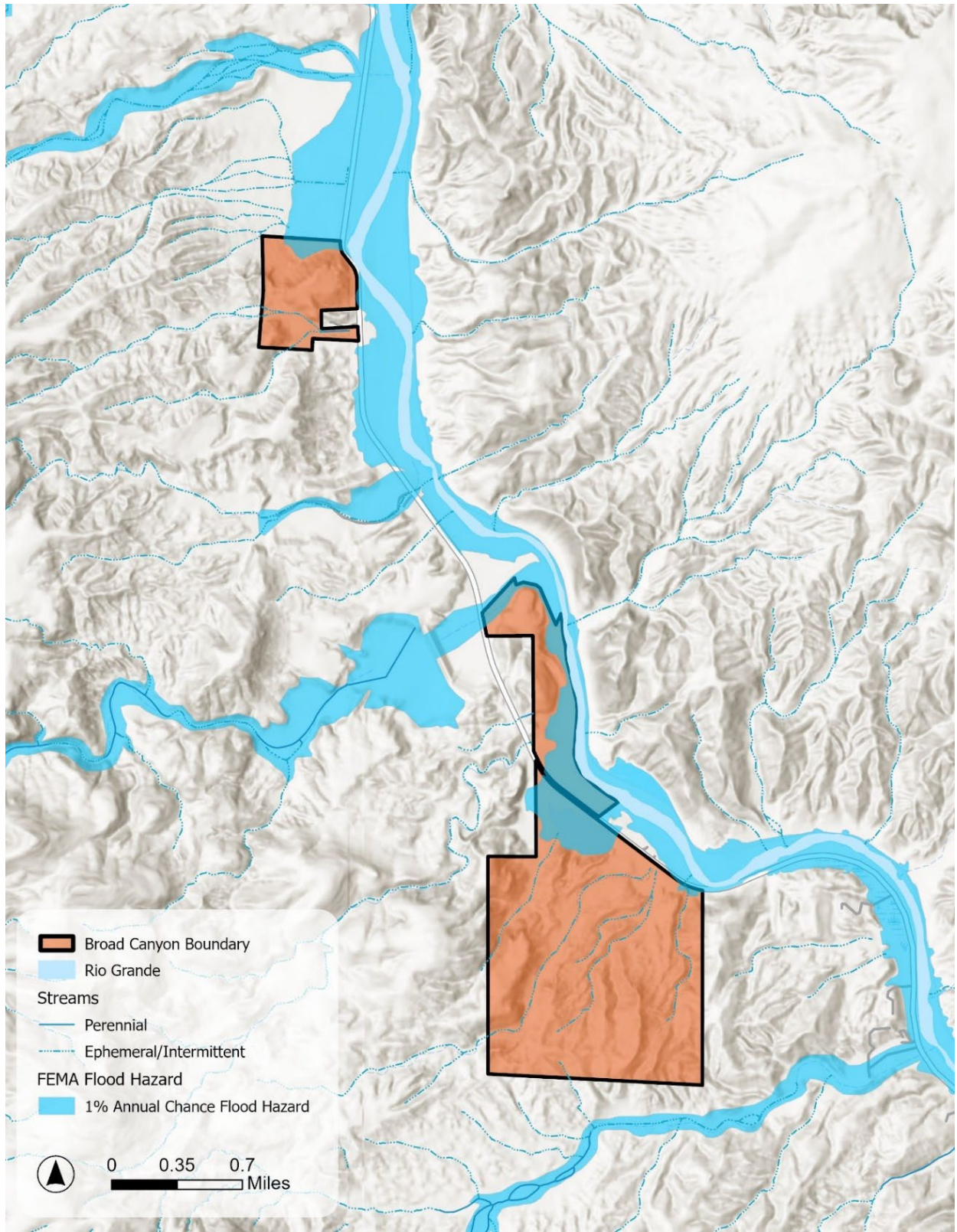


Figure 26: Flood Map

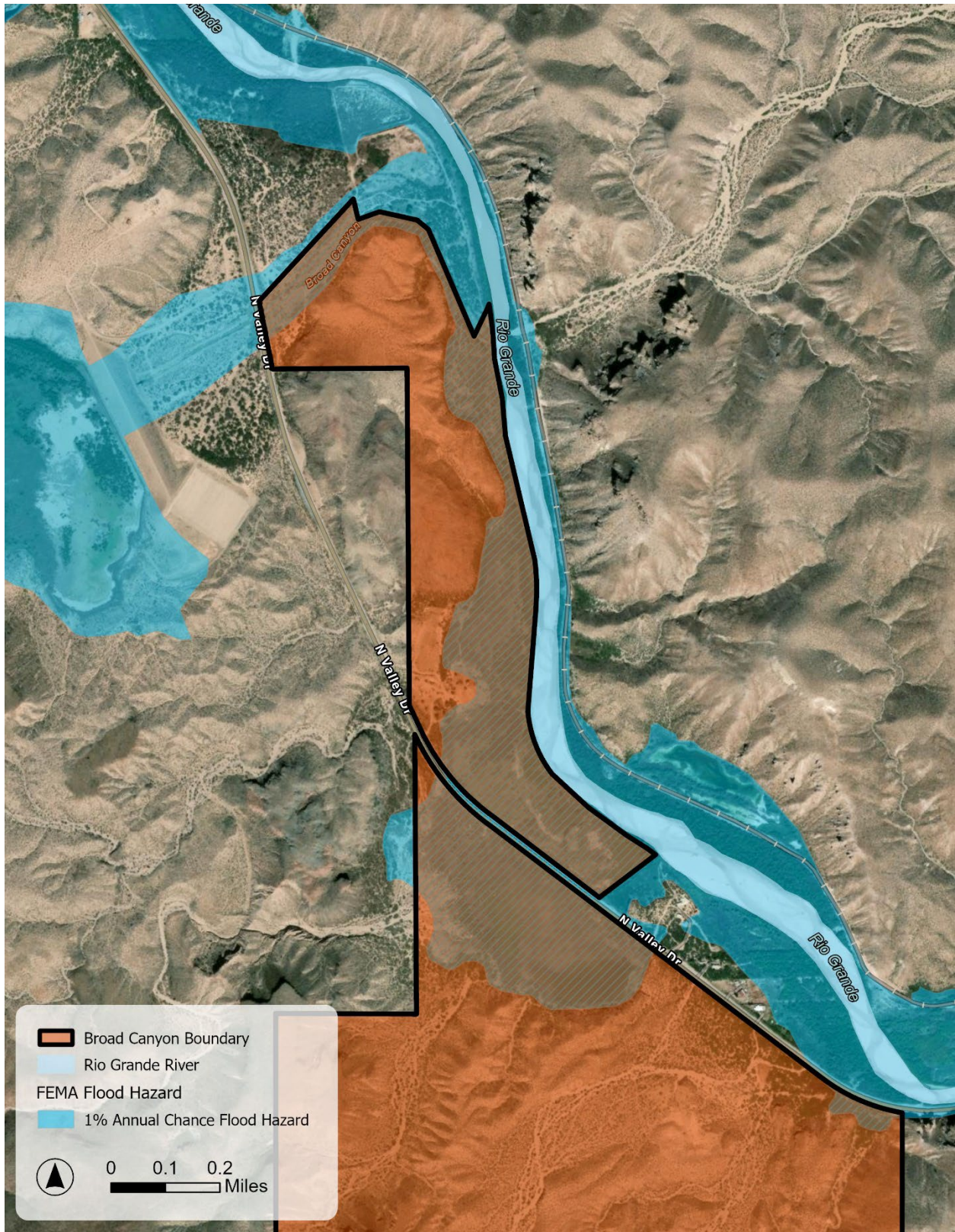


Figure 27: Flood zones Riverside Parcel

Vegetation

Desert shrubs and grasses found in the region include creosote bush, tarbush, fourwing saltbush, acacias, gypsum grama, and alkali sacaton, as well as horse creeper and other cacti. The Broad Canyon Ranch Assessment Team, including a Senior Ecologist from Biohabitats observed plant species listed in Table 3 (November 27, 2023). Species known to occur at Broad Canyon Ranch and in the vicinity include those listed in Table 4 from the research grade iNaturalist database.



Figure 28: Swan Pond was dry on 27 November 2023. The wetland in the background supports cattails and bulrushes.

Three habitat types were observed on the day of the site visit: the riparian zone and floodplain, the wetlands of Swan Pond, and the uplands. The riparian zone is characterized by cottonwood (*Populus deltoides*), which is sparse, and tamarisk (*Tamarix* sp.), which is dominant, growing adjacent to the channel. The floodplain (Flood Zone in Figure 7) is dominated by Mojave seablite (*Suaeda moquinii*), an obligate wetland species. Major disturbances to the riparian area are altered hydrology (described above in Ecoregions) and the ranching operation that occupied a portion of the floodplain and uplands.

Table 3: Plant species observed by Biohabitats and the Broad Canyon Ranch Assessment team, 27 November 2023. Additional species found in the study area are included in Table 4 below (i.e., observations of species noted in iNaturalist are not included here).

<u>Habitat</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Notes</u>
Riparian	Canada wildrye	<i>Elymus canadensis</i>	
	Cottonwood	<i>Populus deltoides</i>	
	Goodding's willow	<i>Salix gooddingii</i>	
	Saltgrass	<i>Distichlis spicata</i>	
	Sandbar willow	<i>Salix exigua</i>	
	Tamarisk	<i>Tamarix</i> sp., probably <i>chinensis</i>	
Upland	Alkali goldenbush	<i>Isocoma acradenia</i>	
	Ash	<i>Fraxinus</i> sp.	One individual
	Broom snakeweed	<i>Gutierrezia sarothrae</i>	
	Jointfir	<i>Ephedra</i> sp.	
	Fourwing saltbush	<i>Atriplex canescens</i>	
	Mojave seablite	<i>Suaeda moquinii</i>	Obligate wetland species
	Netleaf hackberry	<i>Celtis reticulata</i>	
	Scalebroom, Burgess' broomsage	<i>Lepidospartum burgessii</i>	Globally imperiled (G2)
	Screwbean mesquite	<i>Prosopis pubescens</i>	
	Stretchberry	<i>Forestiera pubescens</i>	

Table 4: Research Grade iNaturalist observations for Broad Canyon Ranch and the vicinity. This is not a comprehensive species list, just those positively identified in the area. Query from January 11, 2024.

<u>Common Name</u>	<u>Scientific Name</u>
PLANTS (54 SPECIES)	
Apache plume	<i>Fallugia paradoxa</i>
Arizona jewelflower	<i>Streptanthus carinatus arizonicus</i>
Arizona sandmat	<i>Euphorbia arizonica</i>
Bitter hymenoxys	<i>Hymenoxys odorata</i>
Black-spined pricklypear	<i>Opuntia macrocentra</i>
Bush muhly	<i>Muhlenbergia porteri</i>
Cane bluestem	<i>Bothriochloa barbinodis</i>
Christmas cholla	<i>Cylindropuntia leptocaulis</i>
Creosote bush	<i>Larrea tridentata</i>
Crown of thorns	<i>Koeberlinia spinosa</i>
Davis mountains mock vervain	<i>Glandularia pubera</i>
Desert marigold	<i>Baileya multiradiata</i>
Desert tobacco	<i>Nicotiana obtusifolia</i>
Desert willow	<i>Chilopsis linearis</i>
Desert zinnia	<i>Zinnia acerosa</i>
Dwarf false pennyroyal	<i>Hedeoma nana</i>
Emory's milkvetch	<i>Astragalus emoryanus</i>
Feather dalea	<i>Dalea formosa</i>
Fee's lip fern	<i>Myriopteris gracilis</i>
Fendler's hedgehog cactus	<i>Echinocereus fendleri fendleri</i>
Fishhook barrel cactus	<i>Ferocactus wislizeni</i>
Fluffgrass	<i>Dasyochloa pulchella</i>
Fourwing saltbush	<i>Atriplex canescens</i>
Golden corydalis	<i>Corydalis aurea</i>
Gordon's bladderpod	<i>Physaria gordonii</i>
Honey mesquite	<i>Neltuma glandulosa</i>
Lanceleaf beardtongue	<i>Penstemon lanceolatus</i>
Little leaf sumac	<i>Rhus microphylla</i>
Lotebush	<i>Sarcomphalus obtusifolius</i>
Lyreleaf jewelflower	<i>Streptanthus carinatus</i>
Mesa dropseed	<i>Sporobolus flexuosus</i>
Netleaf hackberry	<i>Celtis reticulata</i>
Nineawn pappusgrass	<i>Enneapogon desvauxii</i>
Nipple beehive cactus	<i>Coryphantha macromeris</i>
Ocotillo	<i>Fouquieria splendens</i>
Rayless greenthread	<i>Thelesperma megapotamicum</i>
Redwhisker clammyweed	<i>Polanisia dodecandra</i>
Rock hibiscus	<i>Hibiscus denudatus</i>

<u>Common Name</u>	<u>Scientific Name</u>
Sacred datura	<i>Datura wrightii</i>
Silverleaf nightshade	<i>Solanum elaeagnifolium</i>
Sky-blue phacelia	<i>Phacelia coerulea</i>
Slim tridens	<i>Tridentopsis mutica</i>
Soaptree yucca	<i>Yucca elata</i>
Sticky snakeweed	<i>Gutierrezia microcephala</i>
Stinging serpent	<i>Cevallia sinuata</i>
Tahoka daisy	<i>Machaeranthera tanacetifolia</i>
Texas stork's bill	<i>Erodium texanum</i>
Tulip pricklypear	<i>Opuntia camanchica</i>
Whitemargin sandmat	<i>Euphorbia albomarginata</i>
Woven-spine pineapple cactus	<i>Echinomastus intertextus</i>
Yuma sandmat	<i>Euphorbia setiloba</i>
	<i>Coryphantha macromeris macromeris</i>
	<i>Echinocereus coccineus rosei</i>
	<i>Echinocactus horizonthalonius horizonthalonius</i>

(2) facilities development to meet the average and slightly higher than average demands rather than the peak demands of summer and the holiday weekends

Many parks in the Study Area region experience peaks in visitation during the spring and fall and dips in visitation during the summer and winter. Visitation to Leasburg Dam increases during the summer, which could be related to access to the river and shade in a region with increasingly hot summers. The Study Area is likely to experience similar year-round visitation trends as Leasburg Dam due to river access and shade from tree canopy at the Riverside Parcel, as well as being in the same general geographic area as the existing state park.

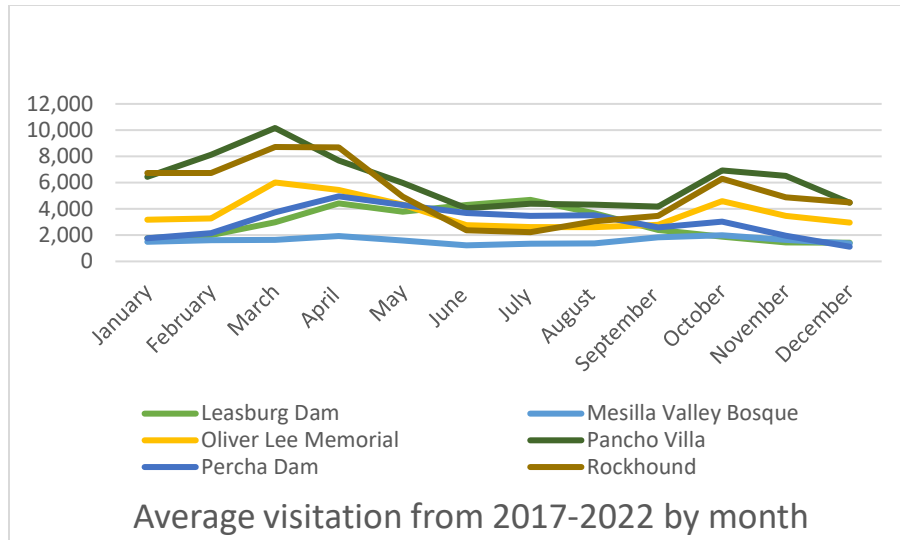


Figure 29: Chart showing average monthly visitation at parks in the Study Area region.

