

PECOS CANYON STATE PARK

MANAGEMENT PLAN 2023

DRAFT

May 2023

PECOS CANYON STATE PARK MANAGEMENT PLAN

PREPARED FOR:

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
STATE PARKS DIVISION



Sarah Cottrell Probst Date
Cabinet Secretary, *Energy, Minerals and Natural Resources Department*

Toby Velasquez Date
Director, *State Parks Division*

Acknowledgments



Governor Michelle Lujan Grisham

Sarah Cottrell Propst, Cabinet Secretary
Energy, Minerals and Natural Resources Department

STATE PARKS DIVISION

Toby Velasquez, Director
Pecos Canyon State Park Staff
Central Region Staff
Central Administration Staff

PARTICIPATING AGENCIES

New Mexico Department of Game and Fish

CONSULTANT

Design Office

Table of Contents

EXECUTIVE SUMMARY	1	APPENDIX
INTRODUCTION		A PROPERTY INFORMATION
MISSION	2	Simmons Tract
PECOS CANYON STATE PARK	4	Willow Creek
Park Description	4	Cleveland Placer
HISTORY	6	B UTILITIES DOCUMENTATION
Park History	8	PCSP Electric Assessment, 2019
Regional Setting	10	Cost Estimate for Electrical
PLANNING PROCESS	10	Service, Dec. 2019
		Context Map: Light Pollution
PARK ASSESSMENT		
PARK RESOURCES	14	
Terrain Management Zones	18	
Rio Pecos		
Terrero		
Boreal Chorus		
Willow Creek		
South Rio Mora, Rio Mora, North Rio Mora		
NATURAL RESOURCES	20	
CULTURAL RESOURCES	30	
RECREATION	34	
Boating, Fishing, Trails, Day-Use	34	
Camping	36	
VISITOR EXPERIENCE	46	
INTERPRETATION AND EDUCATION	48	
INFRASTRUCTURE	50	
OPERATIONS	52	
Operations and Management	52	
Park Management	53	
RECOMMENDATIONS		
Issues and Recommendations	56	
Resource Recommendations	56	
Recreation Recommendations	57	
Transportation Recommendations	58	
Education and Interpretation Recommendations	59	
Facilities Recommendations	59	
Utilities Recommendations	60	
Management Recommendations	61	
Recreation Area Improvements	62	
Rio Pecos and Terrero		
Boreal Chorus and Willow Creek		
South Rio Mora, Rio Mora, North Rio Mora		
ACTION PLAN	72	

vi **List of Figures**

Chapter 1 - Introduction

<i>Figure 1.1</i>	<i>Pecos Canyon State Park Context</i>	4
<i>Figure 1.2</i>	<i>Pecos Canyon State Park Context</i>	4
<i>Figure 1.3</i>	<i>Pecos Canyon State Park Map</i>	5
<i>Figure 1.4</i>	<i>Aerial Map of Pecos Canyon State Park</i>	8
<i>Figure 1.5</i>	<i>Pecos Canyon Land Ownership</i>	9
<i>Figure 1.6</i>	<i>Context Map</i>	10
<i>Figure 1.7</i>	<i>Regional Recreation Opportunities</i>	11

Chapter 2 - Park Assessment

<i>Figure 2.1</i>	<i>Context Map - Pecos Canyon</i>	14
<i>Figure 2.2</i>	<i>Recreation Area / Canyon Profiles</i>	15
<i>Figure 2.3</i>	<i>Elevation Map</i>	16
<i>Figure 2.4</i>	<i>Cleveland Tract Terrain Management Zone</i>	18
<i>Figure 2.5</i>	<i>Willow Creek Tract Terrain Management Zones</i>	19
<i>Figure 2.6</i>	<i>Simmons Tract Terrain Management Zones</i>	19
<i>Figure 2.7</i>	<i>Park Watersheds and Tributaries</i>	20
<i>Figure 2.8</i>	<i>DGF Stream Restoration Areas</i>	21
<i>Figure 2.9</i>	<i>Upper Pecos River Watershed</i>	22
<i>Figure 2.10</i>	<i>Groundwater Monitoring Wells and Piezometers</i>	24
<i>Figure 2.11</i>	<i>USFS Region 3 Vegetation Map</i>	27
<i>Figure 2.12</i>	<i>Wildfire Areas 2000-Present</i>	28
<i>Figure 2.13</i>	<i>Regional Historic Areas Map</i>	31
<i>Figure 2.14</i>	<i>Historic Terrero Townsite Map ca. 1933</i>	33
<i>Figure 2.15</i>	<i>Aerial Map of Terrero and Willow Creek Areas</i>	33
<i>Figure 2.16</i>	<i>Pecos Canyon Amenities Map</i>	37
<i>Figure 2.17</i>	<i>Water Jurisdictional Boundaries Map</i>	43
<i>Figure 2.18</i>	<i>Pecos Wilderness Trail System Detail</i>	44
<i>Figure 2.19</i>	<i>Upland Trails in Park</i>	45
<i>Figure 2.20</i>	<i>Interpretive Opportunities Map</i>	49
<i>Figure 2.21</i>	<i>Existing Electric Lines near the Park</i>	51
<i>Figure 2.22</i>	<i>Park Staff Organizational Chart</i>	53
<i>Figure 2.23</i>	<i>Park Budget FY20-21</i>	54

Chapter 3 - Recommendations

<i>Figure 3.1</i>	<i>Rio Pecos Terrain Management Zones</i>	63
<i>Figure 3.2</i>	<i>Terrero Terrain Management Zones</i>	65
<i>Figure 3.3</i>	<i>Boreal Chorus Terrain Management Zones</i>	67
<i>Figure 3.4</i>	<i>Willow Creek Terrain Management Zones</i>	69
<i>Figure 3.5</i>	<i>Rio Mora Terrain Management Zones</i>	71

Acronym List

ADA	Americans with Disabilities Act
ADAAG	American Disabilities Act Accessibility Guidelines
ATV	All Terrain Vehicle
BLM	United States Department of the Interior, Bureau of Land Management
CFS	Cubic feet per second
DGF	New Mexico Department of Game and Fish
EMNRD	Energy, Minerals and Natural Resources Department
FEMA	Federal Emergency Management Association
GIS	Graphic Information Systems
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSL	Mean Sea Level
MSMEC	Mora-San Miguel Electric Cooperative
NEPA	National Environmental Policy Act
NMDOT	New Mexico Department of Transportation
NMED	New Mexico Environment Department
NM	New Mexico
NPS	United States Department of the Interior, National Park Service
OHV	Off-Highway Vehicle
OHWM	Ordinary High Water Mark
ONRW	Outstanding National Resource Waters
PCSP	Pecos Canyon State Park
ROW	Right of Way
RV	Recreational Vehicle
SGC	State Game Commission
SHPO	State Historic Preservation Office
SPD	Energy, Minerals and Natural Resources Department, State Parks Division
TMDL	Total maximum daily load
TMZ	Terrain Management Zones
UPWA	Upper Pecos Watershed Association
USFS	United States Department of Agriculture, Forest Service
USGS	United States Geological Survey
WQCC	New Mexico Water Quality Control Commission
WSR	Wild and Scenic River



Executive Summary

The Pecos Canyon State Park (Park) is in San Miguel County within the Pecos Canyon and provides recreational access to the Pecos River and adjacent riparian and forest ecosystems. Set within the headwaters of the 926-mile Pecos River, the canyon has been extremely popular for outdoor recreation purposes for generations. People come from all over the country to hike in the Pecos Wilderness, fish in the Pecos River, camp and backpack in the area, and visit Pecos National Historic Park.

The beauty of the river and the natural setting draws many visitors and residents to the canyon, but has also led to impaired conditions of the streams and recreation sites. The active management of increased recreational use alongside continued planning for watershed health and water quality is critical to preservation of the Park for future generations.

PECOS CANYON STATE PARK KEY FACTS

<i>Park established:</i>	<i>2019</i>
<i>Management Area:</i>	<i>378 acres</i>
<i>Area Owned by SPD:</i>	<i>0 acres</i>
<i>Parcels: (3 separate parcels)</i>	
<i> Rio Pecos/Terrero:</i>	<i>84 acres</i>
<i> Willow Creek:</i>	<i>137 acres</i>
<i> Rio Mora:</i>	<i>157 acres</i>
<i>Campsites:</i>	<i>TBD</i>
<i>River Frontage:</i>	<i>3.1 miles</i>
<i>Park Elevation:</i>	<i>7,030' - 9,025'</i>
<i>County:</i>	<i>San Miguel</i>

The Park

The Park is managed by the Energy, Minerals and Natural Resources Department, State Parks Division (SPD) through an MOA with the landowner - the State Game Commission. While Park visitors may visit lands outside the Park boundary, the Park itself is 378 acres and extends across three separate parcels. Seven recreation areas are designated within the Park, including three campgrounds/day-use areas and an additional four day-use areas. The scope of this plan addresses the 378 acres, the recreation areas, and includes recommendations for partnering with the United States Department of Agriculture, Forest Service (USFS) and other agencies to cooperatively manage the adjacent public lands.

Protection and restoration efforts within the canyon are facilitated by regular meetings hosted by the Upper Pecos Watershed Association (UPWA), a community-based grass-roots organization that convenes public agencies, non-profits, governmental representatives, landowners, tribal representatives, and concerned citizens to discuss issues that affect watershed health and water quality. A multitude of partners are involved with a variety of activities at the Park and within the canyon. These include, but are not limited to, the New Mexico Department of Game and Fish (DGF), the USFS, Trout Unlimited, and the Village of Pecos. Included in the plan is discussion of the many partners and stakeholders, and cooperative projects and programs at the Park.

Management Plan

The "Pecos Canyon State Park Management Plan" provides guidance on Park operations and management, and recommends proposed short-, medium-, and long-term improvements. Established in 2019 as the newest state park in New Mexico, planning efforts have primarily focused on existing conditions documentation and evaluation. The planning process has included thoughtful evaluation of the Park from multiple perspectives so that future actions balance the need for outdoor recreation and the protection of natural resources.

The Pecos Canyon State Park Management Plan provides an assessment of the Park's existing conditions, delineates Terrain Management Zones (TMZ), identifies issues of concern, and outlines recommendations.

Significant Recommendations

- Recommendations for improvements at the Park are intended to help visitor experience, preserve existing resources, and streamline Park operations. Recommendations outlined in the plan center on:
- Resource Preservation/Enhancement
 - Recreational Improvements
 - Circulation/Transportation Improvements
 - Education and Interpretation
 - Facility Improvements
 - Utility Upgrades
 - Management Recommendations

CHAPTER 1

Introduction



The State Parks Division's mission is to protect and enhance natural and cultural resources, provide first-class recreational and education facilities and opportunities, and promote public safety to benefit and enrich the lives of visitors.



THE VISION

Pecos Canyon State Park will preserve, restore, and protect the cultural and natural environment to serve the evolving recreational, educational, and nature experience needs of the present and future generations.

GOALS AND OBJECTIVES

Restore

Improve the health, biodiversity, and resilience of the Park ecology and waterways.

Educate

Communicate Park extents, value, activities, history, and ecology to engage visitors of all ages.

Engage

Broaden the range of outdoor recreational facilities and programs for people of varying ages, abilities, and interests to enhance their experience of Pecos Canyon.

Access

Provide access to and within the Park through an integrated multi-modal circulation system that invites discovery while providing convenient, safe access for all.

Integrate

Collaborate with partner agencies and local organizations to enhance the Park and support surrounding communities.

Pecos Canyon State Park

PARK DESCRIPTION

The land at the Park is owned by the State Game Commission (SGC) but is managed by SPD. The three noncontiguous parcels of the Park are located north of the Village of Pecos, in Pecos Canyon. Pecos Canyon has been extremely popular for outdoor recreation purposes for generations. People come from all over the country to hike in the Pecos Wilderness, fish in the Pecos River, camp and backpack in the area, and visit Pecos National Historic Park.

The southernmost parcel of the Park contains the Rio Pecos Campground (formerly Bert Clancy) and the Terrero Campground. The central parcel contains the Willow Creek Recreation Area and the northernmost parcel contains the Rio Mora Campground and Recreation Area, which are divided into North Rio Mora (formerly North Mora), Rio Mora Campground (formerly Central Mora), and South Rio Mora (formerly South Mora). The Rio Mora Campground is located on the Rio Mora, and North Rio Mora and South Rio Mora are used as day-use and picnic areas.

Agreements

SPD has entered into the following agreements for management of the Pecos Canyon State Park. See Appendix A for copies of the agreements:

- State Game Commission, Management Agreement, November 2019
- NM Department of Game and Fish, Lease Agreement for office space at the Lisboa Springs Fish Hatchery, April 2020

Figure 1-1: Pecos Canyon State Park Context



PECOS CANYON STATE PARK KEY FACTS

Park established: 2019
Management Area: 378 acres
Area Owned by SPD: 0 acres
Parcels: (3 separate parcels)

Rio Pecos/Terrero: 84 acres
Willow Creek: 137 acres
Rio Mora: 157 acres

Campsites: TBD
River Frontage: 3.1 miles
Park Elevation: 7,030' - 9,025'
County: San Miguel

Figure 1-2: Pecos Canyon State Park Context

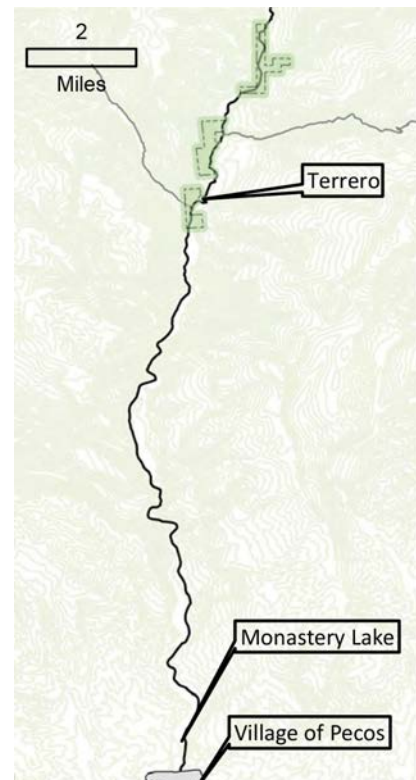


Figure 1-3: Pecos Canyon State Park Map

LEGEND

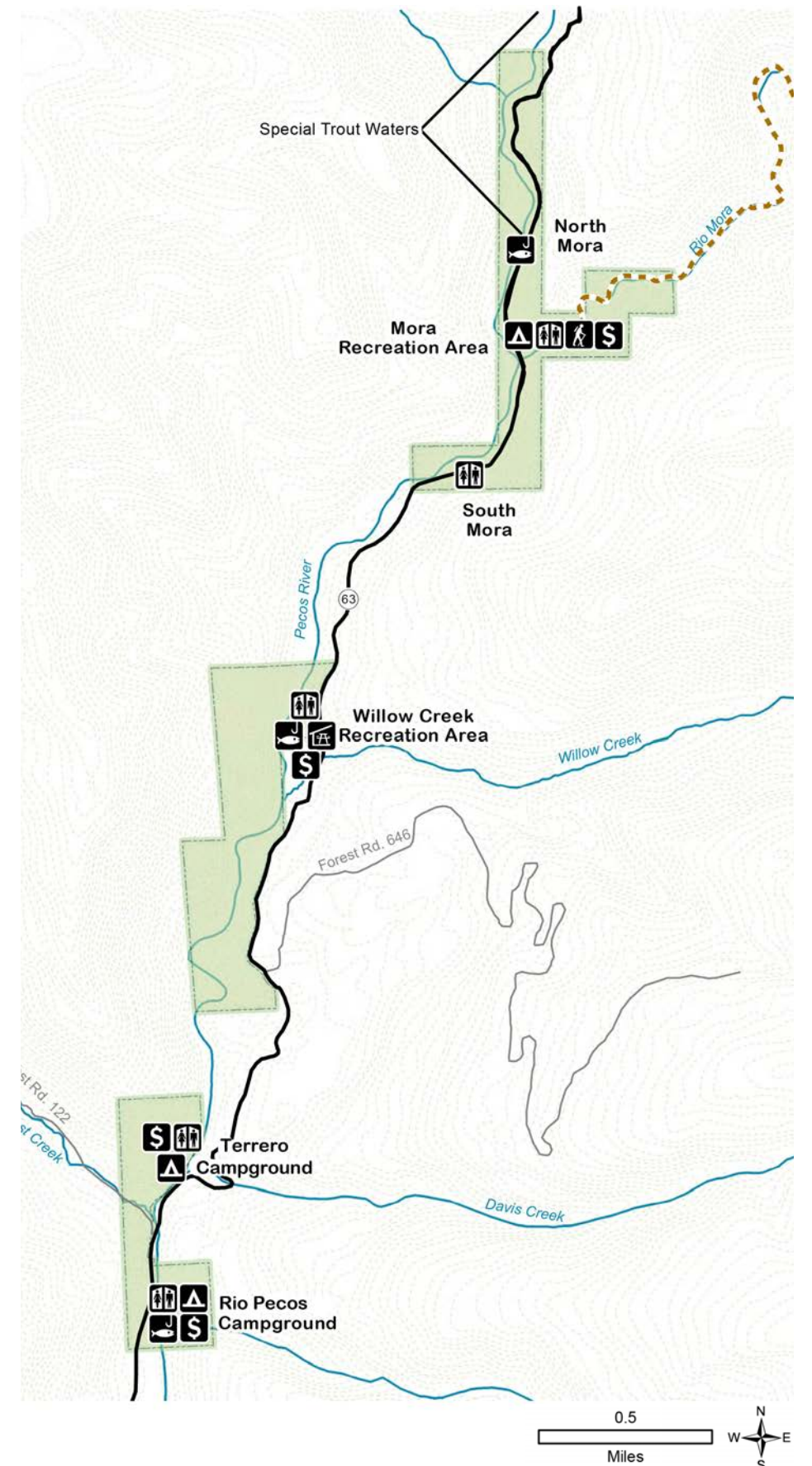
- Restrooms
- Pay Station
- Campground
- Trailhead
- Group Shelter
- Fishing Access
- Park Boundary
- Trail
- River
- Paved Road
- Dirt Road

Statutes

Pursuant to NMSA 1978, Section 9-5A-4, SPD is responsible for developing, maintaining, managing, and supervising Pecos Canyon State Park as defined in the Memorandum of Agreement signed November, 2019 with the SGC through DGF (See Appendix A).

Pursuant to NMSA 1978, Sections 17-1-14 and 17-4-1, the SGC is authorized and responsible for acquiring, holding, developing, and improving lands for all purposes incidental to the propagation, preservation, protection, and management of the game, birds, fish, and wildlife within the Park.

DGF retains jurisdiction and regulatory responsibility for all wildlife and fisheries management, hunting, fishing, and trapping in the Park and authority to enforce Chapter 17 NMSA. All SGC rules apply to the Park, except SPD recreation fees; fees may not be collected, however, from hunters and fisherman holding licenses or permits and using "Free Access Areas" (See Chapter 2, Fishing).



PECOS AREA HISTORY

The natural resources of the Pecos River, Pecos Canyon, and its surrounding landscape have attracted people for centuries. Human habitation and use of this area have been documented extending over 1200 years, beginning with pre-Pueblo peoples who settled in the Upper Pecos Valley in 800 AD.

Pecos Pueblo

Occupied for over 640 years (800-1838 AD), Pecos Pueblo served as an important cultural center, outpost, and trading post at a prominent location on the edge of the plains. At its height, the pueblo was home to about 2,000 individuals and had about 1,000 rooms. Its location near the Pecos River and along a primary trade route, in addition to access to food contributed to its establishment as a thriving center.

Spanish/Westward Expansion

Pecos Pueblo persisted for almost 300 years after Spanish occupation and Oñate's 1598 assignment of a priest to live at Pecos Pueblo to convert tribal members to Christianity (see Image 2-1). Territorial wars broke out over New Mexico lands in the late 1840s until New Mexico became a US territory in 1850.

The 1862 Civil War Battle of Glorieta Pass took place along the Santa Fe Trail near Pigeon's Ranch, just west of Pecos Canyon. Known as the 'Gettysburg of the West', Union troops defeated Confederate troops after three days of fighting - a decisive victory leading to Union control of the American Southwest.

Pecos Canyon Natural Resources

With the expansion of the railroad into New Mexico in the 1880s, the Pecos Canyon area forests provided timber for construction. Extensive logging in the area not only impacted large extents of forest landscape but also introduced an overhead tram followed by a network of roads within the Pecos Canyon.

Although a mineral-rich area was discovered across from Willow Creek in 1882, large scale mining only took hold in 1927 when the American Metal Company began mining production at the Terrero Mine (Pecos Mine, see Image 2-3). The mining-era town of Terrero (see Image 2-2) provided housing and basic services for miners and their families. At its peak, Terrero's population was 3,000.

Operating for only 12 years (1927-1939), the mine's impact is still evident today by the cleared hillside remediated in the 1990s and subsurface contamination monitored through wells.

Public Lands for Recreation

The 1950s ushered in an era of recreation combined with a heightened concern for the environmental health of the watershed. When the NM State Game Commission purchased the mine-owned property in 1950, some areas were opened for recreational use.

In 2006, the Upper Pecos Watershed Association was formed to serve as a forum for addressing non point source pollution and related issues within the Pecos River watershed. Legislation was introduced in 2009 to establish a park, which was realized in 2019 as Pecos Canyon State Park, the 35th park in the state parks system.



Image 2-1: Pecos Mission Church at Pecos National Historical Park



Image 2-2: Terrero Townsite ca.1933, at the Willow Creek Campground



Image 2-3: Waste rock pile and tram system at Terrero Mine.



Image 2-4: 2010 DGF campground improvements within the canyon

Pecos Canyon Timeline of Events

800CE	pre-Pueblo peoples permanently settle in the Upper Pecos Valley	1929	Highest discharge recorded in river two miles downstream of Bert Clancy (Rio Pecos): 4,500 CFS at a depth of 6.2 feet
1200	Pecos Pueblo constructed, home to 2,000 people	1929-42	The Great Depression
1540	Coronado's Entrada into New Mexico Alvarado arrives at Pecos Pueblo	1939	Pecos Mine and mill closed; ownership and mineral rights transferred to Pecos Estates, Inc.
1598	Oñate assigns priest to live at Pecos Pueblo and convert people to Christianity	1939-45	World War II
1610	Pecos Pueblo an important trading post and outpost between plains tribes and Pueblo and Spanish settlements	1950	State Game Commission purchases property from Pecos Estates, Inc. for \$72,000
1680	Pueblo Revolt	1950s	DGF opens some of the properties as recreation areas
1692-96	DeVargas' reconquest of New Mexico	1964	Pecos Wilderness established with 200,000 acres
1768	Smallpox epidemic left only 180 survivors at the Pecos Pueblo	1965	Pecos National Monument established (designated in 1990 as Pecos National Historical Park)
1821	Mexico declares independence from Spain Santa Fe Trail Opens: major trade route	1973	Dams for mine tailing ponds failed at El Molino Mill, causing pollution within the Pecos River
1836	Texas declares independence from Mexico	1980	55,000 acres added to Pecos Wilderness area
1838	Remaining Pecos Pueblo inhabitants move to Jemez Pueblo	1990	Wild and Scenic River designation established for Pecos River from the headwaters to Terrero
1846	US declares war on Mexico General Kearny enters Las Vegas and claims New Mexico for the United States	1987	DGF creates management plan for property
1848	US-Mexican War ends, New Mexico ceded to the US	1992	Administrative Order of Consent (AOC) signed between state agencies and Cyprus Amax Minerals to begin remediation efforts to address contamination from mine operations
1850	New Mexico declared a US Territory	2006	Upper Pecos Watershed Association (UPWA) formed to address non-point source pollution and related issues in the Pecos River watershed
1861-65	US Civil War	2009	Senate Joint Memorial (SJM 16) introduced for DGF and SPD to cooperate to establish state park
1862	Battle of Glorieta Pass; Union troops defeat Confederate troops	2009	Vehicle access to Frog Bog area blocked to prevent continued degradation
1880s	Extensive logging in area to support railroads and mines	2011	DGF river improvements, access control, camping area improvements/amenities
1882	JJ Case discovers mineral rich area across from Willow Creek and begins decades of small scale mining	2013	Tres Lagunas Fire
1892	Pecos Forest Reserve established	2018	Survey outlines boundaries of Park
1912	New Mexico becomes a state	2019	Pecos Canyon State Park established, under EMNRD State Parks Division management
1921	Lisboa Springs Fish Hatchery built at entry to Pecos Canyon	2021	Master Planning/Management Planning process begins
1927	American Metal Company began mining production at the Terrero Mine (Pecos Mine)	2022	Hermit's Peak/Calf Canyon Fire
1927	Official post office at Terrero, mining era town w/ population at peak of 3,000	2022	Outstanding National Resource Waters designation established for Upper Pecos Watershed for protection from degradation