Based on data collected between 2017-2022, Leasburg Dam’s average monthly visitation rate is 2,896 visitors, with a high of 4,986 visitors in July. The biggest draws to Leasburg Dam State Park are day-use river access and overnight camping in the campground which offers full hookup campsites and five developed sites. Within the Study Area, the Riverside Parcel is the most suitable for extensive recreational development similar to that found at Leasburg Dam, but also has many constraints. Most of the property is within the flood zone, and the area along the river is critical habitat. The northern end of the site is composed of fairly steep, rocky hills, and the south and east appear to be seasonally marshy. Opportunities for development are limited to the area near the ranch house and in a large, flat area north of the ranch house that used to house horse corrals. These constraints pose greater limitations on recreational development than visitation demand would otherwise suggest. This study proposes approximately twenty developed campsites in Alternative 3.

(3) development priority based upon demonstrated use and demand, balance and distribution of existing facilities and the availability of lands suitable for development; and

Demonstrated use and demand

Demonstrated uses at the Study Area on the Riverside and Upland Parcels include ecological restoration, birdwatching, and hiking. Aside from informal trails within washes on the Upland Parcel leading to the slot canyon on BLM land (approximately 2.5 miles roundtrip from NM 185), and informal trails leading to the river on the Riverside Parcel, no developed trails are identified on any of the Study Area parcels. An examination of public tracks on GaiaGPS shows hikers and cross-country runners use the Upland Parcel to access BLM and SLO parcels as a largely trailless area. Data from eBird, a citizen science platform hosted by the Cornell Ornithology Lab designed to track bird sightings, show that birders were consistently present on the property reporting sightings between 2009-2021. Beyond these data points there is not significant data available to determine demonstrated use because the property is not officially open to the public.

The 2008 LWCF application indicates development priorities for the Riverside and Upland Parcels include providing public access to the site, parking, vault toilets and low-impact trail development. There is

demand for facilities development to support picnicking, non-motorized boating, horseback riding, outdoor education, and camping in addition to the existing uses. The Northern Parcel has no demonstrated uses and there is no specific demand for recreational development of this property.

Availability of lands suitable for development

The Riverside Parcel offers both opportunities for and constraints to recreational development. Ecological restoration and habitat protection priorities must be considered both in terms of areas appropriate for recreational development, and in terms of compatible usage. All but a small part of the Riverside Parcel is within the floodplain (Figure 26). Figure 30 shows salt grass meadow, seasonal wetlands, and riparian corridor habitat which have been identified in various regional plans as being important locations for ecological restoration and habitat protection in the Lower Rio Grande. These areas could support low impact trail development for wildlife viewing and river access, but further assessment of environmental impacts of trails should be conducted prior to development. Site analysis determined that parking and campground development is feasible within certain areas of the site including an approximately 2-acre flat area which is out of the floodplain and currently provides no habitat value for riparian and wetland species.

The Upland Parcel offers both opportunities for and constraints to recreational development. Much of the property is comprised of ridges, steep slopes (2:1 or greater), and a network of canyons and arroyos which form major drainages from the hills and mountains to the south and west towards the Rio Grande. Due to the volume of water that flows through these drainages, opportunities for extensive recreational development are limited. Swan Pond has been identified in various plans as a potentially important site for ecological restoration and habitat protection. This area is not appropriate for camping development, although there are opportunities for bird blinds and low impact trail development around the pond. Site analysis indicates that parking development is feasible in two locations to provide access to trails around Swan Pond and the proposed Upland loop trail. There are no opportunities for campground development.

Land adjacent to the Upland Parcel, including SLO and BLM properties, could offer opportunities to extend trail networks. BLM properties shown in tan (Figure 29) are part of the OMDP National Monument and there are opportunities for State Parks to become a collaborator with BLM when they pursue a Resource Management Plan for the monument. This could significantly extend availability of land for trail development. There are three SLO properties in close proximity which could be operated by State Parks under a SLO lease agreement. Two SLO properties within the OMDP will eventually be transferred to BLM, although this transfer could take many years to complete. The SLO property directly to the west of the Upland Parcel and adjacent NM 185, will remain under SLO ownership. This property contains an earthen dam which is managed by EBID. This dam is restricted to public access.

The Northern Parcel is not suitable for development due to challenging and limited access from NM 185, steep and erosive slopes, and the presence of cultural resources that need to be protected.

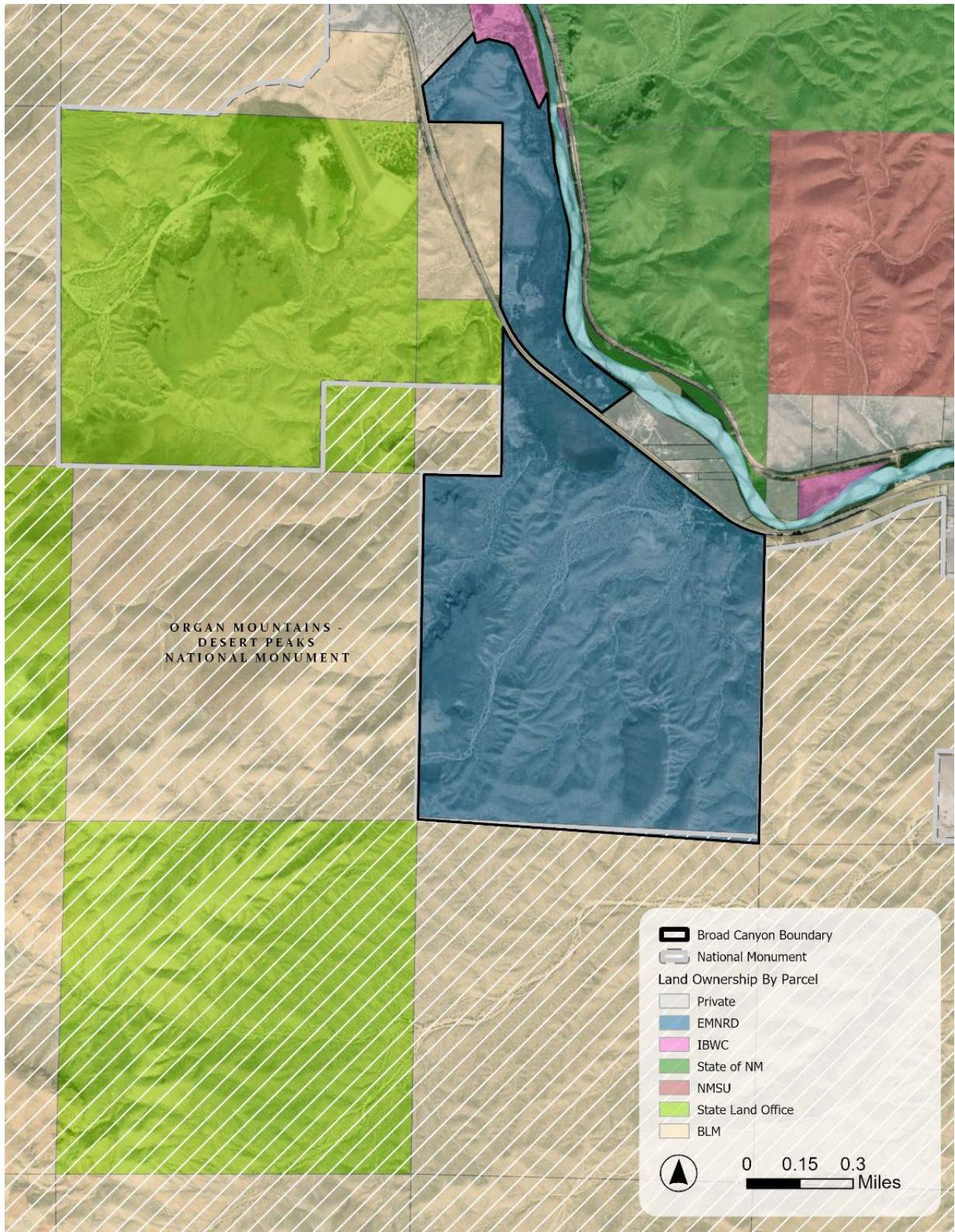


Figure 30: Adjacent SLO and BLM properties.

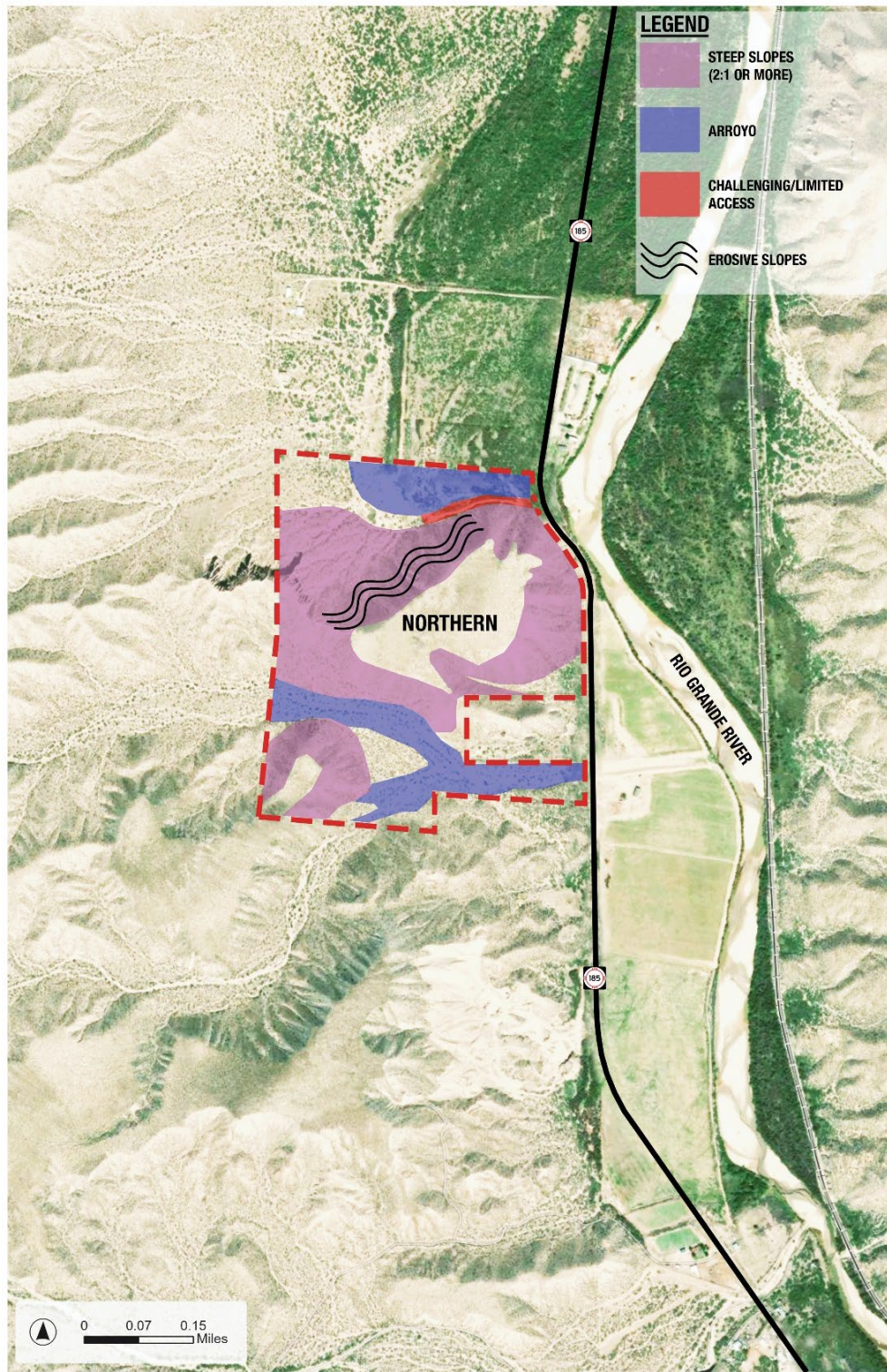


Figure 31: Diagram showing considerations around land suitable for development on the Northern Parcel

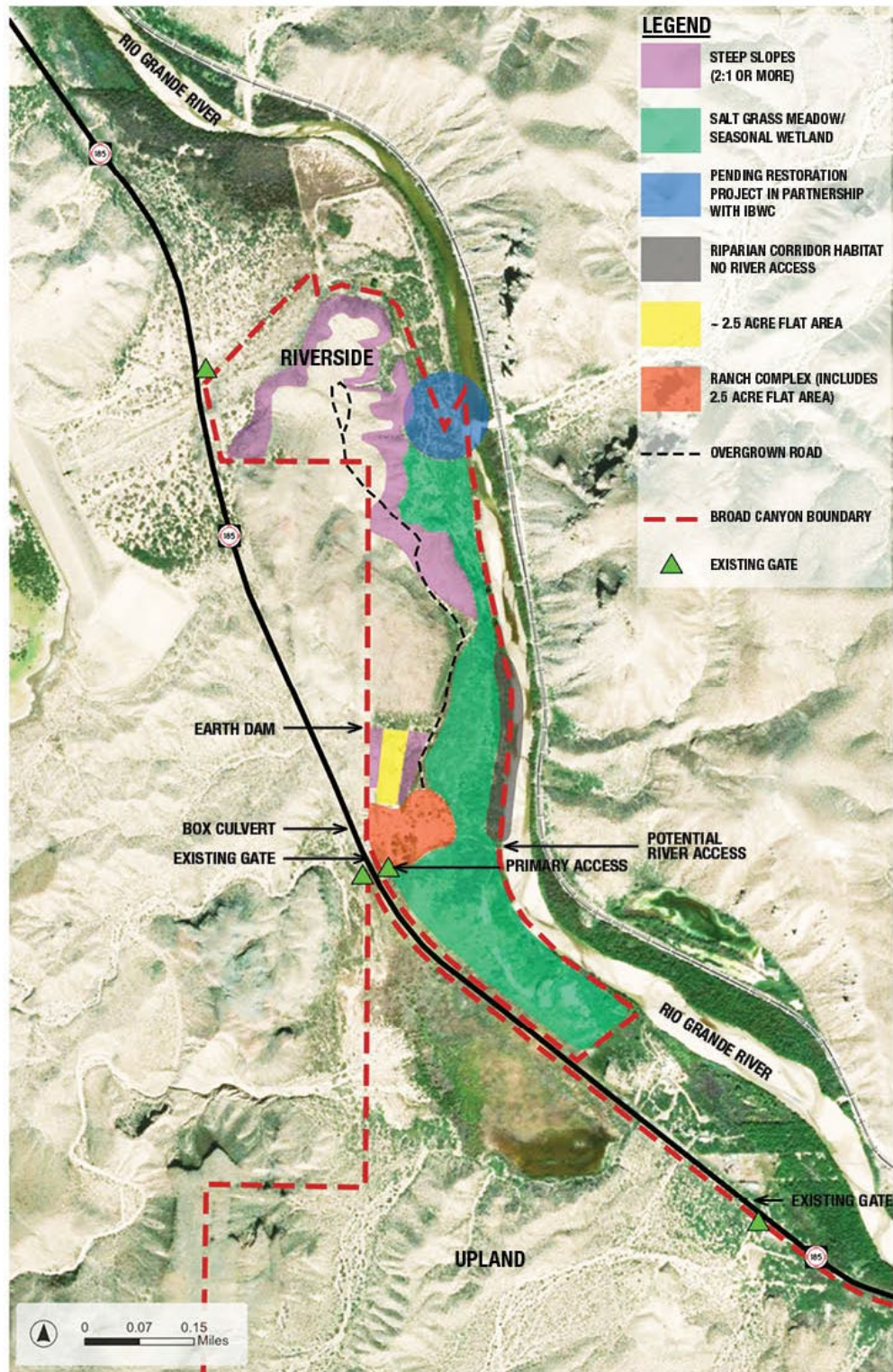


Figure 32: Diagram showing considerations around land suitable for development on the Riverside Parcel