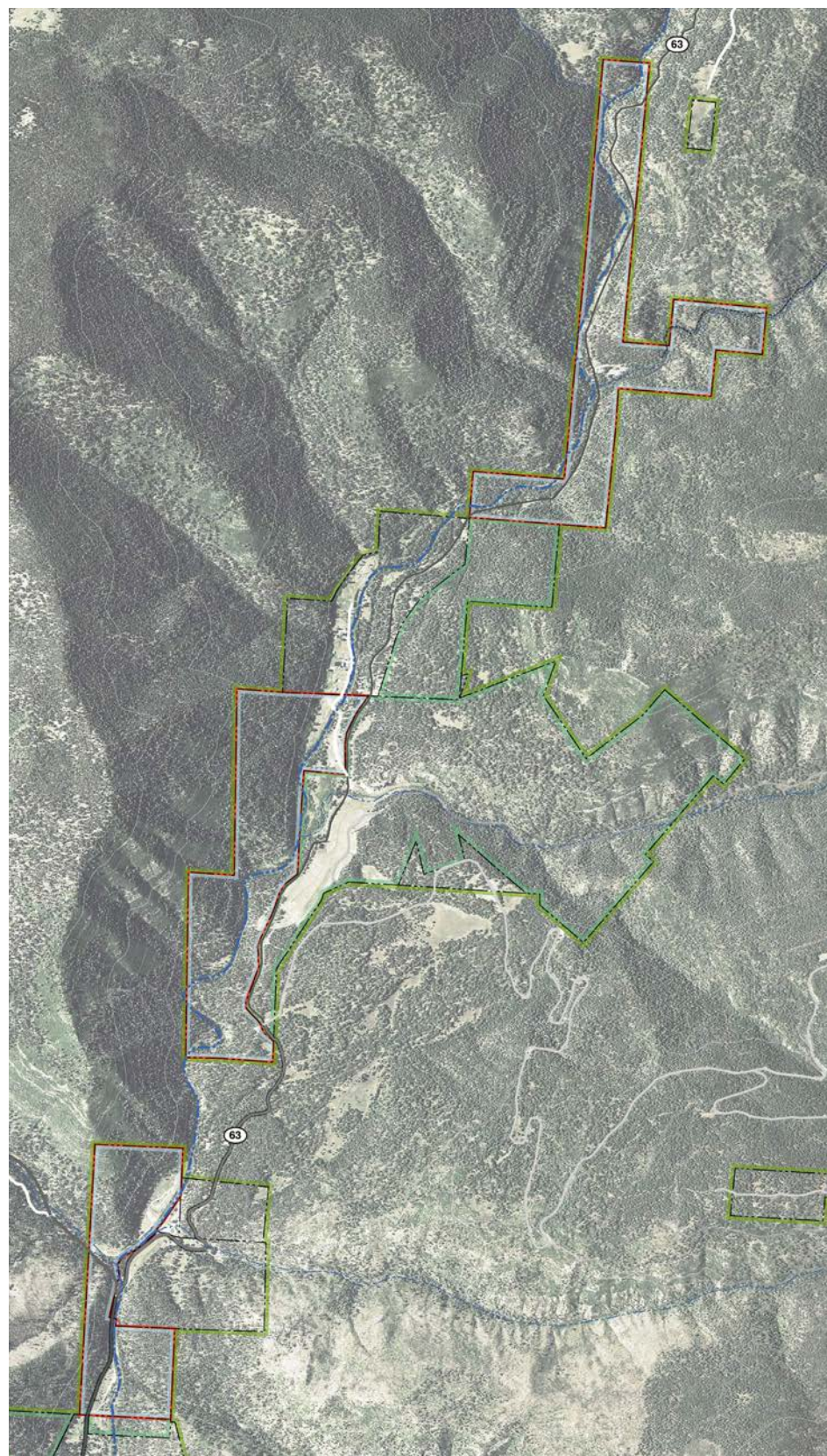
PARK HISTORY

From 1950 to 2019, DGF managed the area that is now the Park as part of the properties known as the Pecos Complex Wildlife Areas. The State Game Commission purchased most of the property from Pecos Estates, Inc., the last of a string of mining companies that actively mined in the Pecos Canyon beginning in the early 1900s.

Recreation in the areas managed by DGF was largely unregulated for years. In 1987, DGF created a management plan for SGC's property in the Pecos Canyon in response to complaints from residents and visitors concerning how some visitors were misusing the Wildlife Areas.

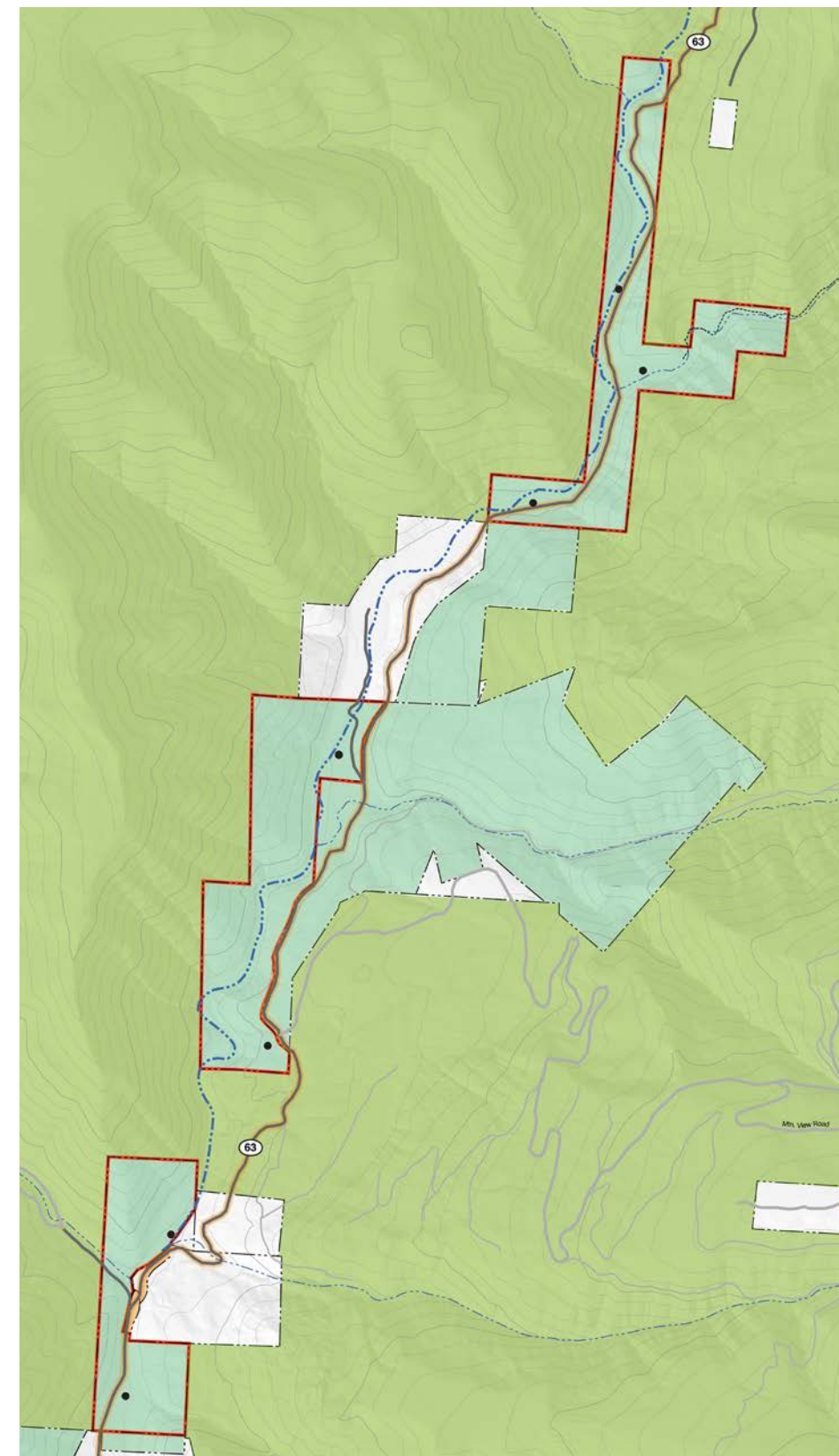
The items listed in the management plan to address these issues included turning the Rio Pecos area (formerly Bert Clancy) and portions of the Willow Creek and Rio Mora areas into day-use-only sites. DGF also placed posts with cables and rocks in areas to keep visitors and vehicles away from the river. Abuse and degradation of the recreation sites in the canyon continued, however. In 2011, DGF once again took measures to protect the resources in the Wildlife Areas by grading and improving roads, adding bear-proof trash bins and new vault toilets, defining campsites, and hiring a contractor to remove trash and perform maintenance on the properties.

Figure 1-4: Aerial Map of Pecos Canyon State Park



- LEGEND**
- Management Area Boundary
 - DGF Land Boundary
 - USFS Land Boundary
 - River, Major
 - - - Stream, Minor
 - - - USFS Trail
 - Road, Major
 - Road, Minor
 - Road, Unpaved

Figure 1-5: Pecos Canyon Land Ownership



For decades, individuals, and, more recently, groups such as the Upper Pecos Watershed Association (UPWA) and the Pecos Business Association, advocated for SPD to take over management of the SGC properties because of SPD's expertise in managing recreation areas and campgrounds.

In 2009, Senator Phil Griego and House Representative Luciano "Lucky" Varela introduced a Senate Joint Memorial (SJM 16), "requesting the State Parks Division of the Energy, Minerals and Natural Resources Department to cooperate with the Department of Game and Fish to establish Pecos Canyon State Park in San Miguel County." The economic recession and subsequent drop in state revenue made the creation of a park economically infeasible in the years following the Joint Memorial.

Land

DGF hired a contractor to conduct a survey of SGC properties in the Pecos area. The survey was completed in February 2018. The Park management boundary was created from this survey and the three noncontiguous parcels consist of the 157-acre Rio Mora campground and recreation area, the 137-acre Willow Creek recreation area, and the 84-acre Rio Pecos/Terrero campgrounds and recreation area. The distance from the southernmost edge of the Park at the Rio Pecos Campground to the northernmost boundary at North Rio Mora is just over five miles.

- LEGEND**
- Management Area Boundary
 - DGF Land Boundary
 - USFS Land Boundary
 - NMDOT Right of Way
 - River, Major
 - - - Stream, Major
 - - - USFS Trail
 - Road, Major
 - Road, Minor
 - Road, Unpaved

REGIONAL SETTING

The Pecos Canyon is situated between the major cities of Santa Fe and Las Vegas, with primary access from Interstate 25. Santa Fe is 16 miles to the southwest of the Park (38 miles driving), and Las Vegas, NM, 28 miles to the southeast (39 miles driving). Santa Fe National Forest manages several campgrounds and recreation areas in the vicinity of the Park, including Jacks Creek, Holy Ghost, Panchuela, Cowles, and Iron Gate campgrounds. The Pecos Wilderness begins about 3/4 of a mile to the northwest of the Willow Creek recreation area.

Approximately 200,000 acres of the Santa Fe National Forest were dedicated as the Pecos Wilderness in 1964. Another 55,000 acres were added in 1980. The portion of the Pecos River that flows from the headwaters to Terrero was designated as a Wild and Scenic River in 1990. Within the Park, it is designated as Wild and Scenic River - Recreation. Pecos National Historic Park is approximately 14 miles south of the Rio Pecos campground.

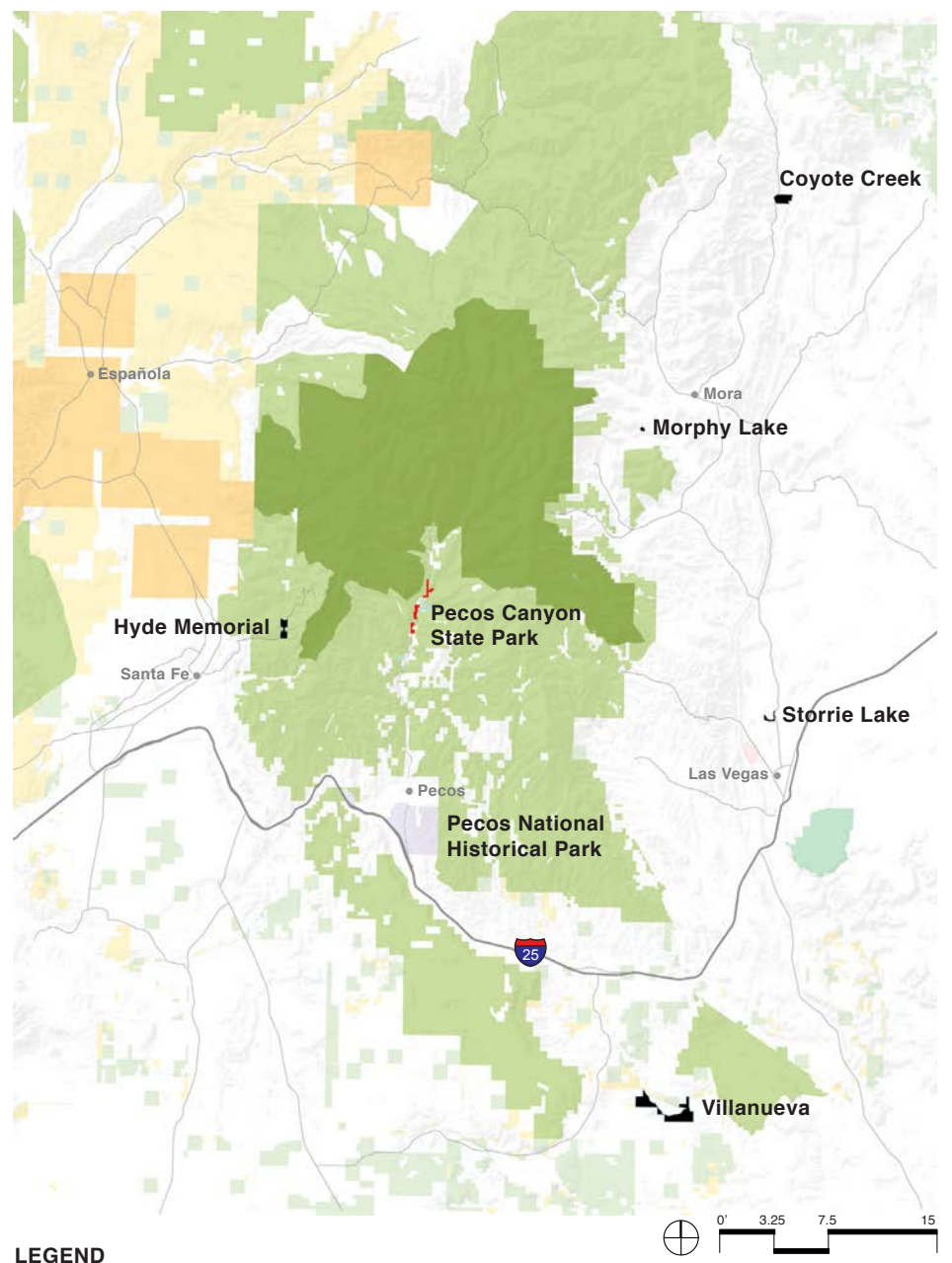
Demographics: State, County, and Local 2020 US Census data

New Mexico
Population: 2,117,522
Median Household Income: \$51,243
Median Age: 38
Race and Ethnicity: 47.7% Hispanic/Latino (of any race)

San Miguel County
Population: 27,201
Median Household Income: \$32,310
Median Age: 35 years
Race and Ethnicity: 75.3% Hispanic/Latino (of any race)

Village of Pecos
Population: 1,392
Median Household Income: \$35,771
Median Age: 32 years
Race and Ethnicity: 79.7% Hispanic/Latino (of any race)

Figure 1-6: Context Map



LEGEND

- Pecos Canyon State Park
- State Parks Land Management
- NM Game & Fish Land Management
- USFS Land Management
- Pecos Wilderness Area
- FWS Land Management
- BLM Land Management
- Tribal Land Management
- NPS Land Management
- State Land Management

Climate
Elevation changes throughout Pecos Canyon contribute to variable weather patterns. On average, the Village of Pecos receives 16 in. of precipitation annually, however, higher elevations can receive as much as 44 in. Monsoon rains occur in July-September, often causing flash-flooding in the Pecos River and its tributaries.
Annual Average Climate Data: Pecos Ranger Station, 1916-2016

	Temp. Max. (°F)	Temp. Min. (°F)	Total Precip. (in.)	Total Snowfall (in.)	Snow Depth (in.)
Ann.	65.8	32.9	16.15	27.2	0.0

Regional Recreation

Most recreational opportunities within the region focus on camping, day-use, and trail access. These are offered by the USFS in the Santa Fe National Forest and Pecos Wilderness Area. Users can access an extensive backcountry trail network on the western slopes of the Sangre de Cristo mountains (near Santa Fe), in Pecos Canyon, and to the east towards Las Vegas.

USFS recreation opportunities within Pecos Canyon include:

- Campground Camping (7 sites)
- Picnicking (13 sites)
- Day Hiking (17 sites/trailheads)
- Group Camping (2 sites)
- Backcountry Access (11 sites)
- River and Stream Fishing (10 sites)
- Pond Fishing (1 site)

Horses are allowed on backcountry trails. Designated horse camping locations with facilities are on USFS sites at the end of the canyon.

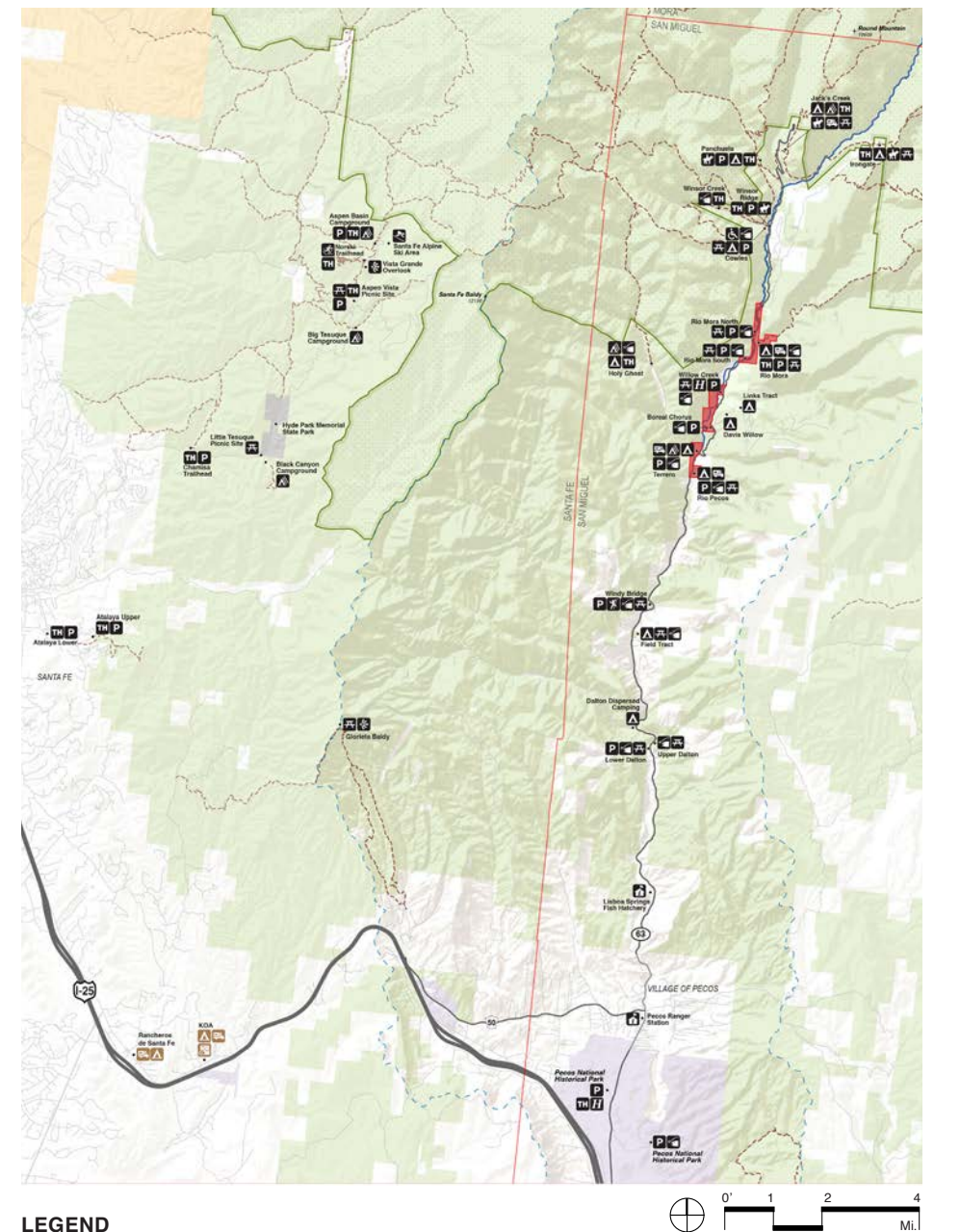
Hunting licenses and permits for big game and turkeys are available through the DGF. OHV trails are located on designated USFS lands, but are not permitted within the Park.

NPS manages Pecos National Historical Park south of Pecos Canyon, including amenities such as interpretive hikes, guided tours, picnicking and fishing.

There are two privately operated RV campgrounds between the Park and Santa Fe, notable as the only sanitary waste disposals (RV dump stations) in the region as shown.

The USFS Pecos Ranger Station, the headquarters for the Pecos-Las Vegas Ranger District, is located within the Village of Pecos. The Ranger Station provides maps and forest permits.

Figure 1-7: Regional Recreation Opportunities



LEGEND

- Management Area Boundary
- DGF Land Boundary
- USFS Land Boundary
- - - Upper Pecos Watershed Boundary
- County Line
- - - Pecos Wilderness Area Boundary
- - - USFS Trail
- River, Major

- Campground
- Picnic Area
- Trailhead
- Fishing Access
- Group Campsite
- Parking (10+ Vehicles)
- Accessible
- RV Camping
- Horse Camping
- Sport Climbing
- Visitor Center
- Historic Site
- Waste Disposal
- Scenic Overlook
- Cross Country Skiing
- Downhill Skiing

Planning Process

Since assuming management of Park lands from DGF in 2019, SPD has embarked on a planning process to guide future improvements and management of the Park. A Master Plan provides a vision for physical improvements within the Park and a management plan (this document) outlines recommendations for operations to protect the natural setting, enhance visitor experience, and streamline management. Terrain Management Zones defined in the plan provide direction on management of the distinct zones within the Park.

Existing Conditions Studies

To comprehensively understand existing conditions within the Park, data collection and studies have been conducted on physical conditions and user habits. The following studies have been conducted and referenced as part of the planning process:

- USFS Visitation Survey, Jun.-Sep. 2011, Apr.-Sep. 2012
- Cultural Resources Inventory, June 2019
- SPD Visitor Survey, Aug.-Sep. 2021

These studies, in addition to previous planning by USFS, DGF, and other entities have helped establish a comprehensive understanding of various facets of the existing conditions of the Park.

Local Coordination

Prior to receiving appropriations and assuming management of the Park, SPD has attended quarterly meetings convened by UPWA, a consortium of locals, agency representatives, politicians and local office holders, and the public at large. This venue provides a forum for communication about a range of issues that affect the canyon, the river, and the watershed.

Recent Planning

In Fall 2021, a master planning effort was initiated to plan the recreational areas and identify park-wide improvements to meet the goals and objectives of the Park. This effort began with a public input survey from late September to late October to assess visitor demographics, use patterns, and collect recommendations for improvements.

During the planning process, the naming of recreation areas and structures was reevaluated. The plan reflects the proposed updated names.

Plan recommendations reflect the input from visitor surveys, professional recommendations from master plan team members, agency and local input, as well as physical site considerations and constraints.

The following entities and agencies provided input during the process:

- Jemez Pueblo
- DGF
- USFS
- NM Department of Transportation
- NM Environment Department
- NM State Historic Preservation Office
- Bureau of Land Management
- Upper Pecos Watershed Association
- Village of Pecos

Management Plan Review

The draft management plan will be released for a 30-day public review to provide the public and others an opportunity to review and provide input on the plan. Comments will be incorporated in the final document.



Image 1-1: SPD and Ecologists documenting existing conditions at Terrero Campground.



Image 1-2: Documenting riparian conditions at Terrero Campground.



Image 1-3: SPD and consultants review maps of existing conditions at Willow Creek.

CHAPTER 2

Park Assessment



Park Resources

PHYSICAL CONTEXT

Its attractive setting and proximity to larger population centers (Santa Fe, Albuquerque) makes the Pecos Canyon a popular weekend and summertime destination. The 378-acre Park lands are distributed between three tracts nestled within the Pecos Canyon about 11 miles north of the Village of Pecos.

Steep forested hillsides extend upward from one of the few perennial streams in New Mexico, the Pecos River. This ecologically diverse riparian zone is prized for its special trout waters, shade, year-round water and cooler temperatures, and access to area trails. (See *Vegetation*, p. 25)

Within the 378-acres of the Park, the dominant vegetation types/ecosystems include:

- 37.0% Mixed Conifer Forest
- 31.5% Ponderosa Pine Forest
- 31.4% Riparian Narrowleaf Cottonwood/Shrubland
- 0.1% Riparian Willow/Thinleaf Alder

LEGEND

- Management Area Boundary
- NPS Land Boundary
- DGF Land Boundary
- USFS Land Boundary
- - - Upper Pecos Watershed Boundary
- County Line
- - - Pecos Wilderness Area Boundary

Figure 2-1: Context Map - Pecos Canyon

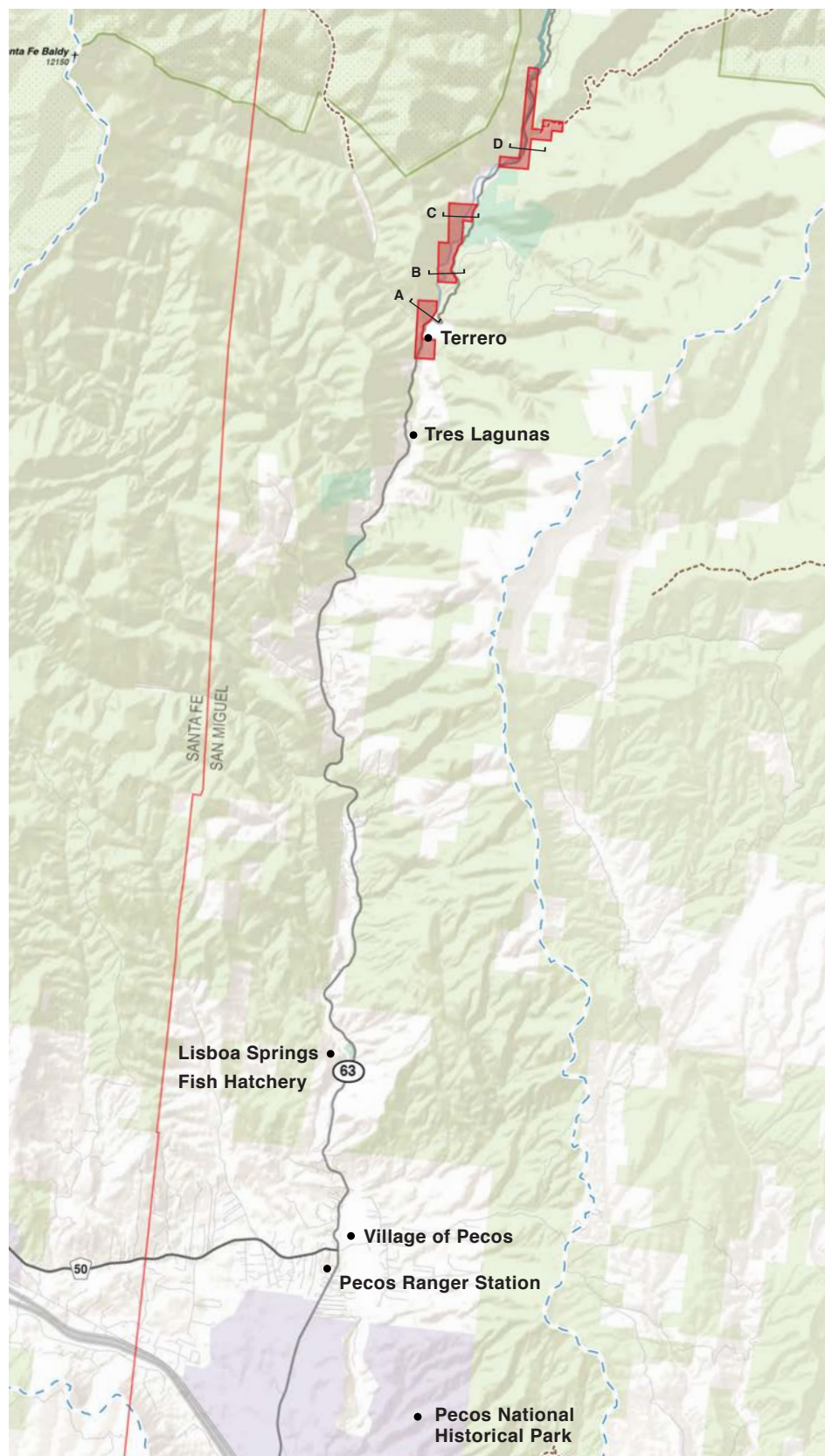


Figure 2-2: Recreation Area/Canyon Profiles

Image 2-1: A narrow riparian corridor through the Terrero Recreation Area



Image 2-2: 'Ponderosa Pine Forest' ecosystem dominates the Boreal Chorus Recreation Area