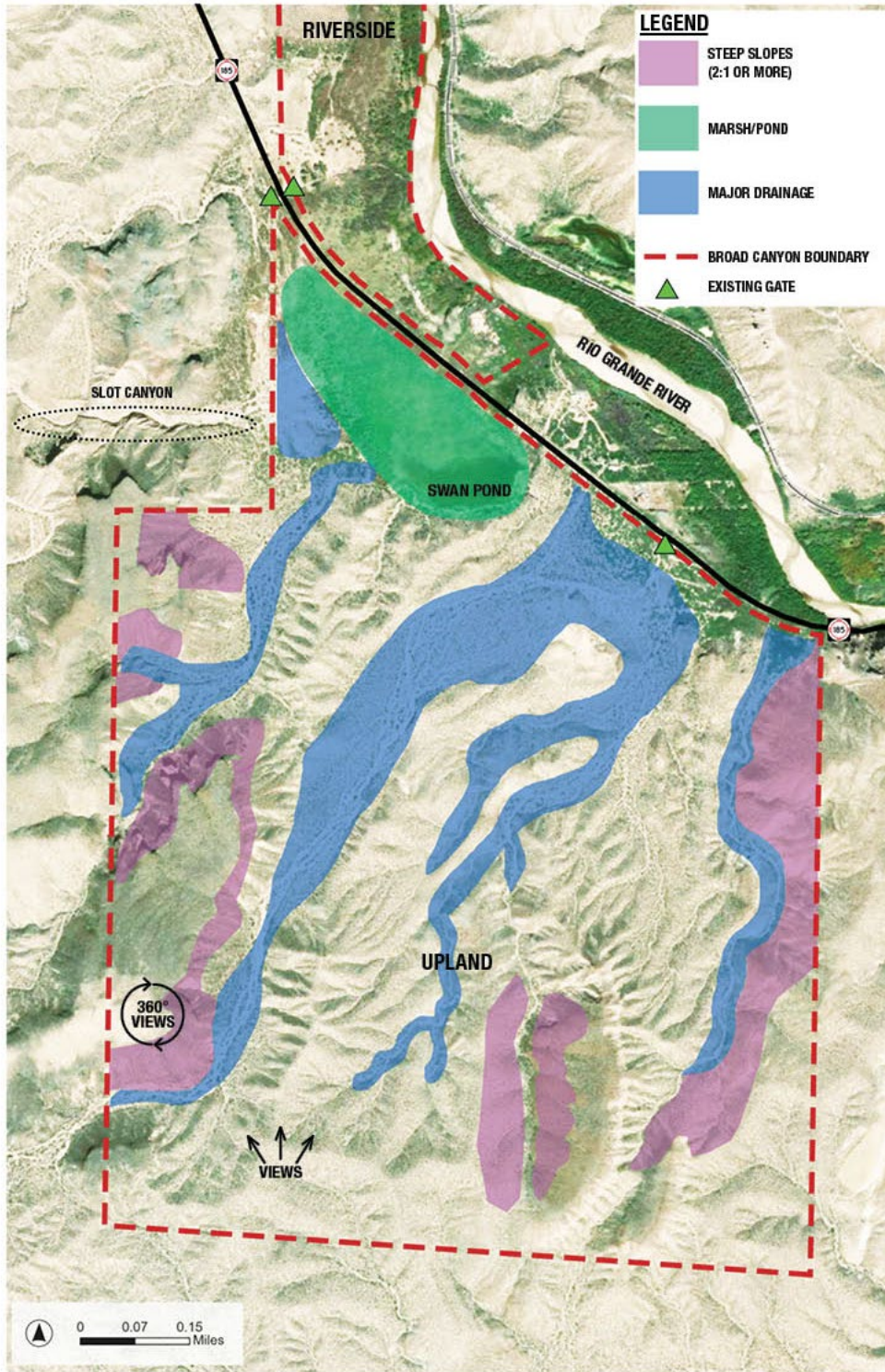


Figure 33: Diagram showing considerations around land suitable for development on the Upland Parcel.

Access & Roads

The Riverside Parcel is surrounded by a barbed wire fence. It has two access points with existing gates and driveways from NM 185. One gate is located on private property adjacent to the parcel's northern boundary (Figure 33). This gate provides access to a gravel road leading to an IBWC-owned parcel and to the river's edge. This river access point is located within the Riverside Parcel. The road travels through private property, IBWC property, and State Parks property. If it is determined that use of this driveway and road are important for park operations, access and use agreements for the gate and road would need to be arranged with both adjacent property owners.

Farther south, a gate provides primary property access to the Riverside Parcel from NM 185 (Figure 34). This was the primary access point when the ranch was in operation. This gate remains locked.

This driveway is located at the base of a hill which limits sight lines both for drivers on the roadway and entering the roadway. There are concerns that an increase in turning vehicles in this location could create safety issues. Additionally, many visitors to Swan Pond and adjacent properties park next to the highway near the gate and walk across the road which is a current safety concern. The locked gate provides access to a gravel driveway leading to the ranch complex. The driveway leads to a neglected but visible internal gravel road network that accesses the river at two places and also allows for vehicular circulation. The road is significantly overgrown. This road network could be restored/improved or transitioned into a hiking trail to allow for river access.

The Upland Parcel is fenced with barbed wire. It has two access points; both are locked gates. The gate to the north is currently used as an unofficial access to the Upland Parcel (Figure 35). SLO owns this gate. A land exchange with SLO could help to address access issues to the northern section of the Upland Parcel as well as the Slot Canyon hike. A second gate to the south, on SP property provides access to an internal road (a sandy wash) which does not appear to be maintained though it is identified on public maps (Figure 36). The road provides access to a seasonal earthen tank used for livestock, located to the west on SLO property.



Figure 34: Gate on private property to north of Riverside Parcel



Figure 35: Primary gate to Riverside Parcel



Figure 36: SLO gate providing unofficial access to Upland Parcel to the north.



Figure 37: Gate providing access to the Upland Parcel from the south.

The Northern Parcel has no existing gates and does not provide safe access from the highway. An old internal road on the north end of the site, which is currently blocked off, follows along the base of an erosive cliff. If parking were to be allowed within this parcel, new access and parking facilities would need to be developed. However, terrain and road visibility could significantly limit potential public access to this parcel. Based on initial review, access could potentially be established at the northern end of the parcel, just south of a guardrail on NM 185. However, a bend in the road and topography that obscures the view may make this location unsafe. Finally, there is a private inholding of approximately 7 acres in the middle of the parcel along NM 185, which may further limit and complicate options for development.

Table 5: Property access assessment summary

	Existing Access?	Notes
Riverside Parcel	Yes	There is one official access point to this parcel from NM 185 which is gated and locked. Some road improvement and management of vegetation at the entrance to ensure adequate visibility would be required. Roadway signage should be considered to alert drivers to the facility entrance and warn of turning vehicles (if warranted by NMDOT).
Upland Parcel	Yes	There are two existing gates to the parcel along NM 185 which are locked. Visitors currently hop over the north SLO-owned gate to access trail networks. The south gate leads to an unmaintained road within a drainage which is shown on public maps. The gate is partially obscured by vegetation and difficult to find. Access to the parcel would require installation of an improved gate, road development, a parking area, vegetation management near the entrance to ensure visibility, and potentially signage to alert drivers.
Northern Parcel	No	There are no identifiable gates providing access to this parcel. Topography limits potential access from NM 185 along much of this parcel's frontage with the most likely access point being toward the northern end of the property (just south of an existing guardrail). This location may not be considered safe enough for public access due to topography and a bend in the road that limits visibility. The private inholding further limits opportunities.

Parking

There are currently no developed parking areas within any of the three Study Area parcels. The LWCF application indicated that State Parks would pursue development of permanent public access including parking and convenience stations within a 3–5-year time frame. Parking and public access have been indicated as a primary concern by stakeholders including Friends of OMDP, Trust for Public Lands, and survey respondents.

The north edge of the Upland Parcel abuts a portion of the Riverside Parcel with NM 185 passing between them. Visitors to the area currently park on the shoulder of NM 185 on both sides of the highway. Both properties are accessed by hopping gates and walking in by way of informal trail or internal road. A major concern for the area is that many visitors park near the Riverside Parcel and then cross NM 185 highway on foot before hopping a gate to access a trail on the Upland Parcel into the OMDP National Monument. There is a need for parking lots within both the Riverside and Upland Parcels to improve access to recreational opportunities and reduce risk of pedestrians crossing the road in unprotected locations.

There are no appropriate locations for parking development within the Northern Parcel. Currently an area on the shoulder provides space for a couple of vehicles to park.

Circulation

Circulation between the Riverside and Upland Parcels is a current challenge. Friends of OMDP and other stakeholders have indicated that pedestrian connections between the Riverside and Upland Parcel are desirable. A pedestrian connection from the Riverside Parcel (which could expand hiking opportunities) to the Upland Parcel would require a safe road crossing.

Pedestrian crossings on state highways are always a cause for safety concerns. While this crossing has generally good visibility, there is no roadway lighting, and the speed limit is 55mph. According to NMDOT, between 2012 and 2022 there was one fatality involving a cyclist on NM 185 near Radium Springs (New Mexico Vulnerable Road Users: Fatal and Serious Injury Crashes n.d.). Anticipation that users parking at the Riverside Parcel will cross the highway to hike through the Upland Parcel should be discussed with NMDOT as part of a driveway access permit application process. This will help NMDOT evaluate whether additional safety treatments (signage, speed reduction, etc.) are warranted here.

Friends of OMDP have suggested that an NMDOT box culvert under NM 185 located on State Land Office property could be used as an underpass and provide safer crossing between the Riverside and Upland Parcels (Figure 37). This box culvert channels stormwater under NM 185 and directs it onto the Riverside Parcel. Evidence of recent surface flows could be seen on the property during a site visit in October. While there is precedent for the use of culverts on public lands for safe road crossings, this location may not provide the safe access needed.

Culvert access on both sides of the road is blocked by thick vegetation and there are seasonal risks of flash floods. The culvert is also not in an ideal location to improve safe access to trail networks without additional parking and trail development. NMDOT is amenable to use of the box culvert for pedestrian travel if State Parks accepts full liability for its usage as a dual-purpose facility. Should pedestrian access through the culvert be desired this would need to be negotiated with SLO and warning signage should be installed along with rework of the ROW fencing to ensure that the fence remains secure, and access is accommodated.



Figure 38: Box Culvert located on SLO property.

Waste Management

Residences to the north of the Upland Parcel along the NM 185 appear to have waste management services. These houses have three cubic yard front load trash bins located in the highway right of way. However, residences directly south of the Upland Parcel do not appear to have the same waste management service. There is no indication that Upland Parcel ever had waste management services on the property. Waste management services will need to be arranged through a park management plan.

Utilities

Water: The existing Riverside Parcel currently has two wells located on site, one domestic well (Figure 40) and a livestock well (figure 29). The domestic well's Point of Diversion (POD) record number is LRG 135241 and the subfile number is LRR13-0002. This well is permitted for multiple household use. The livestock well's record number is L135251 and the subfile number is LRR13-0001. This well is permitted for livestock watering. The domestic well's water rights were transferred to the State Parks Division during the land transaction and are 3-acre feet per year. This equates to approximately 977,553 gallons per year/3000 gallons per day. The livestock well's water rights are also 3-acre feet per year and are owned by State Parks Division. From the records, these wells are about 200' deep and have 4" diameter casing.

The domestic well is located just north of the existing house on site. The livestock well is located approximately 250' northeast of the existing house. State Parks has indicated that the domestic well may have the presence of Fecal Coliform in the water from the well. Potential water issues need to be addressed in a dedicated portion of a park management plan.



Figure 39: Livestock well.

There is a well permit that exists in the Upland Parcel and the record as LRG 00695. From the Office of State Engineer Records, it appears that this well may have had a permit filed but was never drilled before the permit expired.



Figure 40: Domestic well on Riverside Parcel.

Sanitary Sewer: The existing house on the Riverside Parcel has an onsite septic tank and leach field system. There is no record or mapping of this system and due to the age of structures the system is most likely in need of replacement.

Power/Communications: Electrical power and telecommunications are readily available on the Riverside Parcel and are located on the overhead lines that run just inside the east right of way fence line on the property. Currently, there is overhead power and communication service lines to a power pole located about 55' north of the existing residence. This pole has a drop service for both utilities to the existing house. There is no electrical meter on the ranch house and the service appears to have been removed. From this power pole, the overhead power and communication lines continue approximately 200 feet to the east to another drop service pole. This pole includes two active electrical residential meters. There are also telecommunication pedestals near this pole. Electric service in the area is provided by El Paso Electric.

Gas: There is no evidence of natural gas service in the Study Area. Gas service to the existing house and structures in the past may have been provided by propane.

(4) Resources protection shall also be considered a priority if the resources need urgent attention, but the priority shall be determined by the relative value of the resources involved.

The Study Area is located within the Lower Rio Grande in the Chihuahuan Desert ecoregion which is home to woody wetlands, riparian forest, and floodplain habitat that are critical for various wildlife

species. The Study Area is within the range of various threatened and endangered species and is in proximity to an Important Plant Area which is part of a global strategy for plant conservation (Figure 22). Restoration and protection of this habitat has been identified as a priority in various regional plans and reports (discussed further later in this study).

Restoration of cottonwood galleries and willow habitat along the river on the Riverside Parcel would diversify the landscape, vertical structure of riparian habitat, and improve wildlife habitat opportunities including for those of threatened and endangered species such as the flycatcher and cuckoo. The most comprehensive restoration would include rehabilitation of the river's native hydrology including variable fluvial geomorphology and a natural flooding regime.

Opportunities for resource protection in the Upland Parcel include restoration and habitat protection in Swan Pond as well as habitat protection for the endangered sneed pincushion cactus (*Coryphantha sneedii* var. *sneedii*) which is a plant species of concern that has potential habitat in the Study Area (FWS Information for Planning and Consultation 2024). This cactus grows in the cracks of limestone cliffs or ledges in the Chihuahuan desert scrub.

Additional wildlife species of concern that have potential habitat at the Study Area are the Mexican wolf (*Canis lupus bailey*), northern Aplomado falcon (*Falco femoralis septentrionalis*), and the candidate monarch butterfly (*Danaus plexippus*; FWS Information for Planning and Consultation 2024).

Development constraints/considerations

Best ecological stewardship opportunities for the Study Area must consider not only the high value of this Chihuahuan Desert landscape but also the current user demands of this particular area, public safety, and the potential for public involvement in restoration and conservation of the landscape through a formal mechanism.

It is recommended that planners consider the following:

- Water and water-dependent habitats are precious. The protection of Swan Pond and its associated wetlands and the floodplain of the Rio Grande is a minimum requirement for any further consideration of development within the Study Area.
- Restoration of the Rio Grande corridor should be a priority and addressed comprehensively, including hydrology, hydraulics, fluvial geomorphology, water quality, habitat, and species use.
- Growth rates of the desert are low, and recovery from disturbance is slow. Planners should bear in mind that trails are a disturbance and fragment the landscape. Low-density trails that are respected by users can likely be accommodated ecologically, but unplanned behaviors such as venturing and leaving waste off-trail will be difficult to manage and recover from. For this and other reasons, planners should evaluate whether dogs should be permitted on the Riverside Parcel. Horses are considered passive or low impact trail users. Horseback riding is acceptable on designated trails away from sensitive habitat areas.
- Any earthwork onsite should be carefully considered in relationship to sensitive habitat.