Image 2-3: Willow Creek Recreation Area sits in a large floodplain and is representative of the 'Riparian Narrowleaf Cottonwood/Shrubland' ecosystem

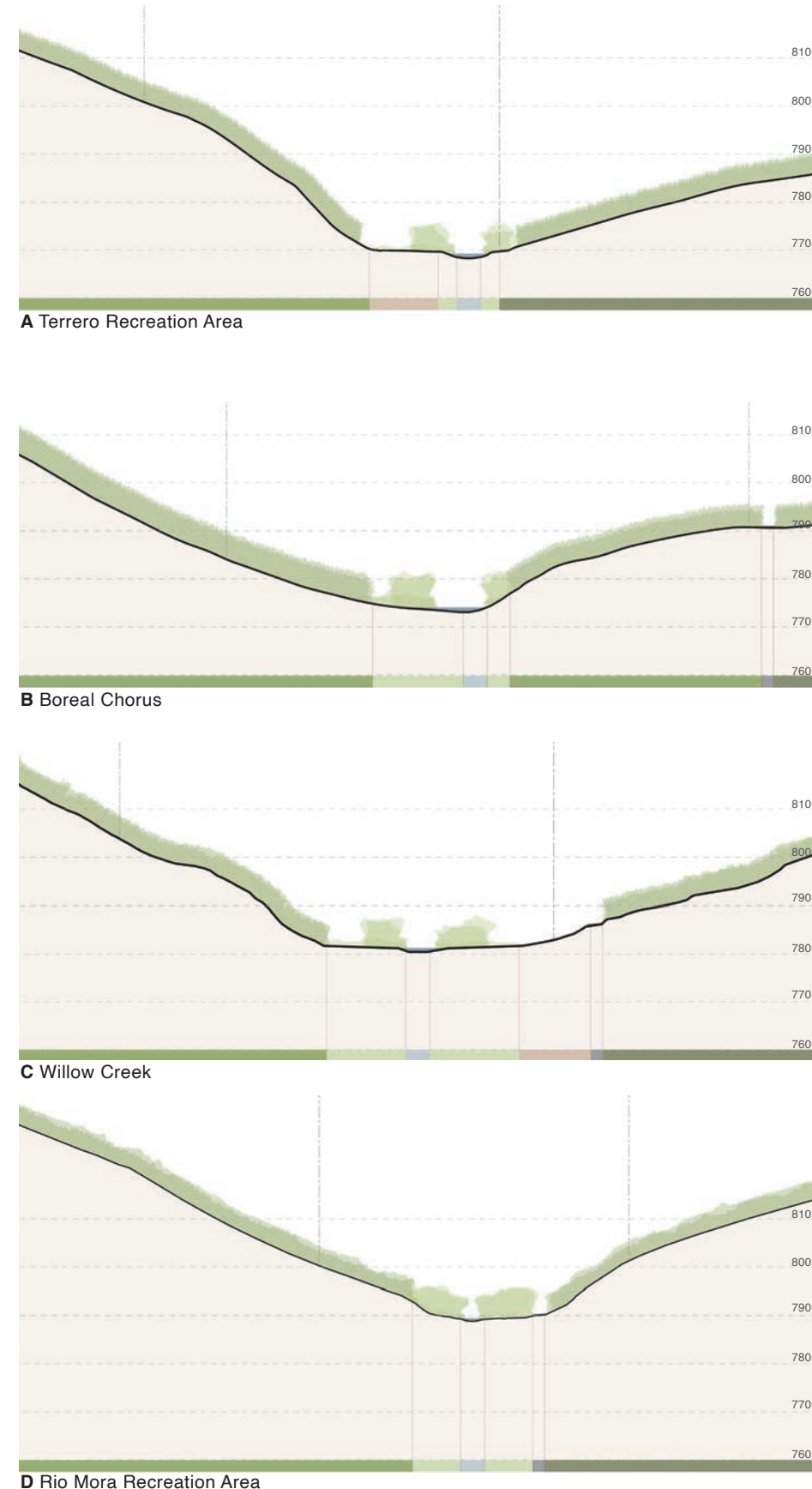


Viewsheds

Within the Park, sections through the canyon at right provide a sense of the terrain. Images, above, illustrate typical viewsheds within Pecos Canyon.

LEGEND

- - - Management Boundary
- Pecos River
- Riparian Zone
- Park Use/Developed Area
- NM HWY 63
- Ponderosa Pine Forest
- Mixed Conifer, Frequent Fire

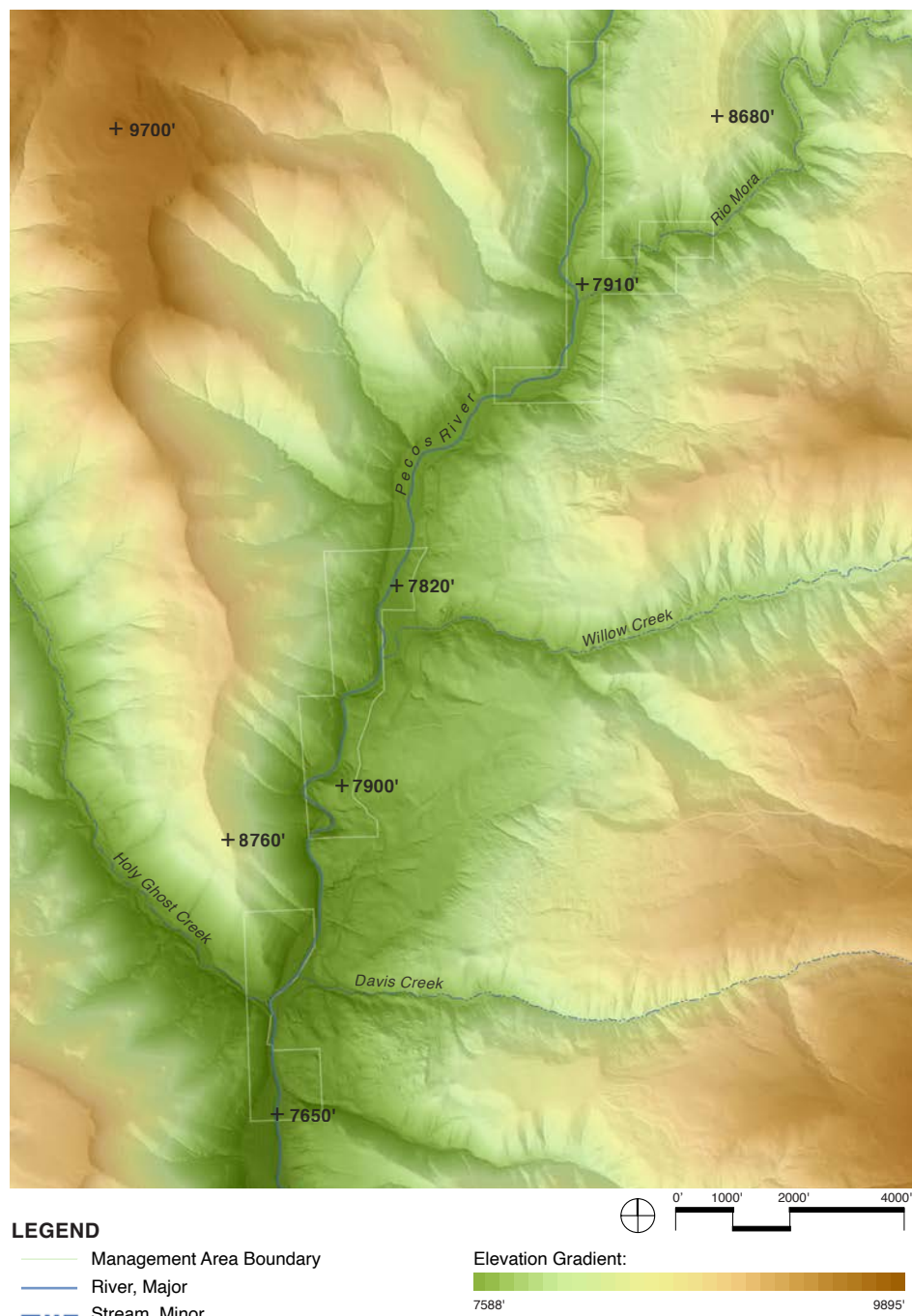


TERRAIN

The Park lands are nestled deep within the dramatic Pecos Canyon. Steep forested hillsides extend upward on both sides from one of the few perennial streams in New Mexico.

Flatter land fragments along the Pecos River set above the flood zones provide prime locations for campgrounds, vehicular circulation, and day-use areas. The canyon's narrow width limits the size of these flatter recreation areas and results in a distribution of multiple recreation areas situated along the river corridor.

Figure 2-3: Elevation Map



Terrain Management Zones

To properly manage and preserve land areas within the Park, the management plan identifies several Terrain Management Zones (TMZ). Each TMZ shares similar environmental characteristics, maintenance requirements, and land use restrictions.

PC-RIP RIPARIAN ZONE
 The riparian zone encompasses the Pecos River waterway and adjacent banks. This zone requires close collaboration with DGF, who manages improvements within the waterway and accesses the river on a regular basis to stock fish. Additional jurisdictional overlays that regulate management of this zone include the 'Wild and Scenic River-Recreation' designation, 'Special Trout Waters' designation, and 'Outstanding National Resource Waters' designation.

PC-WET WETLAND ZONE
 Designated wetland zones require protection of resources and animal habitat. The primary management purpose is wetland conservation and promotion of wetland understanding through discovery and education. Development should comply with all proprietary jurisdictional requirements at the federal, state, and local level.

PC-FOR FOREST ZONE
 Located on perimeter and upland areas, this zone is marked by steep terrain and heavily forested vegetation. A majority of the land within the Park is in this zone. Management of this zone should be done in coordination with other watershed management and USFS, who manages lands adjacent to Park boundaries.

PC-REC RECREATION ZONE
 The most heavily used area under SPD management with active recreation requires intensive management. Uses within this zone include camping (RV with utilities, RV w/o utilities, tent camping, walk-in camping), day-use (picnicking, fishing, hiking, etc.), and organized group events (group shelters). The infrastructure to support these uses is designed to provide comfort and convenience, but in a way that prioritizes the protection and dominance of the natural resource. Amenities include those related to camping (vault toilets, trash cans, picnic tables, shade structures, limited utilities, fee collection areas, signage, etc.), day-use (picnic tables, trash cans, trails), and parking and circulation (parking lots, interior roadways, accessible trails, trails, signage). Designated parking areas within this zone provide 'Free Angler Access' for fishermen with licences per the MOA with SGC.

PC-ROA ROADWAY ZONE
 This zone encompasses New Mexico Highway 63, which runs largely parallel with the Pecos River and includes the clear zone on both sides of the roadway. The total width of this zone is 40' - 50', depending on the clear zone (10', or 15'). Access points and improvements within the clear zone require collaboration with NMDOT to manage this zone. This area also includes connector roads to New Mexico Highway 63 and will need to be coordinated with the entity who owns the road.

PC-CUL CULTURAL LANDSCAPE ZONE
 Surveyed areas with known cultural or historic features require monitoring and protection. Management of these zones should be in collaboration with SHPO.

PC-SPE SPECIAL MANAGEMENT ZONE
 Certain areas within this zone require special management due to cultural, historic, environmental, or other existing conditions. Development within these areas and management of these zones should be in collaboration with appropriate entities and agencies with jurisdictional oversight.