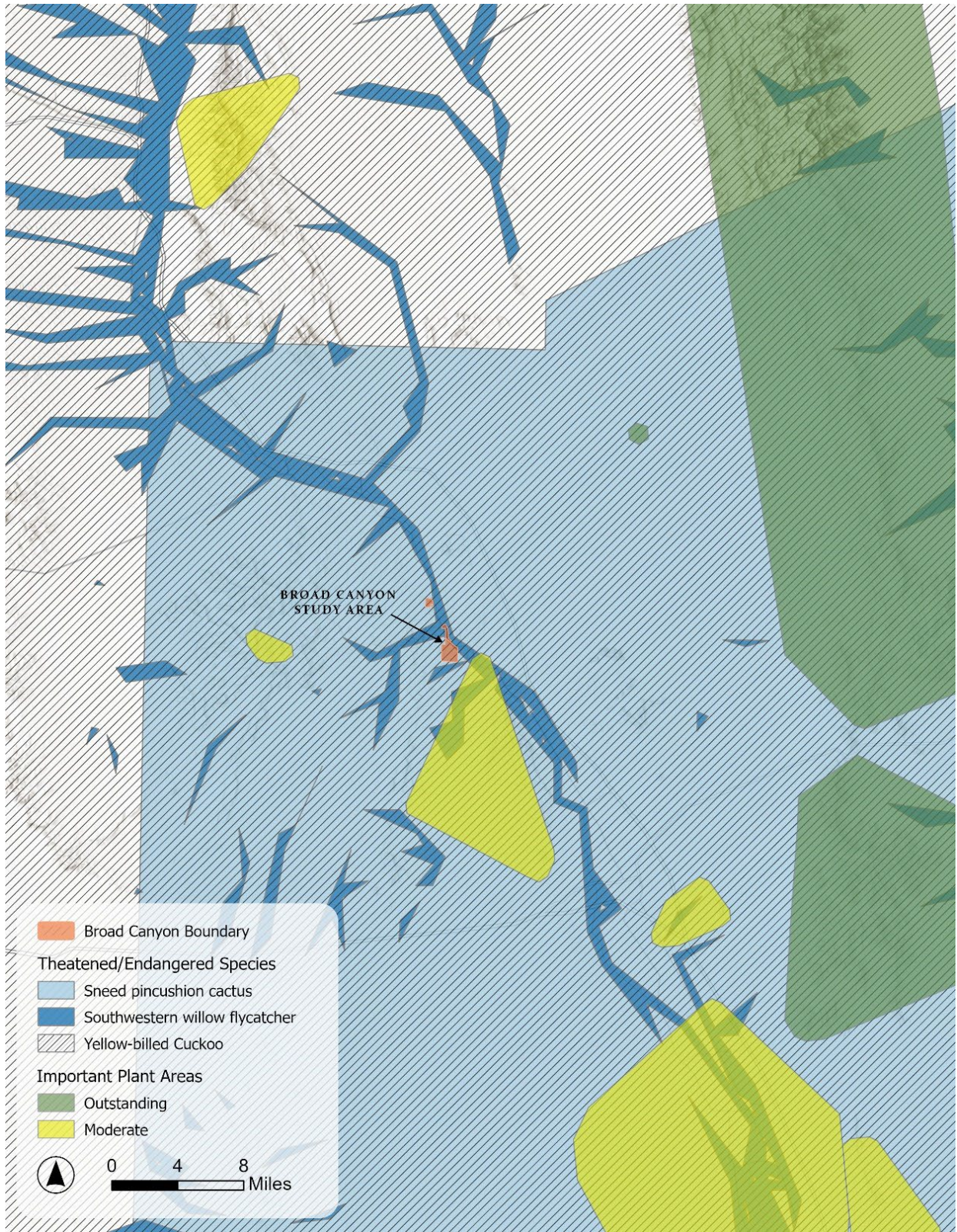


Figure 41: Map showing range of threatened and endangered species and proximity of the Study Area to Important Plant Areas

F. The cost of lands to be proposed for acquisition or development as state parks or state recreational areas should be reasonable, with consideration given to the recreational value of the land on which the state park or state recreational area is to be located. No property shall be purchased that involves commitments, privileges, or conditions to any private interest, except that property may be purchased that has restrictions limiting its use to that of a state park or state recreational area.

The Study Area is already owned by State Parks, so the cost of acquisition is not a factor in this study. Cost estimates for development can be found below.

G. All lands considered for acquisition or development as new state parks or state recreational areas shall undergo a feasibility study prior to acquisition or development. Feasibility studies shall include:

(1) a determination that the proposed area meets the criteria set forth in this section

The State Park Feasibility Study for Broad Canyon Ranch evaluated three parcels within the Study Area. The Northern Parcel, Riverside Parcel, and Upland Parcel were each evaluated to determine whether they met the criteria established in NMSA 1978 Chapter 16 Article 2 for state park designation and development. The parcels were evaluated independently as well as in relationship to each other.

The Northern Parcel does not meet the criteria for designation or development as a state park. Most significantly, the character of land resources are not suitable for development as a park or recreational area. The site is currently inaccessible, lacking a gate or driveway, and its location within a blind curve on NM 185 makes it challenging to develop safe access to the property. The terrain is dominated by steep and erosive slopes which pose challenges to extensive development. The primary draws to the site are views provided from an area along an eroded cliff edge. At best, this area could support low impact trail development. Trails could be connected to future trails within the OMDP if those are developed. In addition, the Northern Parcel contains cultural resources in multiple locations which have been recommended for protection, which limit availability of land to develop trails or other recreational amenities. The property is not suitable for camping and thus is unlikely to help State Parks meet its enterprise goals. Lastly, the property is disconnected from the other parcels and is not required for effective management of adjacent recreation areas. The Northern Parcel could be retained for future connections to OMDP recreational development, or State Parks may consider selling or exchanging the parcel.

The Riverside Parcel meets the criteria for designation and development as a state park. The property has a diversity of resources, which can largely be attributed to its scenic location within Selden Canyon in the Rio Grande corridor. The site is situated within a rare Chihuahuan desert ecosystem and provides habitat to both threatened and endangered species. Ecosystem restoration and habitat protection are important priorities for the site. Park development could increase resources for ongoing restoration efforts and strengthen partnerships and volunteerism to support this work. Due to the existence of various cultural resources on the site, cultural resource protection is also crucial. Visitors to the site are likely to travel off-trail which could impact cultural sites on the ridge and hill tops or sensitive habitat

areas in the wetlands. Careful planning and management of recreational use and facilities can minimize impacts to natural and cultural resources. Thoughtful consideration of how to balance resource protection and outdoor recreation priorities will be essential to successful park management.

The Riverside Parcel provides unique river recreation opportunities within a region with limited access to natural riparian environments and stakeholders indicate that the area could be a draw for visitors from the El Paso-Las Cruces region and beyond. There are opportunities for development of low-impact facilities for non-motorized boating as well as a concessionaire to run rental and shuttle services that can ensure patronage from the region and potentially the state as a whole. It is also feasible to develop campground facilities which could provide an important revenue source, although such revenue unlikely to be sufficient to meet enterprise agency goals.

The Upland Parcel meets many of the criteria for designation and development as a state park. The property has significant aesthetic and natural value evident in panoramic views from ridgelines and bluffs of the Rio Grande, Swan Pond, Selden Canyon, and Selden Hills. In its undeveloped state, the property's main draws are Swan Pond and as a connection to the Slot Canyon hike within the OMDP National Monument. Swan Pond is a popular birding destination and important habitat for threatened and endangered bird species. There are opportunities to enhance wildlife viewing through the development of low impact trails and bird blinds around the pond. The Slot Canyon hike draws visitors from the entire region, and increasingly the Broad Canyon Wilderness area attracts visitors from around the state for hiking and backpacking. There are multiple examples in New Mexico of trailheads on state parks connecting with trail networks on adjacent public lands. The Upland Parcel provides opportunities for trail development within the property as well as connections to potentially extensive trail networks on BLM and SLO property.

The Upland Parcel offers significant day-use recreational opportunities including hiking, biking, horseback riding, and wildlife viewing. Without the ability to support campground development, the Upland Parcel is unlikely to help State Parks cover 75% of operating costs and meet enterprise agency goals if it were to be developed as a state park on its own, but it would contribute a diversity of experiences if developed in conjunction with the Riverside Parcel. The property is also ideal for development as a recreational area connected to the Riverside Parcel and operated as an extension of Leasburg Dam.

Due to their proximity to Las Cruces, the Riverside and Upland Parcels could help to meet the recreation and open space demands for the metropolitan area and support State Parks' ability to increase awareness of, access to, and equitable participation in outdoor recreation among historically marginalized and/or underrepresented peoples. Friends of OMDP have indicated that hiking and birdwatching on both parcels are important recreational assets for the Las Cruces community, particularly for youth participating in their programs. The properties supports alignment with the Rio Grande Trail and offers opportunities for trail connections on adjacent public lands.

(2) an estimate of the total development cost, including land acquisition, planning and construction and recommendations for methods of financing the development costs

Conceptual Designs

The following conceptual plans show preliminary development alternatives for the Riverside and Upland Parcels. A context map showing opportunities for potential parking areas and diagrammatic trail routes is

shown in figure 41. This map shows two potential parking areas on the Upland Parcel and one parking area on the Riverside Parcel. The Riverside Parcel has potential for varying levels of recreational development which are represented in figure 42. This conceptual diagram provides a basis for preliminary estimates of development, operations, and maintenance costs for the site.

CONTEXT MAP, DIAGRAMMATIC TRAIL ROUTES, AND PARKING

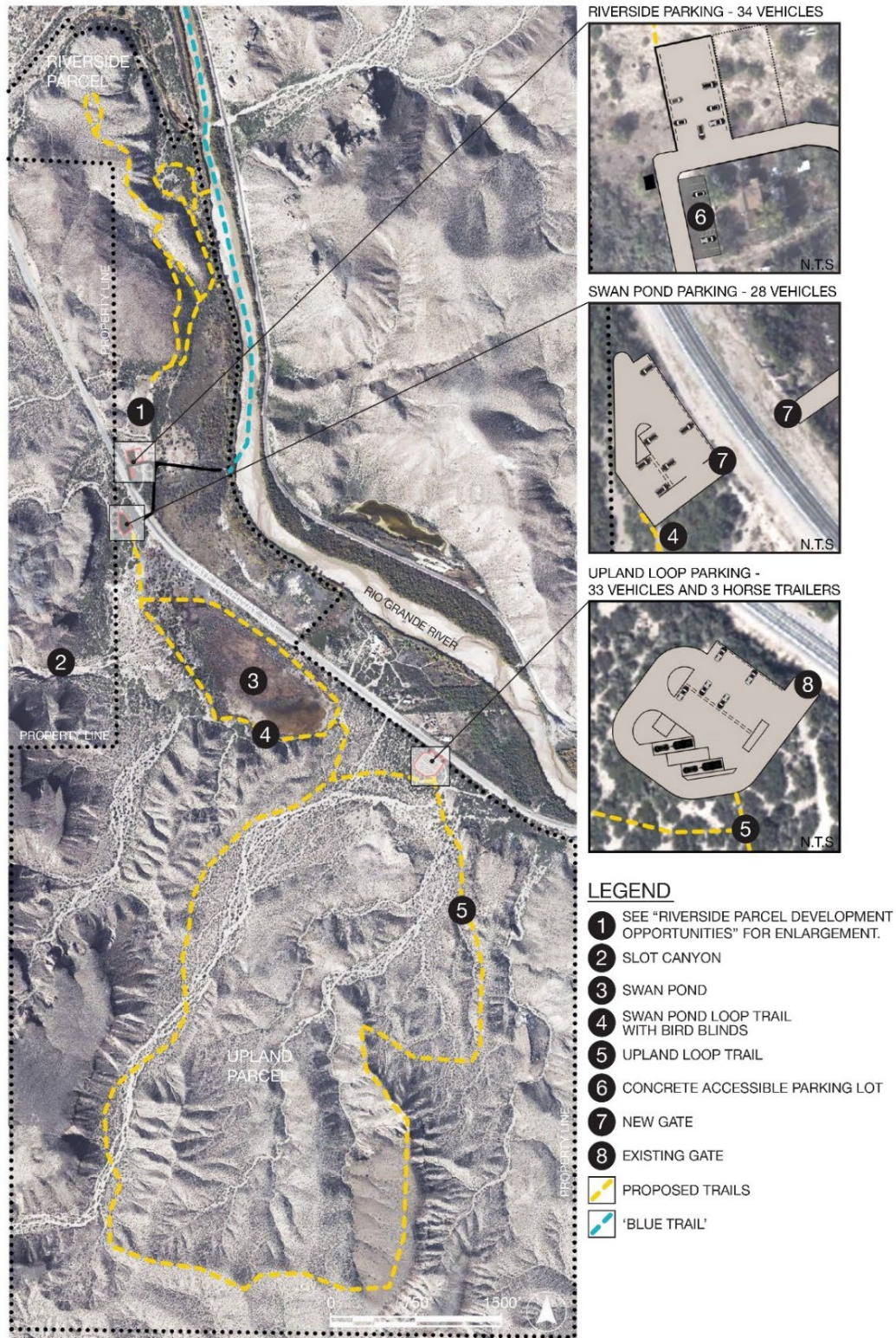


Figure 42: Context Map, Diagrammatic Trail Routes, and Parking

RIVERSIDE PARCEL DEVELOPMENT OPPORTUNITIES

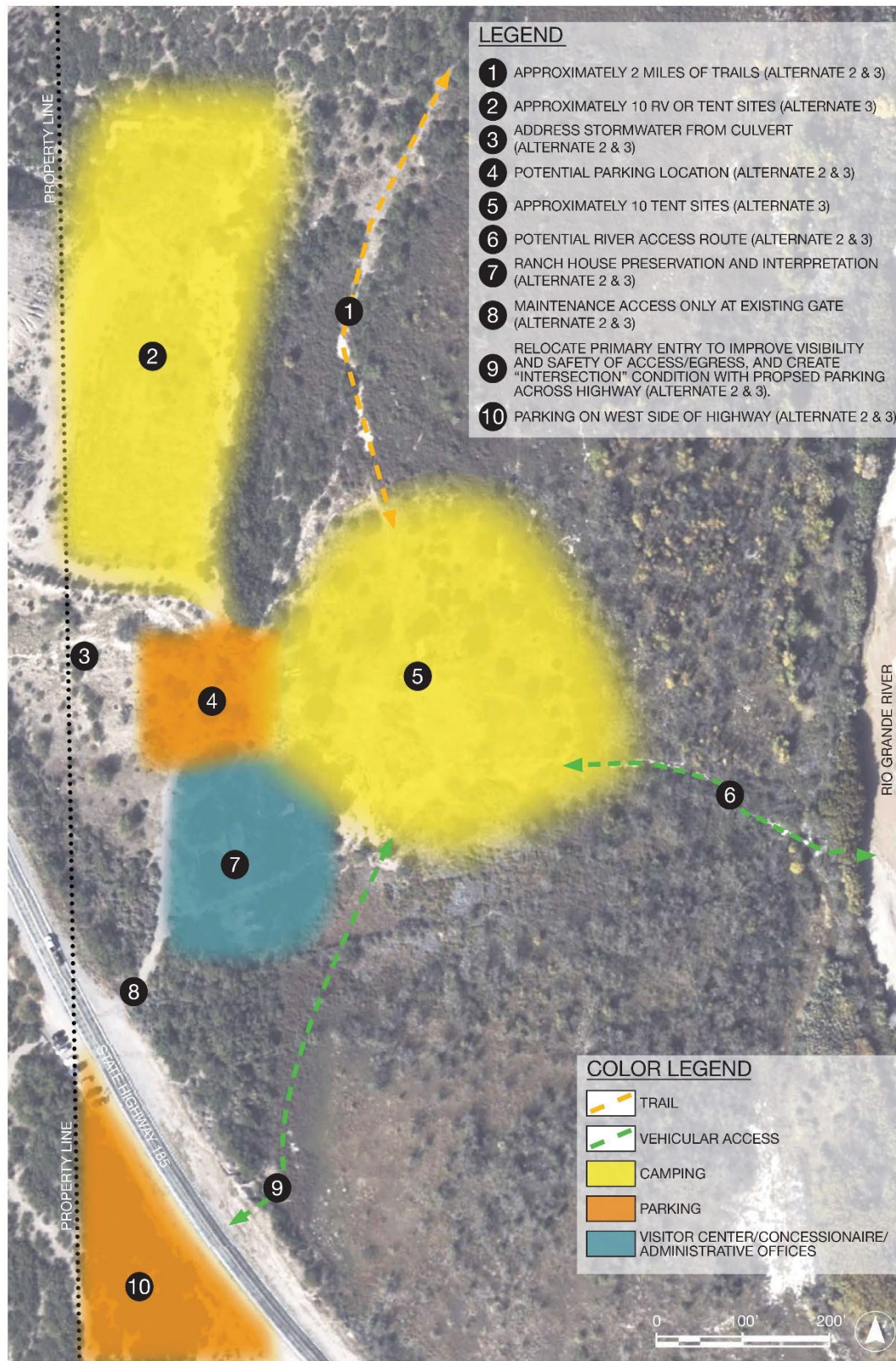


Figure 43: Riverside Parcel Development Opportunities

Potential Facilities and Site Development

Based on the typical facility improvements and development requirements for state parks as well as the desired improvements for Broad Canyon Ranch, the following site and facility improvements may be considered for development of the site, if recreation opportunities are to be further developed.

Driveways: The current location of the driveway at the Riverside Parcel is located at the base of a hill which limits sight distance and reaction time both for cars on the roadway and cars entering the roadway. A new driveway and main access road could be provided approximately 350 feet south of the existing driveway at a location with better visibility. The existing driveway could be maintained as a service road for State Parks vehicles. The potential new driveway could be located directly across from another potential driveway on the Upland Parcel. This driveway would provide access to a parking lot and trailhead to Swan Pond.

Parking: Parking should be designed to accommodate regular day-use visitation as well as large group visits and tours, including school buses. Conceptual designs show space for up to 95 parking spaces distributed between three parking areas, although the Study Area is unlikely to need this much parking (Figure 41). A traffic study could aid in determining the appropriate amount of parking to provide, and parking could be developed in phases, as not to overbuild or oversupply parking on either parcel. A large, relatively level area near the ranch complex could provide parking on the Riverside Parcel. The Upland Parcel provides two opportunities for potential parking development. Parking could be developed with minimal disturbance to the north of Swan Pond. A new gate, located on State Parks property, could provide access to a relatively flat area just south of the existing gate on SLO property. Further south, another opportunity for off-highway parking can be found at an existing gate which can provide access to an area above the existing arroyo. With appropriate consideration for upstream water flows, this space could be developed to provide parking.

Vault toilets: The original LWCF application for the Riverside and Upland Parcels indicated that vault toilet(s) would be installed to support permanent public access to the area. This has not yet occurred. Vault toilets could be installed adjacent to parking lots out of the flood plain on both the Riverside and Upland Parcels (see Figure 26 for flood plain map). Vault toilets are non-flush waterless toilet systems installed in locations that don't have access to a municipal sewer system or septic tank. It is a type of toilet which stores human waste underground. They are permanent structures that need to be pumped out on a regular basis by State Parks staff or a professional waste management company. State Parks manages vault toilet pumping in state parks across the state. Currently at Leasburg Dam State Park, this service is contracted to a professional waste management company.

Trails: Approximately 1.5 miles of trails can be accommodated on the Riverside Parcel and approximately 4 miles of trails can be accommodated on the Upland Parcel.

Campground: Varying levels of campground development are possible in graded areas on the Riverside Parcel. There is a large, graded area that provides flat space out of the flood plain to develop ten camp sites with electric hookup or ten developed sites for tent camping (#2 on Figure 42). An area adjacent to the ranch complex within the flood plain provides space for approximately ten tent camping sites (#5 on Figure 42).

Visitor Center: Visitor use of state park visitor centers often does not justify the large development costs associated with these buildings, so the need and proposed use for a visitor center on site should be

carefully evaluated and right-sized in future development plans. If determined to be feasible, adaptive reuse of the existing ranch house and outbuildings on the ranch complex could house a community room or classroom, retail sales, flexible exhibit space, administrative/office spaces, outdoor classroom, and equipment storage. Outdoor spaces could be developed with facilities to support a concessionaire for non-motorized boat rental and shuttle service.

Water: The existing domestic well LRR13-0002 could supply water to the new visitor center and a common water filling station. If water is provided on site, the system would be a public water system and must meet the requirements of the federal Safe Drinking Water Act. All public water systems must be operated by a certified operator in accordance with the New Mexico Utility Operator Certification Act.

The well should be inspected, and its pump assessed to ensure the casing and pump are in good condition. The well should also be cleaned/shocked and assessed to remove the presence of any contaminants. Since this is a domestic well and its production rates are not known, a below-grade, 2500-gallon underground water cistern could be installed to provide more reliable capacity for the visitor center and common filling station.

The existing well could fill the cistern and a new submersible pump could provide higher delivery capacity and volume from cistern for water delivery to the visitor center and common filling station. However, if the pump tests on the well indicate that the well delivery rate is sufficient, it may be simpler to upgrade the well pump to a variable speed pump that could handle higher delivery requirements when needed. The new system would require new underground piping from the tank to the building and a common filling station with a frost-proof hydrant. Power service would need to be provided to the existing well from a new meter.

It is not recommended that water hookups be provided at RV stations due to the 3-acre feet per year water rights of the property. Providing water hookups to multiple sites would require a larger investment and monitoring to ensure water rights are not exceeded. For a visitor center, State Parks should evaluate potential water consumption and wastewater production to evaluate whether any potential restrooms and kitchen facilities should be accessible to the public or strictly park staff. If the facilities are limited to park staff, the size of the tank and leach field can be limited to the size of a larger residential septic system.

The livestock well could be recommissioned as a well to fill stock tanks or dirt tanks around the tent area that could be utilized to attract wildlife to the area, but this should be a future consideration once the park is active and generating revenues.

Sanitary Sewer: A visitor center would require a new septic tank and leach field system. As stated above, the use of the bathroom facilities should be limited to Park staff to reduce the required size of the septic tank and leach field. This would limit the system to the size of a larger residential septic system. Restroom facilities for a potential campground would be provided by vault toilets spaced appropriately around the site.

Power/Communications: New power service meter and telecommunications should be easy to restore from the existing drop service to the ranch complex. The existing overhead transformer can be upsized to accommodate the expansion of the power system to provide site lighting in parking areas/roadway and power at the RV parking. A new meter will be required for the new system and can be located at the

ranch complex or potential visitor center. A new underground power service can be extended to the parking area and further to the RV parking area from the existing power pole at the visitor center. One power pedestal could be provided at each RV site. Providing electric service contributes additional operating expenses which should be evaluated. Current fee structures might not recover the full costs associated with the provision of electricity at electric hookup sites.

Gas: Upgrades to the gas system would need to take place in order to use propane. A new propane tank and service lines would be required if a visitor center were to be developed unless the visitor center is all-electric. A new concrete pad should be provided for the tank. A minimum 1000-gallon tank is recommended, and most tanks are provided by propane service provider for a deposit. Should State Parks want to own the tank long term that price is included in the higher end costs of the estimate.

Drainage Improvements: Due to the fact that there is a box culvert that conveys water under NM 185 and the downstream drainage bisects the access road to the potential camping area on the large flat portion of the Riverside Parcel, drainage improvement to protect the road in this area would be required. To address this, two options have been considered: multiple storm drain crossing (6)-36" culverts with downstream erosion control or a concrete low water crossing with downstream erosion control. Costs for both options seem to be comparable.

There is also a need to address the breach of the earth dam on the adjacent BLM parcel near the northwest corner of the potential RV campground. To address this issue, a small, reinforced berm within the northern area of the campground could be built to divert water towards the existing drainage. This would protect camp sites in the unlikely event that stormwater flows through the breach. Further documentation of cultural features may be required prior to design and construction of the berm.

Land Acquisition

State Parks already own the Study Area. There are opportunities within the area to acquire additional properties or to exchange properties with other agencies to meet State Parks goals in the region and to expand potential area for state park development. There are no costs associated with land acquisition at this time.

Planning

State Parks would need to undertake a full planning and design process for any future development on the Riverside or Upland Parcels. Additionally, a management plan would need to be developed to establish guidelines for management, operations, and maintenance of a potential park.

Development cost estimate

A range of approximate development cost estimates, including planning, design, construction, and equipment for the various management and development alternatives are shown in the tables below. Tables 5 shows a development cost estimate for Alternative 2: Day Use or Recreation Area on the Riverside Parcel plus the cost estimate for the Upland Parcel. Table 6 shows a development cost estimate for Alternative 3: State Park with Campground on the Riverside Parcel plus the cost estimate for the Upland Parcel. These both show options for a potential visitor center: renovation of the existing ranch house or demolition of the existing ranch house and construction of a new purpose-designed visitor center.

Alternative 2, including both Riverside and Upland Parcels, is anticipated to cost approximately \$3.5 million.

Alternative 3, including both Riverside and Upland Parcels, is anticipated to cost approximately \$6.75 million depending on the extent of development.

The development of a visitor center is expected to cost between \$1.4 million and \$2.5 million. With a visitor center included, the grand total for Alternative 2 is between \$4.8 million and \$6 million. With visitor center, the grand total for Alternative 3 is between \$8.1 million and \$9.3 million

Table 6: Alternative 2 - Development Cost Estimate for Riverside Parcel and Upland Parcel

Item	Item Description	Cost
Riverside Parcel - Alternate 2		
1	General	\$175,000.00
2	Demolition and earthwork	\$80,000.00
3	Hardscape	\$25,000.00
4	Parking and Roadway Improvements	\$395,000.00
5	Trails	\$60,000.00
6	Infrastructure and Utilities	\$450,000.00
7	Site Furnishings	\$35,000.00
8	Equipment	\$225,000.00
Subtotal, Riverside Parcel - Alternate 2		\$1,445,000.00
Upland Parcel		
9	General	\$125,000.00
10	Demolition and earthwork	\$35,000.00
11	Parking and Roadway Improvements	\$375,000.00
12	Trails	\$175,000.00
13	Infrastructure and Utilities	\$100,000.00
14	Site Furnishings	\$15,000.00
Subtotal, Upland Parcel		\$825,000.00
Subtotal, Riverside Parcel, Alt. 2 and Upland Parcel		\$2,270,000.00
25% Contingency		\$567,500.00
Subtotal, including contingency		\$2,837,500.00
NMGRT @6.5%		\$184,437.50
Subtotal, including NMGRT		\$3,021,937.50
Design, survey, regulatory compliance, studies - 15% of total before NMGRT		\$425,625.00
Total:		\$3,447,562.50

Option 1: Renovate existing house	\$1,400,000.00
Option 2: Demolish existing house and construct visitor center	\$2,500,000.00

Grand Total (low)	\$4,847,562.50
Grand Total (high)	\$5,947,562.50

Table 7: Alternative 3 - Development Cost Estimate for Riverside Parcel and Upland Parcel

Item	Item Description	Cost
Riverside Parcel - Alternate 3		
1	General	\$330,000.00
2	Demolition and earthwork	\$115,000.00
3	Hardscape	\$60,000.00
4	Parking and Roadway Improvements	\$860,000.00
5	Tent camping	\$360,000.00
6	RV Camping	\$400,000.00
7	Trails	\$60,000.00
8	Infrastructure and Utilities	\$1,000,000.00
9	Site Furnishings	\$50,000.00
10	Equipment	\$375,000.00
Subtotal, Riverside Parcel - Alternate 3		\$3,610,000.00
Upland Parcel		
11	General	\$125,000.00
12	Demolition and earthwork	\$35,000.00
13	Parking and Roadway Improvements	\$375,000.00
14	Trails	\$175,000.00
15	Infrastructure and Utilities	\$100,000.00
16	Site Furnishings	\$15,000.00
Subtotal, Upland Parcel		\$825,000.00
Subtotal, Riverside Parcel, Alt. 3 and Upland Parcel		\$4,435,000.00
25% Contingency		\$1,108,750.00
Subtotal, including contingency		\$5,543,750.00
NMGRT @6.5%		\$360,343.75
Subtotal, including NMGRT		\$5,904,093.75
Design, survey, regulatory compliance, studies - 15% of total before NMGRT		\$831,562.50
Total:		\$6,735,656.25

Option 1: Renovate existing house	\$1,400,000.00
Option 2: Demolish existing house and construct visitor center	\$2,500,000.00

Total cost (low)	\$8,135,656.25
Total cost (high)	\$9,235,656.25

(3) an estimate of the annual costs for operation and maintenance

Park Staffing

Staffing will be dependent on the level of recreational development as well as the types of amenities and activities offered if the site is to be developed as a state park or recreation area. State Parks staff indicated that many state parks are currently understaffed and that the feasibility study should project ideal staffing levels. Two staffing models are shown below.

Alternative 2 assumes that the site would be operated as a day-use park or recreation area as a satellite of Leasburg Dam State Park. This would involve hiring additional staff beyond the existing three full-time and one seasonal staff stationed at Leasburg Dam. This staffing level and cost is shown in Table 7.

Leasburg Dam was used as a reference for the staffing model for Alternative 3. One additional full-time staff was added to reflect desired staffing levels. This alternative requires hiring four full-time staff and one seasonal staff to be stationed at the Study Area. This staffing level and cost is shown in Table 8.

Table 8: Alternative 2 - Day-Use Staffing

Alternative 2: Day-Use Park or Recreation Area – Staffing	
Full Time Positions	Salary
1 Law Enforcement Ranger	\$55,000
35% Benefits and Personnel Costs	\$19,250
Seasonal Positions	
1 Park Technician	\$16,630 (6 months)
1 Interpretation/teaching staff	\$16,630 (6 months)
Total Staff Salaries	\$107,510

Table 9: Alternative 3 - Full State Park Staffing

Alternative 3: Full State Park – Staffing	
Full Time Positions	Salary
1 Park Manager	\$65,000
1 Law Enforcement Ranger	\$55,000
1 Park Interpreter	\$60,568
1 Park Technician	\$45,500
35% Benefits and Personnel Costs	\$79,123.80
Seasonal Positions	
1 Park Technician	\$16,630 (6 months)
1 Interpretation/teaching staff	\$16,630 (6 months)
Total Staff Salaries	\$338,452

It has been suggested that if the Study Area were to be operated strictly as a day-use park or a recreation area, it could function as a satellite of Leasburg Dam State Park. Caballo Lake and Percha Dam can be used as a reference for a model in which two state parks share staff. Percha Dam functions as an additional campground to Caballo Lake State Park and offers limited day-use amenities. Percha Dam has a full hookup campsite for a Camp Host and a Law Enforcement ranger is stationed full time to provide security. It should be noted that these parks are directly adjacent and sharing equipment is not difficult. Leasburg Dam and the Study Area are seven miles apart. Even with adjacency, staff at Caballo Lake and Percha Dam plan out their days so they do not have to go back and forth between the two parks. The two parks have seven full time employees (Superintendent, Manager, Administrator, three Law Enforcement Officers, and a Park Tech) and are allocated six seasonal employees to help in the busy season, and one winter seasonal employee. This shared management model would require hiring additional staff at Leasburg Dam State Park, which currently has three full-time employees. This model could pose significant administrative and maintenance challenges.

Annual Operating Expenses

Annual operating costs for state parks include costs for staffing, equipment, utilities, maintenance and other expenses. The operating budget at Cerrillos Hills State Park (without staffing and minus the costs associated with operating and maintaining the Visitors Center plus 10% for fuel costs to drive from Leasburg Dam State Park), \$13,000, was used as a reference for Alternative 2 assuming minimal park development. For comparison, Mesilla Valley Bosque, a more developed day-use park, has an operating budget of \$42,800 annually (without staffing). This could serve as a reference if State Parks pursued more intensive day-use recreational development and programming. The operating budget for Leasburg Dam State Park, \$60,000, was used as a reference for Alternative 3 with full state park build out.