Terrain Management Zones

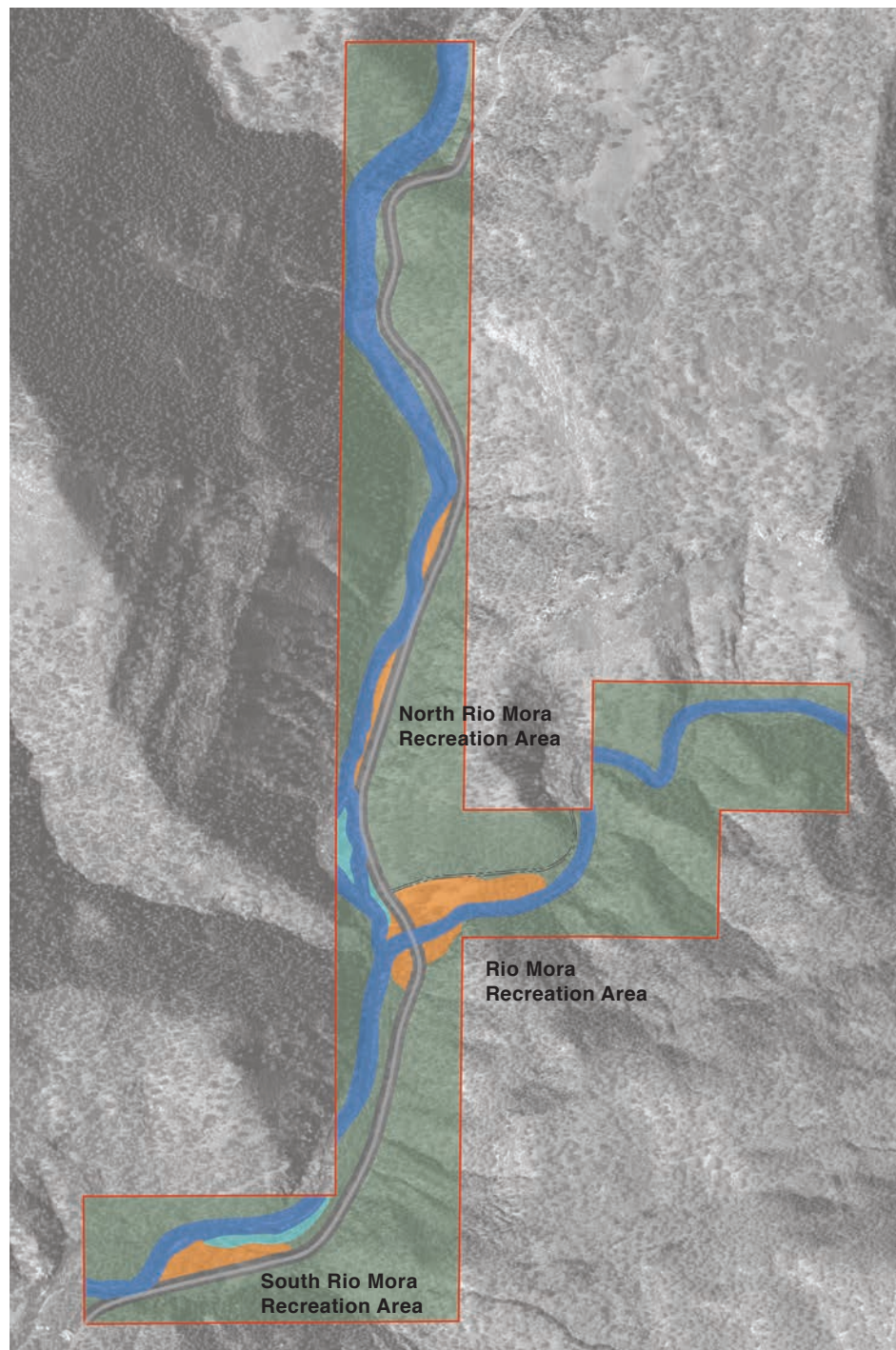
Terrain Management Zones within the Park are dominantly forested lands (74%), with approximately 15% of total Park area located within riparian zones. The Recreation TMZ, the area requiring the most intensive management by SPD, comprises just over 7%, or a total of 27.2 acres within the Park. The Recreation TMZ is dispersed among nine different areas along almost a 5-mile stretch of river.

As more accurate designations of wetland areas and special management zones are completed, the area totals for these zones will be updated (see Chapter 3, Recommendations).

Terrain Management Zone Totals

PC-FOR	73.7%	279.4 ac.
PC-RIP	15%	57.3 ac.
PC-REC	7.2%	27.2 ac.
PC-ROA	2%	7.2 ac.
PC-WET	.8%	3.0 ac.
PC-SPE	.7%	2.5 ac.
PC-CUL	.6%	2.1 ac.

Figure 2-4: Cleveland Tract Terrain Management Zones



- LEGEND**
- Management Area Boundary
 - Easement
 - PC - RIP (Riparian Zone)
 - PC - WET (Wetland Zone)
 - PC - FOR (Forest Zone)
 - PC - REC (Recreation Zone)
 - PC - ROA (Roadway Zone)
 - PC - SPE (Special Management Zone)



Figure 2-5: Willow Creek Tract Terrain Management Zones



- LEGEND**
- Management Zone Boundary
 - Easement
 - PC - RIP (Riparian Zone)
 - PC - WET (Wetland Zone)
 - PC - FOR (Forest Zone)
 - PC - REC (Recreation Zone)
 - PC - ROA (Roadway Zone)
 - PC - SPE (Special Management Zone)



Figure 2-6: Simmons Tract Terrain Management Zones



Natural Resources

NATURAL RESOURCES

Water Resources

The Pecos River’s watershed size from the headwaters to the Rio Pecos recreation area is approximately 189 square miles. A stream gauge about two miles downstream of the Rio Pecos recreation area recorded its highest discharge of 4,500 cubic feet a second (CFS) and a depth of 6.2 feet on September 21, 1929. The third highest discharge was 2,290 CFS on September 13, 2013, after the Tres Lagunas Fire burned in the area.

Several tributaries of the Pecos River also flow through the Park, including the Rio Mora, Willow Creek, Holy Ghost Creek, and Davis Creek. The Rio Mora watershed is approximately 53 square miles. It also has a United States Geological Survey stream gauge, located within the Park, which reached a record of 901 CFS on May 22, 1991.

NMED conducted a watershed survey of the tributaries of the Pecos watershed’s headwaters in 2000 and 2010. The 2000 study concluded that Willow Creek and the Pecos River, from Willow Creek to Alamitos Canyon, exceeded the total maximum daily load (TMDL) for turbidity, which affected the quality of the cold-water fishery in the area. TMDL levels were established to protect cold water aquatic life. The level of turbidity in the rivers was likely due to the mine reclamation that was occurring in the canyon at that time as well as the overuse of campsites and subsequent ecological degradation, which made this area of the Pecos River to become listed as impaired and “non-supporting” for high-quality cold water aquatic life.

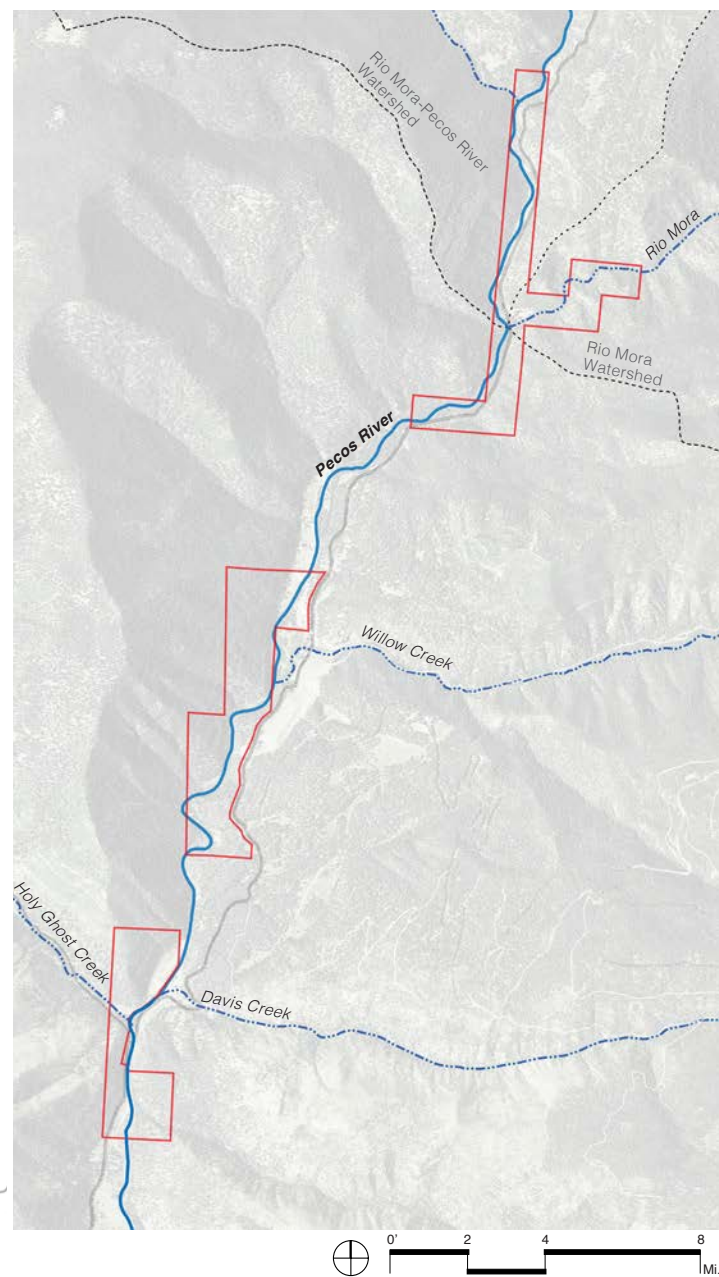
KEY MAP



LEGEND

- Management Area Boundary
- - - - HUC 12 Watershed Boundary
- River, Major
- - - - Stream, Minor

Figure 2-7: PCSP Watersheds and Tributaries



Heavy use of the campgrounds along the SGC properties has resulted in a variety of adverse environmental impacts including stream bank erosion and trampling, soil compaction, reduction of riparian vegetation, and the presence of campfire rings within flood-prone areas. All these factors contribute to the degradation of water quality. In addition, people have also witnessed RV waste being dumped near the river or even directly into the river. RV waste is extremely toxic because it contains microbicides. There is currently no legal way for people to dump their RV waste within a 50-mile radius.

The mine reclamation project near Willow Creek ended in 2002-2003, and by 2010 the same stretch of the Pecos River was no longer impaired. A major portion of the reclamation activity that took place was the restoration of a portion of Willow Creek adjacent to the Pecos Mine, but a 2010 study found that the creek exceeded standards for dissolved solids, which can be harmful to aquatic life. The creek also exceeded standards for sedimentation, which smothers trout eggs and destroys habitat for the larvae of insects that the trout feed upon. There can be many sources of dissolved solids and sedimentation, some of which can be natural.

In 2011, DGF took measures to define campsites and limit camping in areas near the Pecos River, which likely improved water quality. DGF also initiated river restoration projects throughout Pecos Canyon, including the stretch of river that passes through the Park. The restoration has consisted largely of placing in-stream structures in the river channel that are designed to elevate the incised riverbed, reduce bank erosion, narrow the river channel to decrease temperatures, improve sediment transport, and create deep pools to improve fish

habitat. The project also included the planting of native vegetation in several areas. These actions contribute to the improvement of water quality in this stretch of the Pecos River.

The Park is home to wetlands, including a six-acre emergent wetland south of the Willow Creek pavilion, several areas of forested/shrub wetland along the edges of the river, and a 0.4-acre area known as the “frog bog”, which was heavily damaged by motorized vehicles driving through the area. DGF blocked vehicle access to the frog bog in 2009. These wetlands support many species which are not found elsewhere in the Park.

As part of the Administrative Orders of Consent (AOC), Cyprus Amax Minerals Company agreed to restore 10.7 acres of wetlands in the areas near the operable units. In 2008, only two to three acres of wetland had been restored, and DGF proposed that the remainder of wetland restoration be substituted for the enhancement of six or more acres of wetland as well as installation of interpretive signs and construction of a trail in the area. Neither the wetland restoration nor the alternative proposed by DGF have taken place.

In 2020 the New Mexico Acequia Association, San Miguel County, the Village of Pecos, the Upper Pecos Watershed Association, and Molino de la Isla Organics LLC submitted a petition to the state of New Mexico to protect water quality in the Upper Pecos Watershed. This coalition has asked the New Mexico Water Quality Control Commission (WQCC) to nominate portions of the Upper Pecos River Watershed as Outstanding National Resource Waters (ONRWs) under the Clean Water Act. See Chapter 2, Fishing section for further discussion on the ONRW designation.

Figure 2-8: DGF Stream Restoration Areas



Image 2-4: Stream channel restoration at Terrero Campground



Flooding

As with all natural fluvial systems, the Upper Pecos River will experience high flows and out-of-bank flooding. This is one of many reasons to maintain woody vegetation in the riparian corridor and low floodplain benches along the river. The woody vegetation provides roughness which reduces flow velocities and the low benches help spread out high flows, reducing flow depth and thus reducing erosional stresses.

Due to the higher potential for future flooding with climate change and burn areas in the watershed, infrastructure should be placed out of frequent flood areas. High priority infrastructure (restrooms) should be located out of the 100-year floodway and other infrastructure, such as day-use parking areas, out of the 25-year floodway.

In Summer 2022, the watershed experienced higher than normal monsoon precipitation, which resulted in flooding in the Park. The USGS flow gauge on Rio Mora recorded flows above 200 CFS with a peak of 721 CFS recorded on August 1, 2022. This peak flow is approximately a 50-year flow event. The USGS flow gauge on the Pecos downstream of Rio Pecos Recreation Area (formerly Bert Clancy) has recorded flows above 400 CFS with a peak of 742 CFS recorded on August 1, 2022. This peak flow is approximately a 5-year flow event. This indicates that the precipitation has been focused in the Rio Mora watershed. This is a timely example of the effects of climate change on stream flows in the Park.