Table 10: Alternative 2 and Alternative 3 – Operating Costs

Alternative 2: Operating Costs	
Item	Approximate Annual Cost
Personnel	\$107,510
Operations & Maintenance	\$13,000
Total	\$120,510
Alternative 3: Operating Costs	
Item	Approximate Annual Cost
Personnel	\$338,452
Operations & Maintenance	\$60,000
Total	\$398,452

(4) an estimate of demand and a projection of visitor use for the proposed area

The Parks, Recreation, and Fairs Statute (NM Stat § 16) anticipates that revenues derived from the operation of state parks or gifts, donations, bequests, or endowments made to state parks be used to acquire, develop, operate, and maintain state parks. As enterprise operations, parks are expected to generate a percentage of the revenue required to meet their operating costs. This percentage is not stipulated by statute. Rather, as a general rule, parks endeavor to generate approximately 75 percent of their operating costs through various revenue streams that include park generated revenue such as recreational user fees and concessions. Visitation trends at comparable state parks and state parks

within the Study Area region were reviewed to assess potential visitor use if the Riverside and Upland Parcels were to be developed as a state park. Monthly visitation rates, average annual visitation, and the balance between revenues from day-use and camping fees were evaluated.

Potential Visitation

Between 2019 and 2023, State Parks brought in the following average revenue per visitor:

- 2019: \$1.03
- 2020: \$0.88
- 2021: \$0.74
- 2022: \$0.93
- 2023: \$1.01

This works out to an average of \$0.92 per visitor. However, it is important to note that in 2020 and 2021, visitation was much lower than typical due to the COVID-19 pandemic. Therefore, for the purposes of this analysis, we will use an average of \$1.00 per visitor. Considering a total operating cost of \$120,510 for Alternative 2, State Parks would need to attract approximately 90,383 visitors/year (247 visitors/day) to cover 75% of the park’s operating costs (\$90,382). Considering a total operating cost of \$398,452/year, State Parks would need to attract approximately 298,839 visitors/year (819 visitors/day) to Broad Canyon Ranch to cover 75% of operating costs (\$298,839) and meet enterprise agency goals for Alternative 3. These are significantly higher visitation rates than the comparable state parks used as references in the Study Area region (Table 1).

Potential Revenue

A range of estimated revenue from day-use fees, based on day-use revenues from comparison parks is provided in Table 10. Leasburg Dam generated \$12,126 in day-use fees in 2023 from approximately 2,425 vehicles (\$12,126/\$5 per vehicle). Mesilla Valley Bosque generated \$18,494 in day-use fees in 2023 from around 3,698 vehicles (\$18,494/\$5 per vehicle). Potential revenue from day-use fees is estimated to be between \$12,125 to \$18,494. This is a range of seven to ten cars per day all year.

Table 11: Potential revenue from day-use fees

Comparison Park	Approximate day-use visitation (# vehicles/year)	Potential revenue from day-use fees based on park comparison
Leasburg Dam	2,425	\$12,125
Mesilla Valley Bosque	6,433	\$18,494

Based on the number of camp sites available at Leasburg Dam, maximum annual revenue potential for camping is approximately \$94,535. This assumes full occupancy 365 days/year. Based on revenue data from 2024, Leasburg Dam generated \$72,717 in camping fees and operated at approximately 77% full occupancy (\$72,717/\$94,535). Using the same analysis for Caballo Lake and Percha Dam, these parks operated at much lower occupancy rates (38% and 31% respectively).

At the Study Area, there is potential to develop up to 9 developed sites and 10 electric hookup sites. This means that the maximum annual revenue potential for camping is approximately \$73,000. A range of estimated revenue from camping fees based on the analysis of camping occupancy is provided below

(Table 12). On the low end, camping visitation is based on occupancy rates at Percha Dam (31%). On the high end, camping visitation is based on occupancy rates at Leasburg Dam (77%). Potential revenue from camping fees is likely to be between \$35,500 and \$56,200 with full campground development.

Table 12: Potential revenue from camping fees

Location	Total potential revenue for camping at 100% occupancy	Potential camp occupancy	Potential revenue from camping fees based on occupancy
Riverside Parcel	\$73,000	31%	\$22,630
		77%	\$56,210

Cost and Revenue

If the Riverside and Upland Parcels were to be developed as a day-use park or recreational area (Alternative 2), potential revenues from day-use fees would likely cover between 10%-15% of the park’s operating costs (Table 13). For comparison, Mesilla Valley Bosque covers approximately 13% of operating costs through day use fees and other rentals and Cerrillos Hills covers approximately 35%.

By combining revenue from camp fees and day-use fees, a range of potential revenues from \$47,895 to \$74,700 are projected for the Riverside and Upland Parcels if they were to be developed as Alternative 3, a state park with full campground build-out. This does not account for additional revenue potential from concessionaire agreements, education programs, and retail sales that could increase annual revenue potential. This alternative is likely to cover between 12%-19% of the park’s operating costs with revenue from day-use and camping fees (Table 13). For comparison, Leasburg Dam covers approximately 35% of operating costs through day-use and camping fees.

Although both Alternatives 2 and 3 do not reach the 75% enterprise agency goals, these development alternatives are positioned to perform similarly to comparable parks in the Study Area region and contributes value as part of a cohesive system of state parks.

Table 13: Operating Cost to Revenue Ratio

Alternative	Operating Cost	Potential Revenue	Cost/Revenue
Alternative 2	\$120,510	\$12,125 – low	10%
		\$18,494 – high	15%
Alternative 3	\$398,452	\$47,895 – low	12%
		\$74,700 - high	19%

(5) an analysis of the proposed area as it relates to plans or development by other governmental agencies or the private sector in adjacent areas.

There are many plans and reports by local, state, and federal agencies that guide recreational development and resource management in the Study Area and surrounding region. These include plans for trail development, ecological restoration, wetlands management, and resource management for adjacent federal lands.

Rio Grande Trail Master Plan – 2015

In 2015, state legislation (HB 563) established the Rio Grande Trail Commission to guide the vision for a 500-mile recreational trail through New Mexico within the Rio Grande Corridor for hiking, biking, and horseback riding. The Rio Grande Trail Master Plan was commissioned by the New Mexico Energy, Minerals and Natural Resources Department in partnership with the New Mexico Department of Transportation, Federal Highway Administration, and New Mexico Recreational Trails Program.

The Master Plan articulates the vision of the Rio Grande Trail as a cultural and recreational artery through the heart of New Mexico and provides a planning framework for ongoing trail alignment and development. The plan identifies the role of various agencies and other trail partners in promoting, funding, constructing, maintaining, and providing amenities along new and incorporated segments of the trail. The plan also outlines the trail segment designation process, design guidelines, and maintenance standards.

Public lands are an essential part of bringing the Rio Grande Trail to life. The preferred trail alignment runs adjacent to the Study Area with possibility for trail alignment within the Riverside Parcel to provide river access to trail users. The plan will be useful in identifying and building amenities to support both day and touring users of the trail. The Study Area already offers the priority amenity of water access and with development could also offer wayfinding, parking, bathrooms, camping, and a concessionaire or trail outfitter.

OMDP National Monument – Resource Management Plan – in progress

BLM land use plans are known as Resource Management Plans (RMP). BLM is developing an RMP for the Organ Mountains Desert Peaks National Monument which will guide land use and resource protection at the monument. This is a high-level land use plan which will discuss protection of cultural, geologic, and scenic resources. This plan will eventually be followed by an implementation plan which could include more specific information about land transfers or other management questions associated with State Parks properties adjacent to the monument. State Parks can register to be a “cooperator” in the planning process.

Plan 2040 – Doña Ana County Comprehensive Plan - 2015

Doña Ana County adopted the Plan 2040 Comprehensive Plan in 2015. The plan identifies strategies to guide future development patterns including on civic, agricultural, and natural lands. The County’s intention is to align with the Statewide Comprehensive Outdoor Recreation Plan and to support the development of a statewide trail system. The plan also reviews the recommendations of previous regional planning efforts. The One Valley, One Vision 2040 Plan developed by Doña Ana County and the City of Las Cruces in 2011 prioritizes the protection of the Rio Grande Corridor; scenic vistas and visible hillsides; working agricultural areas; and linkages for trails, trailheads and connection of open space parcels. The County-Wide Open Space and Trail Vision Plan developed by the County in 2005 identifies opportunities to connect Core Natural Areas and River Valley Projects through trail linkages. The comprehensive plan identifies potential funding sources for trail development including from the Mesilla Valley and the El Paso Metropolitan Planning Organizations. Although the plan does not speak specifically to the Study Area, the plan does support statewide trail network development such as the Rio Grande Trail. Doña Ana County could be an important partner in future trail connections between Las Cruces and the Study Area.

USIBWC – Conceptual Restoration Plan – March 2009

The IBWC developed a Conceptual Restoration Plan for a stretch of the Rio Grande between the Caballo Reservoir and American Dam in El Paso, Texas. IBWC's goal is to improve degraded natural river functions and values throughout the planning region. The primary objectives of this study were to identify and provide conceptual designs for river restoration sites where it would be feasible to produce enhanced cover and aquatic diversity and restore healthy riparian function to enhance natural riverine processes and improve terrestrial wildlife habitat, while protecting existing infrastructure.

The Study Area is within the Upper Reach of the planning area, more specifically, the Riverside Parcel is located in Subreach Number 3 of the planning area known as Selden Canyon. IBWC's restoration objectives include enhancing river-floodplain hydrologic connectivity, bankline destabilization, reduction of exotic vegetation, restoration of Southwestern Willow Flycatcher habitat, and re-establishment of riparian habitat. Two sections of the Riverside Parcel, known in the plan as Broad Canyon Ranch Middle and Broad Canyon Ranch South were identified as recommended restoration sites. The targeted restoration habitat in these areas is saltgrass meadow. From 2009 to 2021, USIBWC and its partners planted over 122,000 native trees and shrubs at 22 habitat restoration sites, including at Broad Canyon.

USIBWC – Rio Grande Canalization Project – River Management Plan – 2016

The Rio Grande Canalization Project (RGCP) extends 105.6 miles along the Rio Grande from Percha Diversion Dam in New Mexico, to approximately 200 feet downstream from American Diversion Dam in El Paso, Texas. The project is designed to provide flood protection and assure water releases to Mexico from Elephant Butte and Caballo Reservoirs while enhancing or restoring the river ecosystem. The River Management Plan was developed to provide guidance for preserving and enhancing the resources of the RGCP and the objective is to outline management procedures.

The Management Plan includes a list of restoration sites which were updated since the Conceptual Restoration Plan. Broad Canyon Arroyo and Broad Canyon South are listed as restoration sites, and Broad Canyon Ranch Middle has been removed. Broad Canyon Arroyo is an active restoration site managed by IBWC on the border between IBWC property and State Parks property at the north end of the Riverside Parcel. Restoration at the Broad Canyon Ranch South site, which is located south of the ranch complex on the Riverside Parcel, was previously conducted by U.S. Fish and Wildlife Service staff. Broad Canyon Middle was removed from the restoration site list because it was being restored by NMISC. The plan mentions groundwater monitoring wells within the Study Area.

USIBWC - ENVIRONMENTAL ASSESSMENT AQUATIC HABITAT RESTORATION IN THE RIO GRANDE CANALIZATION PROJECT SIERRA AND DOÑA ANA COUNTIES, NEW MEXICO AND EL PASO COUNTY, TEXAS – 2021

The purpose of the Environmental Assessment (EA) is to develop and evaluate alternatives for aquatic habitat restoration in the Rio Grande Canalization Project to meet the requirements of the River Management Plan. The EA identifies Broad Canyon Arroyo as a Tier 1 preferred action alternative. This alternative would excavate a series of embayments, or protected coves/wetland features, at the mouth of the Broad Canyon Arroyo and create 0.2 acre of aquatic restoration features within in a 28-acre area. This alternative requires an agreement with State Parks, which is in progress. Any plans for recreational development on the Riverside Parcel should be evaluated in relation to this agreement.

NMED Surface Water Quality Bureau - Lower Rio Grande Wetlands Action Plan – 2011

Wetland Action Plans are developed by NMED to determine the hydrology and ecology of a particular area and identify potential sites for wetland restoration and outline the approaches for wetland development. The goal of this Wetlands Action Plan is to present a strategy to increase wetland acreage by restoring existing wetlands and developing new wetlands adjacent to the Rio Grande in southern New Mexico. The geographic focus of the plan is the El Paso-Las Cruces watershed (USGS HUC unit 13030102) from approximately just below the dam at Caballo Reservoir to the Texas-New Mexico border and the international boundary with Mexico.

The Study Area is located on a stretch of river within Selden Canyon which is described as containing remnant marshes, wet meadows and over banking flood areas which should be prioritized for conservation easement to protect existing wetlands and develop new wetlands. Broad Canyon Ranch is specifically named as a “recent restoration effort”. The plan describes partnerships that have supported restoration planning and work at the site. NMED Surface Water Quality Bureau could be a good partner in restoration planning in the future.

U.S. Army Corps of Engineers - Broad Canyon Ranch Initial Watershed Assessment - 2011

The Broad Canyon Ranch Initial Watershed Assessment (IWA) was prepared by the Army Corps of Engineers as a basis for decision making about whether to proceed with a Watershed Assessment (WA). The IWA was intended to determine if water and related land resources at Broad Canyon Ranch warrant Federal participation; define the Corps’ interest based upon a preliminary appraisal of identified potential problems and opportunities; prepare a Watershed Assessment Project Management Plan (WAPMP), which includes a Watershed Assessment Review Plan (WARP) section; assess the level of interest and support from the non-federal sponsor in the cost of sharing of a WA (in this case State Parks); and negotiate and execute a Watershed Assessment Cost Sharing Agreement.

The plan provides an overview of public concerns about the site including water quality and quantity, bank erosion, and habitat degradation and then identifies specific concerns that could be addressed through water and related resource management. It outlines a range of actions that could be taken to address the planning objectives which include removal of non-native species, revegetation with or reintroduction of native species, creating and/or restoring wetlands, bank destabilization, and creating a watershed coalition that includes State Parks and adjacent landowners.

It was recommended that Broad Canyon Ranch proceed into a WA process. There is no record that this process was initiated subsequent to the IWA.

San Andres National Wildlife Refuge - Broad Canyon Ranch Riparian Restoration Report – 2009

Although not an official planning document, this report by the San Andres National Wildlife Refuge provides important information about the current conditions (at time of report) and restoration alternatives for various zones within the Riverside Parcel and Upland Parcel.

3. Management Alternatives

A range of recreational development and management alternatives from least to highest level of development and management were evaluated.

Alternative 1: No development

This alternative involves no changes in management and no development of the Study Area. This option could include a number of approaches to the properties including selling them, exchanging them with other agencies for parcels with similar recreational and restoration opportunities, placing them in conservation status, or leasing them to other public land entities to manage. In the short-term, the properties would remain fenced, and gates locked. Periodic monitoring visits by Leasburg Dam staff would continue. This option could be pursued with ongoing partnerships to meet ecosystem restoration/habitat protection goals until time of property sale/exchange. Eventually, the LWCF-obligated property (Riverside and Upland Parcels) would need to be exchanged for other properties of equal or greater recreational and ecological value within the region and a feasibility study would be conducted for these properties to determine if they meet the criteria for establishment as a state park.

Benefits of this option:

- Addresses concerns expressed by some stakeholders related to negative impacts of public access on ecosystem restoration/habitat protection priorities and potential for increased access to sensitive areas within adjacent properties.
- Reduces visitation and potential impacts from public access.
- Potential for a mutually beneficial land exchange with another public land entity.
- Lower cost than other options.

Challenges/Issues with this option:

- Does not honor significant resource investment and partnerships involved with acquisition of Broad Canyon Ranch and ecological restoration over past 16 years.
- Does not meet public access requirements for LWCF-obligated property.
- LWCF-obligated properties would likely remain under State Parks ownership for years to come and would require significant resources for ongoing monitoring and maintenance with little benefit to State Parks.
- Limits funding/revenue potential for ongoing monitoring and maintenance.
- Properties with limited oversight or management are more likely to have issues with illegal access and potential safety concerns including fire, illegal dumping, and property destruction.
- Does not address circulation or safety issues related to travel between the Riverside and Upland Parcel or eliminate cars parking on the side of the highway and related liability.
- Unpopular option amongst stakeholders.

Alternative 2: Day-use state park or recreation area

This alternative would involve operation of the Riverside and Upland Parcels as a day-use state park or as a recreational area as a satellite of Leasburg Dam State Park. State Parks would manage public access through entrance, parking, and vault toilet development. In the short term, parking and vault toilets would be developed at both the Riverside Parcel and the Upland Parcel. As new sections of the Rio Grande Trail develop, State Parks could support trail alignment. Low impact trails and features that

support wildlife viewing could be developed on both parcels. Staff from Leasburg Dam could oversee operations and maintenance, with the support of additional staff and volunteers. State Parks could continue partnerships with agencies and organizations to support ecological restoration activities. The Northern Parcel could be retained by State Parks for future connections to OMDP recreational development, leased to or exchanged with BLM for the same, sold, or placed under conservation status.

Benefits of this option:

- Meets original land use intent and public access requirements for LWCF-obligated property.
- Could support phased approach to increased recreational development if/when appropriate.
- Supports desired recreation activities indicated by stakeholders – hiking, biking, birdwatching, picnicking, horseback riding, education/interpretive programs.
- Supports top management priorities identified by stakeholders – wildlife habitat protection, ecosystem restoration, creating connections with regional trails and parks, and recreational development.
- Allows for limited and managed public access. Reduces concerns about negative impacts on adjacent properties and impacts from recreational development.
- Could support increased ecological restoration activities.
- Provides safer access to the trail network on the Upland Parcel.
- Lower up-front costs for development.

Challenges/Issues with this option:

- Shared management approaches are difficult and pose challenges to administration and maintenance for both parks. Leasburg Dam and Broad Canyon Ranch, though close, are not adjacent to one another, increasing this challenge.
- Without camping fees, funding/revenue potential is limited.
- Does not meet enterprise agency goal of covering 75% operating/maintenance costs.
- Limits development of recreational opportunities significant enough to ensure year-round patronage.

Alternative 3: Full state park development with campground and visitor center

This alternative would involve State Parks operating the Riverside and Upland Parcels as a state park with a campground and visitor center. Similar to Alternative 2, the Northern Parcel could be retained by State Parks for future connections to OMDP recreational development, leased to or exchanged with BLM for the same, sold, or placed under conservation status. Approximately 20 developed campsites could be developed. State Parks could pursue adaptive reuse of the existing ranch house and adjacent structures, if deemed feasible, to develop a visitor center, outdoor classroom, and facilities for a concessionaire. Recreational development would take into consideration and manage/limit access to most sensitive habitat areas on site. This alternative would require hiring 4 full-time staff and potentially 1-2 seasonal staff to support during the busiest times of the year. A concessionaire could support daily operations during the non-motorized boating season, and a camp host could support basic campground operations year-round. Agreements with organizations such as the Friends of OMDP could be developed to support education and interpretation.

Benefits of this option:

- Supports most of the desired recreation activities indicated by stakeholders – hiking, birdwatching, picnicking, non-motorized boating, education/interpretive programs, and camping.
- Supports top management priorities identified by stakeholders – wildlife habitat protection, ecosystem restoration, creating connections with regional trails and parks, and recreational development.
- Manages public access and could be designed to limit access and impact to most sensitive areas on site.
- Increases revenue potential from camping and concessionaire.
- Supports year-round visitation and expands opportunities for education and interpretive programming.

Challenges/issue with this option:

- Impacts during construction.
- Potential tensions between more intensive recreational development and habitat protection goals.
- Impacts of RV campground – noise, etc.
- Does not meet enterprise agency goals of generating approximately 75% of operating costs.
- Highest cost option.

4. Preferred Alternative

Based on the findings and analysis described in this study, it is recommended that the New Mexico Energy Minerals and Natural Resources Department - State Parks Division pursue development of the Study Area based on Alternative 2 and develop either a day-use park or recreation area associated with Leasburg Dam State Park on both the Riverside and Upland Parcels and determine a course of action with the Northern Parcel as discussed above. Although both Alternatives 2 and 3 do not reach the 75% enterprise agency revenue generation goals, Broad Canyon Ranch is positioned to perform similarly to comparable parks in the Study Area region and contributes value as part of a cohesive regional system of state parks.

Alternative 2 meets goals identified at the time of the purchase of Broad Canyon Ranch:

- Protects 783 acres of land along a critical stretch of the Rio Grande in Selden Canyon for wildlife conservation and outdoor recreation.
- Establishes a conservation reserve for river ecosystem restoration on the lower Rio Grande.
- Expands education and recreation opportunities.
- Improves river access.

Importantly, development as a day-use park or recreation area addresses the LWCF obligations for the property and provides public access and low impact recreational amenities. This balances the management priorities of recreational development and habitat protection. Alternative 2 ensures managed access and expands opportunities for ecosystem restoration. This option presents significantly lower up-front development costs than Alternative 3, while allowing future phased development if State Parks decides to pursue further recreational development.

Appendices

Appendix A: Senate Memorial 38

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

A MEMORIAL

REQUESTING THE STATE PARKS DIVISION OF THE ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT TO STUDY THE FEASIBILITY OF ESTABLISHING BROAD CANYON RANCH AS A STATE PARK.

WHEREAS, Broad canyon ranch, located just twenty miles north of Las Cruces, New Mexico's second largest city, offers connectivity to expansive wild and open landscapes in the Organ mountains-Desert peaks national monument and access to rare and threatened Chihuahuan desert wetlands and riparian forests along a mile of the Rio Grande; and

WHEREAS, Broad canyon ranch was acquired by the state parks division of the energy, minerals and natural resources department in 2008 to establish a destination for outdoor education, for family outings and for wildlife lovers to explore the Rio Grande and Chihuahuan desert uplands; and

WHEREAS, Broad canyon ranch includes seven hundred eighty-three deeded acres and four thousand eight hundred thirty-one acres of public and state land, with a possible one hundred nine acres that could be added through the land and water conservation fund; and

WHEREAS, although owned by the state parks division, Broad canyon ranch has never formally been designated a state park for public use and enjoyment; and

1 WHEREAS, New Mexico acknowledges that young people
2 should have access to the outdoors, and New Mexico was the
3 first to establish an outdoor equity grant program fund to
4 expose more young people to the state's beautiful natural
5 spaces; and

6 WHEREAS, Broad canyon ranch is adjacent to an already
7 popular spot for hiking: Slot canyon, a part of the
8 Organ mountains-Desert peaks national monument; and

9 WHEREAS, to access the monument, visitors must park on
10 the highway right of way and cross state land; and

11 WHEREAS, creating an official state park at Broad canyon
12 ranch would ensure safe public access to the rugged bluffs of
13 Slot canyon and the Rio Grande corridor for visitors to
14 southern New Mexico; and

15 WHEREAS, the state is authorized to acquire lands or
16 interests in lands for state park or state recreational
17 purposes by gift, donation, devise or purchase; and

18 WHEREAS, an important criterion in the development of a
19 state park is the completion of a feasibility study, the
20 first step in obtaining lands for the development of a
21 state park;

22 NOW, THEREFORE, BE IT RESOLVED BY THE SENATE OF THE
23 STATE OF NEW MEXICO that the state parks division of the
24 energy, minerals and natural resources department be
25 requested to study the feasibility of establishing

SM 38
Page 2

1 Broad canyon ranch as a state park; and

2 BE IT FURTHER RESOLVED that the state parks division be
3 requested to report its findings and recommendations to the
4 interim legislative committee dealing with economic and rural
5 development issues and other appropriate interim committees;
6 and

7 BE IT FURTHER RESOLVED that copies of this memorial be
8 transmitted to the secretary of energy, minerals and natural
9 resources and the director of the state parks division.

SM 38
Page 3

10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Appendix B: References

- Briggs, Mark K., E. Alejandro Lozano-Cavazos, Helen Mills Poulos, Javier Ochoa-Espinoza, and J. Alfredo Rodriguez-Pineda. 2020. "The Chihuahuan Desert: A Binational Conservation Response to Protect a Global Treasure." In *Encyclopedia of the World's Biomes*, Elsevier, 126–38. doi:10.1016/B978-0-12-409548-9.11966-9.
- Clemons, Russell E. 1979. *Geology of Good Sight Mountain and Uvas Valley, Southwest New Mexico*. New Mexico Bureau of Geology and Mineral Resources. doi:10.58799/C-169.
- Hawley, John W, John F Kennedy, and Bobby J Creel. "The Mesilla Basin Aquifer System of New Mexico, West Texas, and Chihuahua— An Overview of Its Hydrogeologic Framework and Related Aspects of Groundwater Flow and Chemistry."
- IBWC. 2009. "Conceptual Restoration Plan and Cumulative Effects Analysis, Rio Grande—Caballo Dam to American Dam, New Mexico and Texas." <https://www.ibwc.gov/wp-content/uploads/2023/06/RestPlanMarch2009.pdf> (February 7, 2024).
- Merlan, Thomas. 2010. "HISTORIC HOMESTEADS AND RANCHES IN NEW MEXICO: A HISTORIC CONTEXT."
- Myrick, David F. 1990. *New Mexico's Railroads: A Historical Survey*. Rev. ed. Albuquerque: University of New Mexico Press.
- National Park Service. "New Mexico and Texas: El Camino Real de Tierra Adentro National Historic Trail (U.S. National Park Service)." <https://www.nps.gov/articles/detierra.htm> (March 7, 2024).
- "New Mexico Vulnerable Road Users: Fatal and Serious Injury Crashes." <https://www.arcgis.com/apps/dashboards/83038667b4f84368a34fed5584d2ea65> (April 23, 2024).
- NMED SWQB. 2006. "A Wetlands Action Plan for the Lower Rio Grande in New Mexico: Elephant Butte Dam to the International Boundary with Mexico."
- San Andres National Wildlife Refuge. 2009. "Broad Canyon Ranch Riparian Restoration."
- Sandoval-Solis, Samuel, Stephanie Paladino, Laura E. Garza-Diaz, Luzma F. Nava, Jack R. Friedman, J. Pablo Ortiz-Partida, Sophie Plassin, et al. 2022. "Environmental Flows in the Rio Grande - Rio Bravo Basin." *Ecology and Society* 27(1). doi:10.5751/ES-12944-270120.
- Scott, Mary, and Stoltz, Nancy. 2011. "IMPORTANT BIRD AREAS IN NEW MEXICO NOMINATION FORM."
- Seager, William R., and Russell E. Clemons. 1975. *Middle to Late Tertiary Geology of the Cedar Hills-Selden Hills Area, Dona Ana County, New Mexico*. New Mexico Bureau of Geology and Mineral Resources. doi:10.58799/C-133.
- Staski, Edward. 1998. "Change and Inertia on the Frontier: Archaeology at the Paraje de San Diego, Camino Real, in Southern New Mexico." *International Journal of Historical Archaeology* 2(1): 21–44. doi:10.1023/A:1022610229773.
- Stokes, Robert. 2016. "Collected Papers from the 19th Biennial Mogollon Archaeology Conference."

Appendix C: 2008 News Release: Critical Land Protected Along the Rio Grande in Selden Canyon



NEWS RELEASE

For Immediate Release: Jan. 15, 2008

Contact: Marti Niman, NM State Parks, 505-827-1474;
Michael Patrick, Trust for Public Land, 505-988-5922;
Beth Bardwell, World Wildlife Fund, 575-640-3415

Critical Land Protected Along Lower Rio Grande in Selden Canyon

Public will benefit from wildlife habitat, recreation values

DONA ANA, N.M. — New Mexico State Parks, The Trust for Public Land, and the World Wildlife Fund announced today the permanent protection of 783 acres of land along a critical stretch of the Rio Grande in Selden Canyon. The land, part of the Broad Canyon Ranch, is immediately adjacent to N.M. 185 about 15 miles north of the city of Las Cruces. The property contains two of New Mexico's most rare and threatened habitats: wetlands and riparian forest.

The land acquisition includes a 30-acre wetland known as Swan Pond and approximately one mile of riparian forest along the Rio Grande. The property also has access to grazing leases on an additional 4,830 acres of Chihuahuan Desert grasslands owned by the Bureau of Land Management and the New Mexico State Land Office, which will be leased and managed for wildlife habitat and recreation by State Parks. The Selden Canyon property also will be astride the route of the Rio Grande Trail, a proposed multi-use trail along the river through New Mexico.

"The dedicated support and cooperation of Gov. Bill Richardson and the Legislature, nonprofit groups, federal agencies and private landowners have made it possible to preserve and link critical riparian habitat for both wildlife and outdoor recreation," said Energy, Minerals and Natural Resources Cabinet Secretary Joanna Prukop.

"This is a wonderful addition to the State Parks "string of pearls" along the Rio Grande," said State Parks Director Dave Simon.

The new property will advance State Parks' long-range vision to establish more conservation reserves along the lower Rio Grande in order to accomplish river ecosystem restoration, expand education and recreation opportunities and improve river access. The property will be another

important link along this stretch of the river owned by State Parks that currently includes Elephant Butte Lake, Caballo Lake, Percha Dam and Leasburg Dam state parks, and the new Mesilla Valley Bosque State Park.

Conservation of Broad Canyon Ranch also will contribute to landscape-level protection efforts along the 11-mile Selden Canyon on the Rio Grande. The ranch connects public federal lands in the Sierra de Las Uvas and Robledo Mountains with the Rio Grande and the large Chihuahuan Desert Rangeland Research Center ranch owned by New Mexico State University, which provides connections to the Dona Ana Mountains, the Jornada Experimental Range, and the San Andres National Wildlife Refuge.

The national land conservation organization The Trust for Public Land (TPL) acquired the ranch in November 2008 and conveyed it to State Parks. The Trust for Public Land worked with the landowners, ranchers Joe and Karen Gray, on the purchase during much of the past year as part of TPL's Rio Grande Protection Program. The Grays had owned the property since the 1960s.

"We are very pleased to have helped protect this important ranch for future generations of New Mexico and to have been a part of a successful coalition that included State Parks and many, many partners," said Jenny Parks, Trust for Public Land state director. "The protection of Broad Canyon Ranch was possible only by putting together a creative combination of state, federal and private funds."

The lower Rio Grande is a key ecological corridor for the northern Chihuahuan Desert, one of the world's most biologically significant deserts. It is a priority area for the conservation efforts of the World Wildlife Fund (WWF), which has been working with partners Elephant Butte Irrigation District and the U.S. International Boundary and Water Commission on a large restoration initiative known as the Rio Grande Canalization Collaborative Project. The partners hope to better integrate flood control, irrigation deliveries and habitat conservation restoration along a 105-mile reach of the river from Caballo Reservoir to American Dam, Texas, including Selden Canyon.

"Selden Canyon is a focus area for the World Wildlife Fund because it provides a wonderful mosaic of native river habitat including wetlands, meadows, and riparian forest" says Beth Bardwell, manager of WWF's Las Cruces Chihuahuan Desert Program office. "It also has its share of exotic vegetation like salt cedar which we hope to remove. Broad Canyon Ranch will provide great opportunities for recreationists as well as multiple benefits for wildlife. World Wildlife Fund is thankful to State Parks for their pivotal role in acquiring and managing this important land."

The total purchase price of the acquisition was \$1.65 million. Key components of the funding included: \$400,000 from the Doris Duke Charitable Foundation and The Nature Conservancy; and \$1.25 million through New Mexico State Parks that was a combination of state and federal funds, including \$500,000 from the State of New Mexico's Land and Wildlife Program. The federal funds came through the Land and Water Conservation Fund, which has been supported by the New Mexico congressional delegation, including U.S. Sen. Jeff Bingaman. Additional funding came from capital outlay appropriations provided by Sen. Mary Jane Garcia (D – Dona Ana) and Rep. Jeff Steinborn (D – Dona Ana).