Figure 2-9: Upper Pecos River Watershed



Image 2-5: Beaver Dam Analog, for flood control and fire protection



Geology

The Pecos Canyon is a geologically diverse area with rocks dating to the Proterozoic eon 2.5 billion years ago. In a few places in the canyon, layers of rock from the Middle Pennsylvanian, Lower Pennsylvanian, Mississippian and Precambrian are stacked on top of one another and the layers are clearly visible. Fossils are present in each of these layers.

The ore that people would eventually mine in the canyon was formed in the Precambrian layer when intrusive granitic magma deep in the earth's crust caused the rocks surrounding the magma to shatter and become flooded with hot, water-rich, silica solution as the magma began to cool. These events worked together to concentrate zinc, lead, copper, and trace amounts of silver and gold into the ore. Some amount of sphalerite, galena, chalcopyrite, pyrite cubes, tourmaline, and trace amounts of gold and silver, can still be found in the canyon today.

The Pecos Mine and El Molino Mill

In 1882, J. J. Case discovered a mineral-rich outcrop across the road from the Willow Creek recreation area, south of Willow Creek. The outcrop contained zinc, lead, copper, and small amounts of silver and gold. Over the following decades miners constructed several shafts at the site, from which they mined mostly copper, but large-scale mining in the area did not become economically feasible until there were advances in mining technologies in the mid-1920s. In 1927, the American Metal Company began mining production at the Terrero Mine (now known as the Pecos Mine), and by the early 1930s more than 600 people worked at the mine, which was the largest employer in the state at the time.

Between 1927 and 1939, around 2,300,000 tons of ore was mined from two 1,800' deep shafts. The ore was transported 12 miles by aerial tram to the El Molino Mill in Alamos Canyon, where the ore was processed. The ore from the mine produced 421,543,000 lbs. of zinc, 133,942,500 lbs. of lead, 18,490,500 lbs. of copper, 5,476,511 oz. of silver, and 178,813 oz. of gold. The mill also produced tailings, which were placed in two ponds. The ponds held approximately 1,125,000 cubic yards of tailings, which contained lead, zinc, and copper.

Image 2-6: El Molino Mill, early 20th century



In 1939, when the mine and mill were closed, the American Metal Company transferred its property and its mineral rights in the area to Pecos Estates, Inc., which was a corporation owned by the same shareholders as the American Metal Company. SGC purchased the property from Pecos Estates, Inc., in 1950 for \$72,000. The mineral rights are currently owned by Freeport-McMoRan (FMI). After 1950, DGF opened some of the properties as recreation areas, and these properties now make up the Park, which is managed by SPD, and the Pecos Complex Wildlife Areas, which DGF still manages.

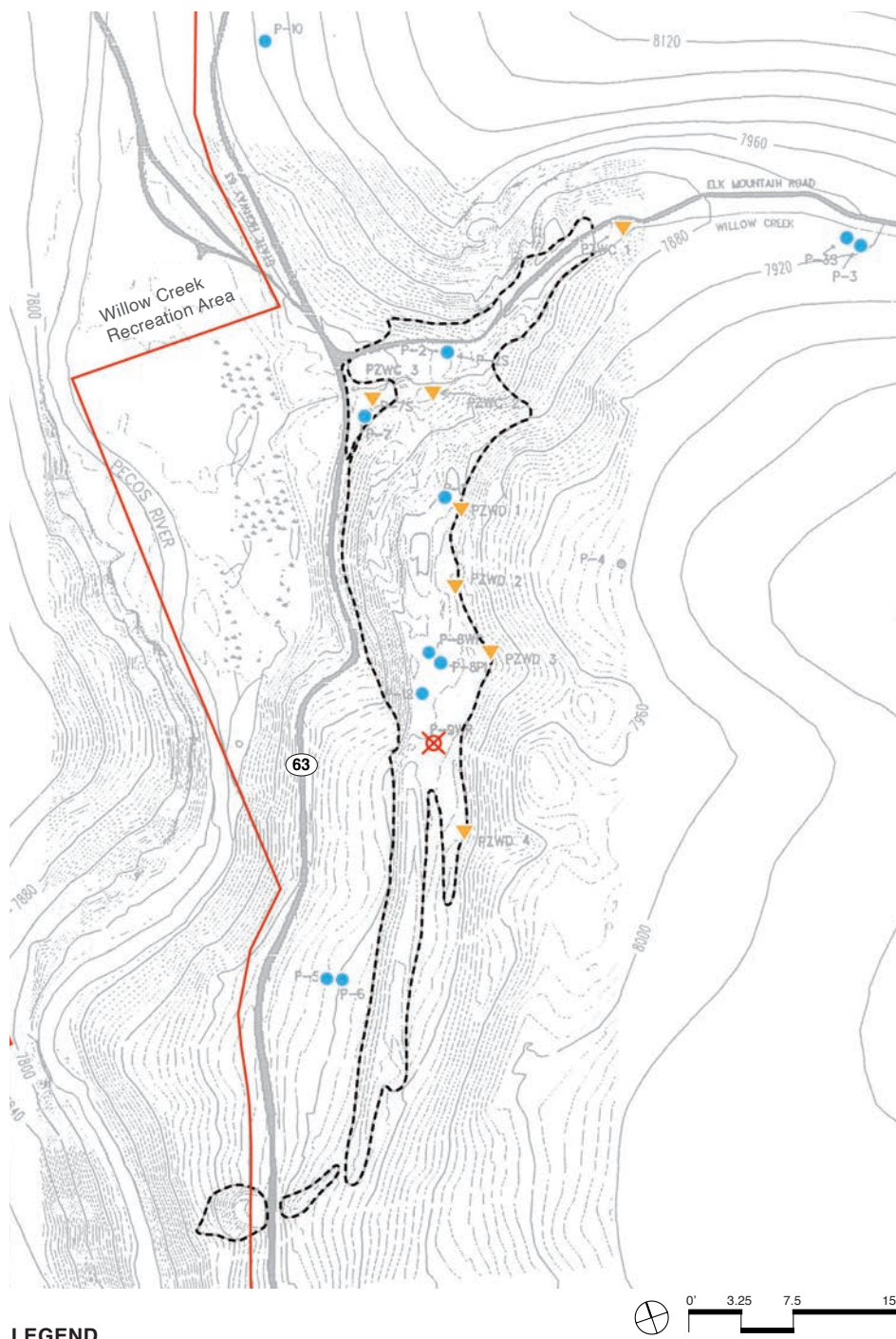
Image 2-7: Waste rock pile and tram system at Terrero Mine.



Site Remediation

In the 1980s and 1990s, investigations by the US Environmental Protection Agency and the NMED into contamination from the Pecos Mine and the El Molino areas were undertaken. The investigations determined that the river contained high concentrations of lead, zinc, and cadmium most likely leaching from the mine site and mill tailings as well as other areas in the canyon where waste rock was used as cover and/or base course. Results of that investigation showed metals in the seeps and surface water discharges around the Pecos Mine were posing current and potential threats to public health, welfare or the environment. In addition to the mining company, Cyprus Amax Minerals, DGF, and NMDOT were identified as responsible parties and were tasked with cleaning up the contamination. The state agencies and Cyprus Amax signed Administrative Orders on Consent (AOC) in 1992 for the contaminated areas, which laid out the steps the parties would take to remediate the sites, designated as "Operable Units," and the responsibilities of the various responsible parties. The AOC enabled there to be a Superfund-type investigation and cleanup in the area while not formally listing the area as a Superfund site.

Figure 2-10: Pecos Mine Operable Unit: Groundwater Monitoring Wells + Piezometers, 1996



- LEGEND**
- Management Area Boundary (approximate)
 - - - Waste Rock Dump Extents
 - Groundwater Monitoring Well
 - ▼ Piezometer
 - ⊗ Abandoned Well



Image 2-8: Groundwater well at Willow Creek



Image 2-9: Former Pecos Mine, hillside reclamation as seen from NM HWY 63



Image 2-10: Former Pecos Mine, hillside reclamation as seen from hilltop

To prevent further migration and discharges of contaminants, the remediation included the consolidation of waste rock, tailings, and/or contaminated soil, covering those contaminated materials with geotextile and/or geosynthetic clay liners and a clean soil layer, re-vegetating the reclaimed soil layer to prevent erosion, and restoring wetlands and riparian areas that were degraded as a result of mine and mill operations.

Several SGC properties were identified as operable units requiring investigation and/or remediation. Those within the Park of concern to EMNRD were listed in the AOC as "Bert Clancy campground, Terrero campground, Davis campgrounds #1 and #2, Willow Creek campground, Rio Mora campground/Pecos pullouts #1 and #2". After discussions with NMED, DGF, and EMNRD staff, it appears that Davis campgrounds #1 and #2 are the areas near what is now known as "the Boreal Chorus" that have been used as undeveloped camp sites, and Pecos pullouts #1 and #2 are the North Rio Mora and South Rio Mora areas used as day-use and picnic areas. These areas are collectively known as the State Recreation Areas Operable Unit and were remediated in 1992 and 1993. The remediation was performed by removing waste rock, mill tailings, and/or contaminated soils and replacing that material with certified clean material. In 2006, NMED stated in a letter that no further remediation efforts in those areas were necessary. No further action was required in Bert Clancy, Davis campgrounds #1 and #2, Rio Mora campground and Pecos pullouts #1 and #2.

After site remediation occurred, ground water monitoring wells were installed in the Alamitos Canyon (the El Molino site), Pecos Mine, and some of the State Recreation Area Operable Units. Two monitoring wells were installed in the Terrero campground, and six monitoring wells were installed in the Willow Creek recreation area. The monitoring wells for the State Recreation Operable Units were sampled from 1998 through 2000. During this time period the monitoring wells at Terrero did not show any exceedances of contaminants of concern. Therefore, no further monitoring was necessary, and the wells were plugged and abandoned. DGF determined that removal of the wells would wait until formal approval had been received for removal of the wells at Willow Creek area as well.

The wells in the Willow Creek area showed exceedances for cobalt, manganese, and fluoride during this time period. It is not known whether these exceedances were the result of mine waste contamination or background levels.

Wildlife

Several endangered wildlife species may occur in the vicinity of the Pecos Canyon, but no critical habitat exists within the Park. Threatened or endangered bird species in the area include the Mexican spotted owl (threatened) and southwestern willow flycatcher (endangered). Neither of these species are likely to nest in the Park, but both may use these areas for foraging or as movement corridors. Sprague's pipit is a candidate for listing and may visit the area while migrating south for the winter. Other migratory birds occurring in the vicinity that are listed as birds of conservation concern by DGF include the bald eagle, Brewer's sparrow, brown-capped rosy finch, burrowing owl, chestnut-collared longspur, fox sparrow, golden eagle, Grace's warbler, juniper titmouse, Lewis' woodpecker, loggerhead shrike, long-billed curlew, mountain plover, olive-sided flycatcher, pinyon jay, prairie falcon, red-headed woodpecker, Swainson's hawk, and Williamson's sapsucker.

The more high-profile mammals in the vicinity are elk, mule deer, bear, mountain lion, and bobcat. Some common mammals include squirrel, chipmunk and rabbit species as well as raccoon and porcupine.

Boreal Chorus Frog
A DGF employee discovered that boreal chorus frogs were breeding in the area known as the "frog bog." DGF and USFS joined in a collaborative effort to restore this wetland to benefit the frog by eliminating vehicle access, reducing erosion, and planting native wetland species. Several other species of amphibians and reptiles may be found within the Park.

Aquatic species of interest include both brown and rainbow trout along with a community of native fishes. Native Rio Grande cutthroat trout still occur in stream segments above and outside of the Park.



Image 2-11: Mexican Spotted Owl (threatened); [call](#) (hyperlink)



Image 2-12: Southwestern Willow Flycatcher (endangered); [call](#) (hyperlink)



Image 2-13: Boreal Chorus Frog, *Pseudacris maculata*, can reach 1"-1.5" length. The very conspicuous male mating [calls](#) (hyperlink) are usually in late afternoon / evening April-July.



Image 2-14: Holy Ghost *Ipomopsis*, *Ipomopsis sancti-spiritus* (endangered)

Vegetation

A large portion of the Park is within riparian ecosystems, which are home to such tree species as plains cottonwood, narrowleaf cottonwood, lance leaf cottonwood, coyote willow, and bluestem willow. Riparian and wetland ecosystems are relatively rare in New Mexico and support a variety of plant and animal species, some of which are endangered.

The rest of the Park is characterized as being in the Sedimentary Mid-Elevation Forest ecoregion, which is mostly made up of ponderosa pine forest with piñon pine and one-seed juniper. The understory of this ecoregion consists of Gambel oak, mountain mahogany, skunk bush sumac, and Woods' rose. The upper elevations of this ecoregion consist of Douglas-fir, white fir, and aspen.