"The effort seen at Selden Canyon is conservation at its finest," said State Senator Mary Jane Garcia. "This project not only provides the people of New Mexico with enhanced quality of life today, but also it protects a pristine area for the benefit of future generations. It was truly and honor and a privilege to be able to participate by securing state funding for such a wonderful

endeavor.”

The NM Land and Wildlife Program, which is managed by the Energy, Minerals and Natural Resources Department, has been funded by the Governor and Legislature for the last two years and is a successful and important source of funds for land protection in New Mexico.

The Selden Canyon land acquisition is one of many partnership initiatives begun during New Mexico State Parks 75th Diamond Anniversary celebration in 2008. Over 75 years, State Parks has evolved from a federal New Deal initiative in 1933 to a vibrant system of 34 parks serving over four million people annually. For more information, call 888-NMPARKS or visit www.nmparks.com.

The Trust for Public Land is a national nonprofit land conservation organization dedicated to conserving land for people to enjoy as parks, gardens and other natural places, ensuring livable communities for generations to come. Founded in 1972, TPL has protected 2 million acres nationwide. Find TPL on-line at www.tpl.org.

World Wildlife Fund is an international conservation organization whose mission is the conservation of nature and has an office in Las Cruces as part of its Chihuahuan Desert program. Find WWF on-line at www.worldwildlife.org.

#30#

The Energy, Minerals and Natural Resources Department provides resource protection and renewable energy resource development services to the public and other state agencies.

New Mexico State Parks
1220 South St. Francis Drive • Santa Fe, New Mexico 87505
Phone (505) 476-3355 • Fax (505) 476-3361 • www.nmparks.com



Appendix D: Stakeholder Engagement Summary

Stakeholder Engagement

Many nonprofits and governmental organizations have an interest in Broad Canyon Ranch due to the area's history, natural value, location, and recreational development opportunities. Broad Canyon Ranch was acquired in 2008 through a partnership between State Parks, The Trust for Public Lands, and the World Wildlife Fund (WWF). The property was purchased with Land and Water Conservation Funds (LWCF) and thus both the Riverside and Upland Parcels are LWCF obligated properties. The property is within a large public lands complex and is adjacent to properties owned or managed by the Bureau of Land Management (BLM), State Land Office (SLO), International Boundary and Water Commission (IBWC), and Elephant Butte Irrigation District (EBID). Over more than a decade, ecological and habitat restoration activities were supported by U.S. Fish and Wildlife, the Office of the State Engineer (OSE) Interstate Stream Commission, Southwest Audubon, and various community volunteers.

Stakeholder outreach consisted of multiple site visits, stakeholder interviews, emails, phone calls, and an online survey. Additionally, the EMNRD Tribal Liaison invited multiple tribes, nations, and Pueblos to provide input via formal letters sent in February 2024.

Site Visits | Site visits were conducted on October 12, 2023, November 27, 2023, and February 27, 2024. Site visits were attended by State Parks staff from the Design and Development Bureau as well as staff from the Southwest Region and Leasburg Dam State Park who are responsible for overseeing the properties and are familiar with the Study Area.

Stakeholder Interviews | Interviews were conducted throughout the feasibility study process to better understand the constraints and opportunities of the site from the perspective of various stakeholders including adjacent property owners, partner organizations and agencies, and other groups with a vested interest in the Study Area. Stakeholder interviews included:

- Organ Mountains Desert Peaks National Monument (OMDP)/BLM
- International Boundary and Water Commission (IBWC)
- U.S. Fish and Wildlife Service (USFW)
- Office of the State Engineer - Interstate Stream Commission (ISC)
- New Mexico State Land Office (SLO)
- New Mexico Department of Game and Fish (NMDGF)
- New Mexico Department of Transportation District 1 Engineer (NMDOT)
- Elephant Butte Irrigation District (EBID)
- Trust for Public Lands (TPL)
- Friends of the Organ Mountains – Desert Peaks (FOMDP)
- Rio Grande Trail Commission (RGTC)
- Southwest Expeditions (SE)

Public Survey | Stakeholder groups were invited by email and/or phone to provide input through an online survey. A total of 114 respondents participated in the survey between December 2023-February 2024.

Stakeholder Groups

EMNRD State Parks Division: Meetings with State Parks staff supported understanding of parks operations, maintenance, and visitation demand considerations both in Doña Ana County and around the state.

- Bureau Chiefs
- Leasburg Dam Staff

BCR land acquisition and feasibility study stakeholders: Stakeholders were invited by phone and email to participate in meetings or interviews to help the feasibility study team better understand the Study Area history, opportunities and constraints for park development, recreational demand, and management priorities for the property.

- NM Legislature
- Trust for Public Lands
- Friends of Organ Mountains Desert Peaks
- World Wildlife Fund - Las Cruces Chihuahuan Desert Program Office

Public lands agencies: Meetings with agency staff were conducted to better understand management priorities/alternatives and consider alignment with local and regional plans.

- State Land Office
- BLM – OMDP National Monument
- International Boundary & Water Commission
- NMDOT

Resource management jurisdictions: Federal, state, and local agencies with resource management jurisdiction in the BCR area were notified of the project by email and/or phoned and were invited to participate in meetings and participate in the online survey.

- NM Office of the State Engineer - Interstate Stream Commission
- Elephant Butte Irrigation District
- U.S. Bureau of Reclamation
- New Mexico Department of Game & Fish
- Doña Ana Soil & Water Conservation District
- Caballo Soil & Water Conservation District
- USDA Range Management Research

Local and state government: Representatives of local and state government were invited to provide input on the study and participate in the online survey.

- NM State Legislature
- Doña Ana County
- Doña Ana Village Association
- City of Las Cruces - City Manager's Office
- Visit Las Cruces

Tribes, nations, and Pueblos: The EMNRD Tribal Liaison invited the tribes, nations, and Pueblos listed below to provide input on the Study Area via formal letters sent in February 2024:

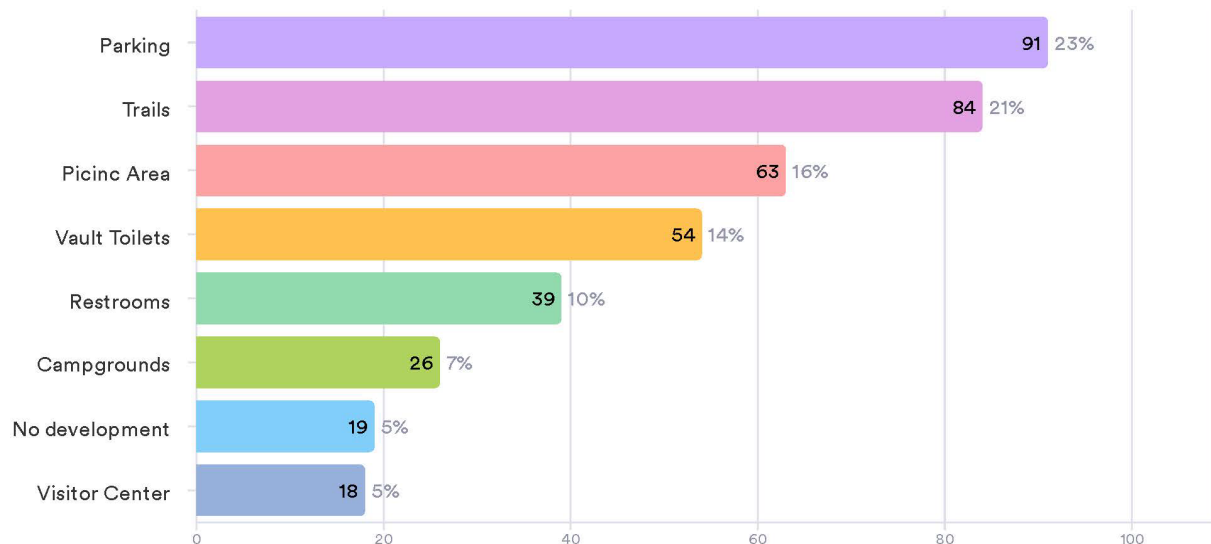
- Pueblo of Acoma
- Pueblo of Cochiti
- Pueblo of Isleta
- Pueblo of Jemez
- Pueblo of Laguna
- Pueblo of Nambe
- Ohkay Owingeh
- Pueblo of Picuris
- Pueblo of Pojoaque
- Pueblo of San Felipe
- Pueblo of San Ildefonso
- Pueblo of Sandia
- Pueblo of Santa Ana
- Pueblo of Santa Clara
- Santo Domingo Pueblo
- Pueblo of Taos
- Pueblo of Tesuque
- Pueblo of Ysleta del Sur
- Pueblo of Zia
- Pueblo of Zuni
- the Navajo Nation
- the Fort Sill Apache Tribe
- the Jicarilla Apache Nation
- the Mescalero Apache Tribe
- the White Mountain Apache Tribe
- the Comanche Indian Tribe

Local organizations, volunteer groups, businesses, and individuals: Groups focused on wildlife conservation, ecosystem preservation, outdoor recreation were invited to provide input on the study and participate in the online survey.

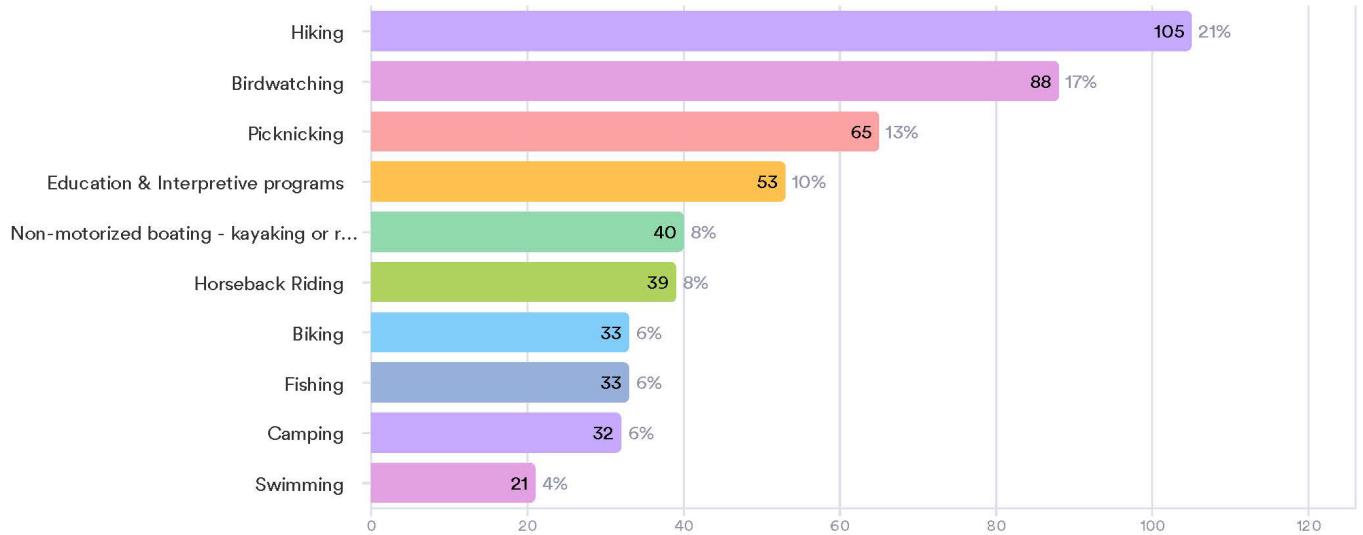
- Audubon Southwest
- Mesilla Valley Audubon Society
- Monumental Loop
- SW Expeditions - River Rafting Company
- Frontera Land Alliance
- NM Wild (NM Wilderness Alliance)
- Las Cruces Chapter of the Native Plant Society
- Nuestra Tierra Conservation Project
- Southwest Environmental Center- Wildlife for All
- San Andres National Wildlife Refuge
- Bosque del Apache NWR

Survey Results

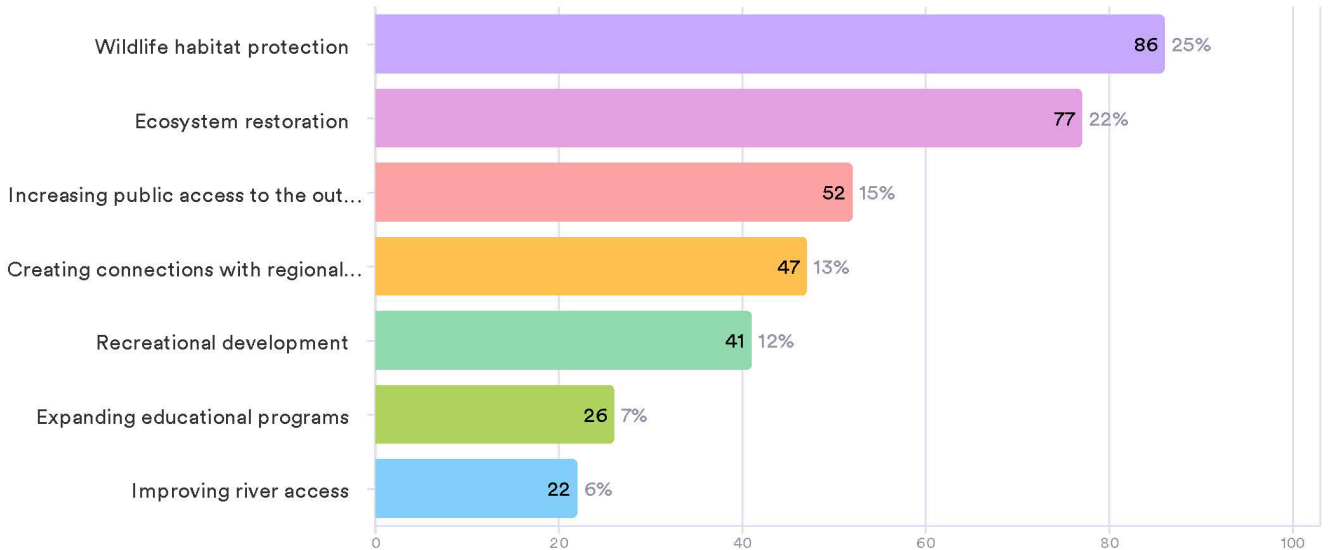
What types of park development are appropriate at Broad Canyon Ranch? (select all that apply)



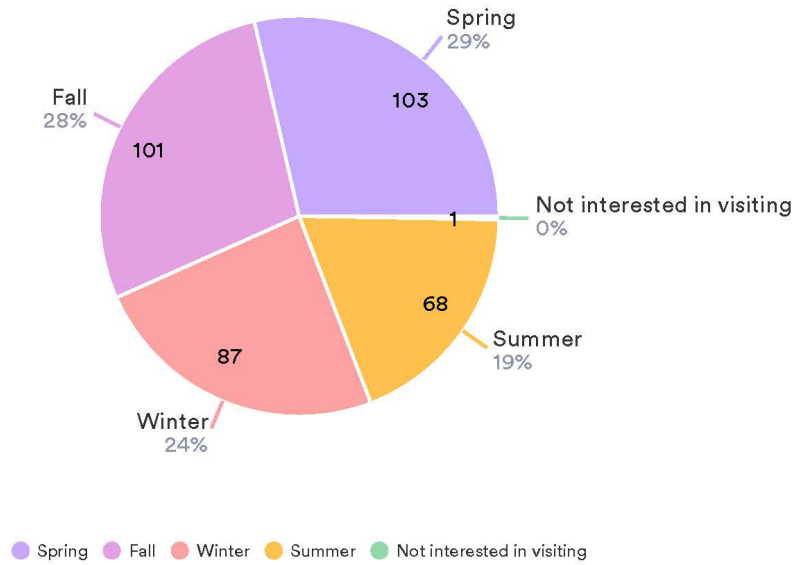
If Broad Canyon Ranch were developed as a state park, what types of park activities would be appropriate? (select your top three choices)



What should NM State Parks' top priorities be for management of Broad Canyon Ranch? (select your top three choices)



What times of the year would you be interested in visiting Broad Canyon Ranch? (select all that apply)



What is your affiliation with Broad Canyon Ranch