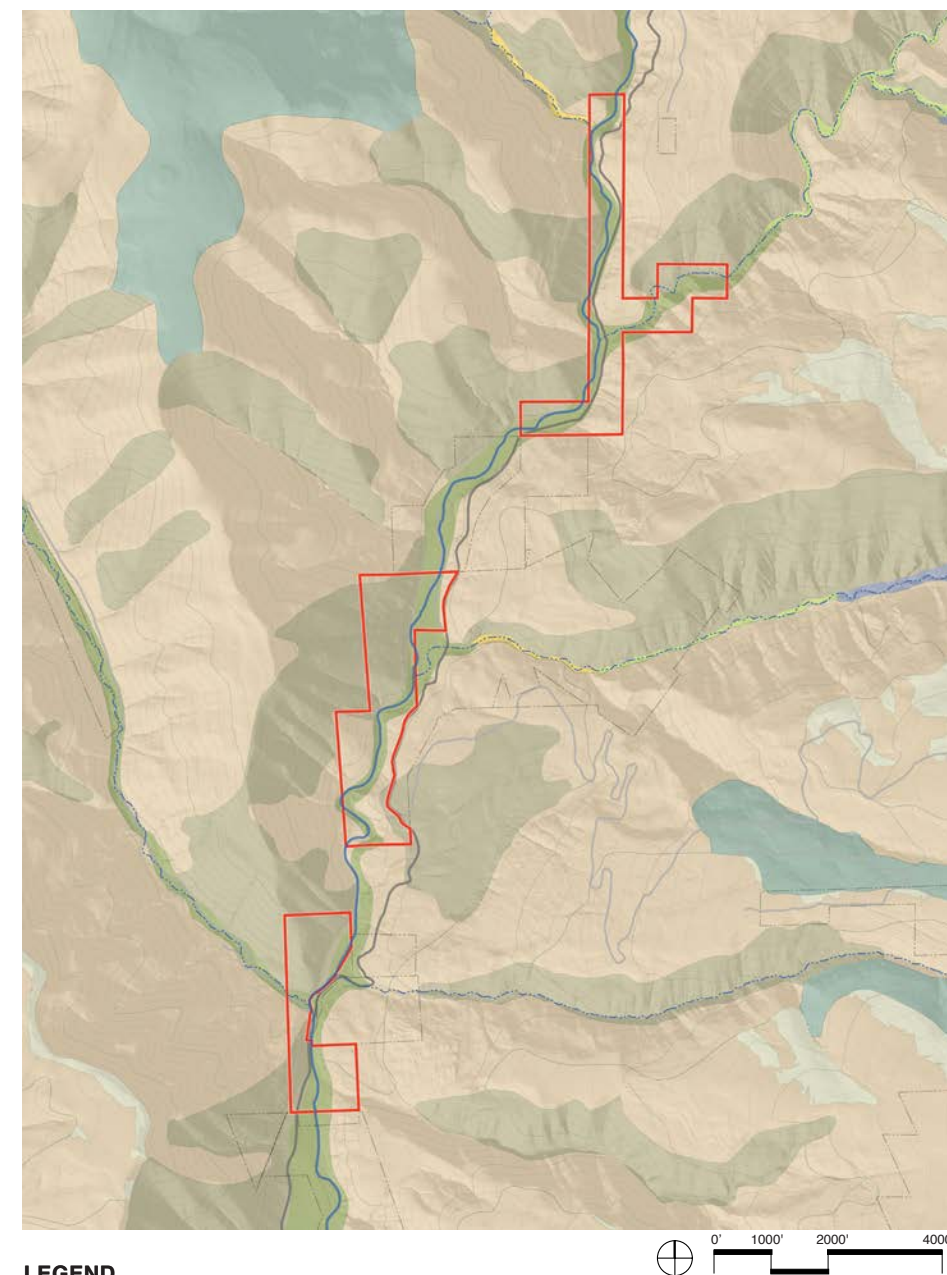
The areas in the higher elevations above the Park often consist of stands of pine, white fir, Engelmann spruce, and aspen. Many of these stands have grown dense over the years due to decades of fire suppression, which has led to several fires in the area in recent years. Since 2000, the fires in the vicinity of the Park have burned a combined 55,000 acres.

Suppression of large fires has also led to further threats to the federally endangered Holy Ghost ipomopsis (*Ipomopsis sancti-spiritus*, Image 2-14), a native plant that prefers to grow in open areas with bare mineral soils. Only found within a 2-mile stretch of the Holy Ghost Canyon, since its listing in 1994, recovery planting efforts have been made to reestablish this within other areas of the canyon.

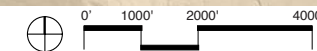
Invasive Species

A recent vegetation survey found both Siberian elm (*Ulmus pumila*) and Bull thistle (*Cirsium vulgare*) throughout the Park. Bull thistle, a Class B New Mexico noxious weed, is most present in open and disturbed areas.

Figure 2-11: USFS Region 3 Vegetation Map



- LEGEND**
- Management Area Boundary
 - River, Major
 - - - Stream, Minor
 - Ponderosa Pine Forest
 - Narrowleaf Cottonwood / Shrub
 - Mixed Conifer w/ Aspen
 - Mixed Conifer - Frequent Fire
 - Spruce-Fir Forest
 - Upper Montane Conifer / Willow
 - Willow - Thinleaf Alder



Wildfire

Wildfire is a naturally occurring process in the Pecos Canyon. Typically, fire return-intervals in high elevation areas (9,000'-10,000') are every 100-300 years. These fires often burn severely, but are essential for species like aspen to regenerate. Wildfires in lower elevations, including the mixed conifer forests comprising the majority of the Park, typically burn every two to 20 years at low or moderate intensity. Such fires promote the growth of grasses and forbs. Continued development and fire suppression in Pecos Canyon has essentially eliminated the frequent, low-intensity fires, leading to an accumulation of small diameter trees and other easily combustible fuels.

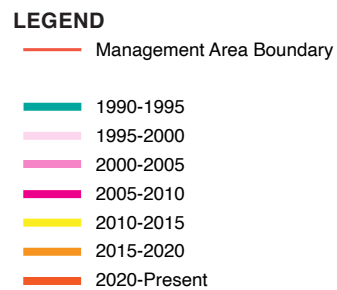
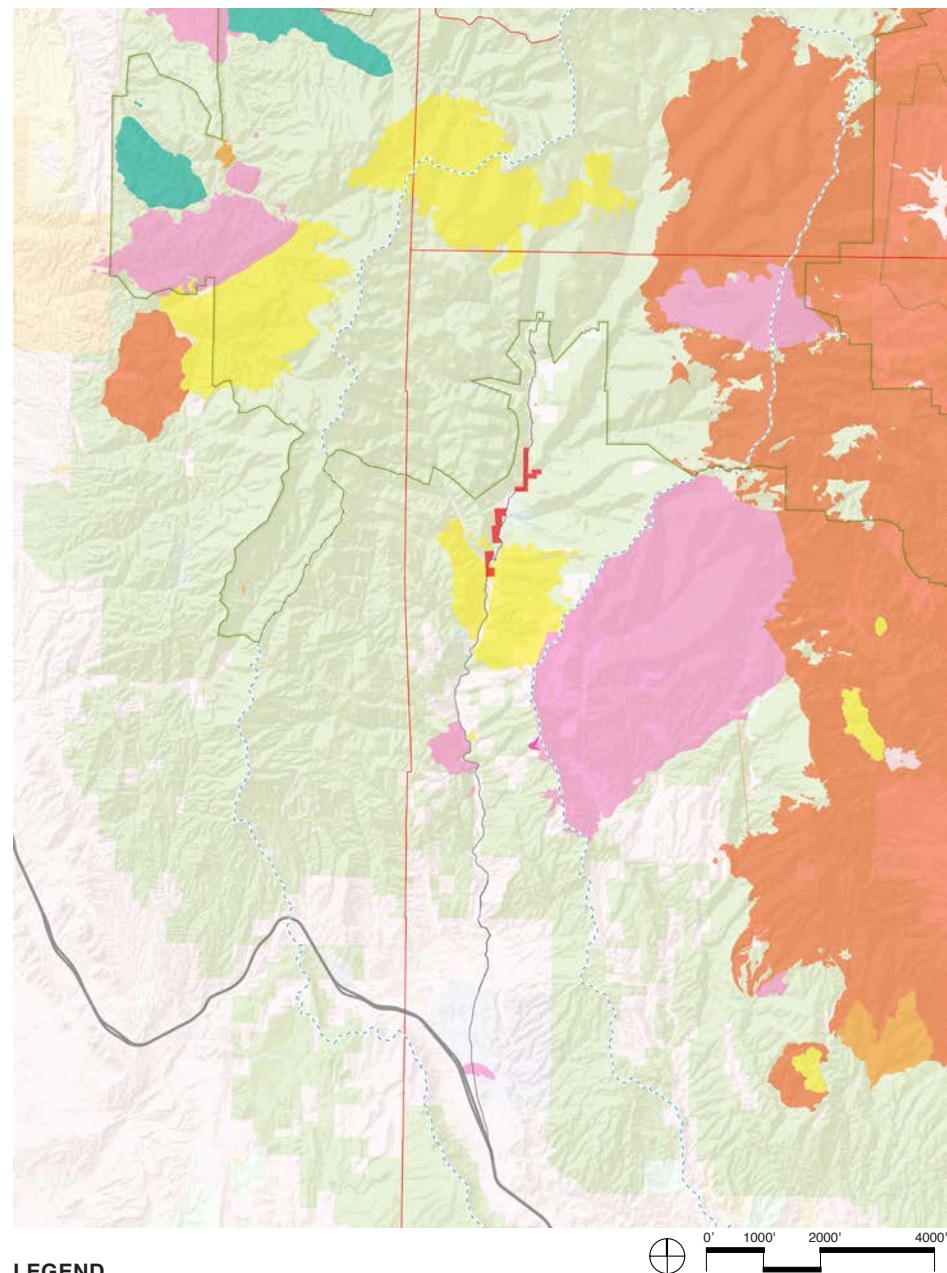
The high fuel load exacerbated by longer and more frequent periods of drought in Pecos Canyon has contributed to several large-scale and severe wildfires.

Since 2000, the fires in the vicinity of the Park have included the Viveash Fire (May 2000), Trampas Fire (June 2010), Tres Lagunas Fire (May 2013), and the Jaroso Fire (June 2013), which have burned a combined 55,000 acres. In 2013, both the Jaroso and Tres Laguna Fires burned in Pecos Canyon, totaling approximately 21,368 acres. In 2022, the Hermit's Peak/Calf Canyon Fire, the largest fire to date in New Mexico, burned 341,735 acres along the eastern edge of the Pecos Wilderness.

Depending on the location of the fires, the Park is impacted by forcing Park closures and at times serving as staging areas for firefighting activities. In 2022, the Rio Mora Campground served as a command center for firefighting activities.

Following these fires, heavy rains contributed to significant erosion and runoff throughout the burned areas. Severe wildfires pose one of the biggest threats to water quality in the Pecos Canyon.

Figure 2-12: Wildfire Areas 2000-Present



Climate Change

As climate change and its impacts become ever more immediate, management planning for the resources at the Park will need to be prepared for a range of scenarios including disturbances and long-term stressors. Some National Oceanic and Atmospheric Administration (NOAA) models indicate that in the next 50 years average daily maximum temperatures will increase by 10°F or more while annual precipitation decreases by eight inches, both exacerbating already hot and dry conditions.

These background conditions of "hotter and drier" can prompt wildlife to move to areas that are more hospitable, which is often higher in latitude, elevation, or both. Even if a more appropriate microclimate can be found at higher elevations, wildlife able to access those areas may need to compete for this limited resource, and/or available resources (e.g., denning sites, forage) in the new habitat may become depleted due to higher demand. Additionally, if refuge boundaries are determined by elevation, it will eventually become an island due to lack of connectivity to other appropriate habitat.

Other projected ecosystem responses include more frequent and more severe burns; infestation of bark beetles, which can complete more life cycles under a warmer climate and spread through forested areas; and drier biomass and soil that is more likely to ignite and burn. Removal of these carbon stores returns the system to a state of primary succession and vulnerability to flooding and erosion, which impacts receiving areas downstream. Forest-dependent wildlife are displaced. Recovery is expensive and, if not managed carefully, can result in a novel ecosystem that is less suitable for resident wildlife.

Even with the trends predicted by large-scale climate models, there may be higher variability at more local scales such as slow-moving rain cells (and wildfire, above). As discussed in the Flooding section above and demonstrated in 2022, these disturbances can be atypical for the season, such as region-wide wildfires in April and flooding in August. Such multi-scale demands on the system do not reflect site history.

While not all possible responses to a changing climate are understood, much less adequately described, the possible ecosystem impacts compound with each other. Similarly, a well-considered management plan should also be able to address multiple climate change hazards by focusing on and mitigating for specific risks to plan for as much resilience as practical in the stream and watershed.

Pecos Canyon, the Village of Pecos, and the Pecos Valley have an extensive and rich cultural history. Although little is known of the Paleoindian (10,000 BC- 5,000 BC), nor the Archaic (5,000 BC-AD 200) in the Middle and Upper Pecos region, some sites and isolated artifacts have been documented. The Early Formative period (AD 200-600) saw the full adoption of agriculture as people became settled in small hamlets and larger villages. Around AD 800, Pueblo people from the Rio Grande Valley started moving east and some came to the Upper Pecos Valley. Over time these populations steadily grew, and by around AD 1200, Pecos Pueblo was constructed and was home to over 2,000 people. Pecos Pueblo was on the edge of the Plains and therefore experienced a high volume of trade with the Plains tribes to the east and the Rio Grande Pueblos to the west. Occasionally, violence between these tribes occurred as well. Other important pueblos in the area include Rowe Ruin and Dick's Ruin.

In 1540, members of Francisco Coronado's expedition came upon Pecos Pueblo on their journey to discover the fabled Seven Cities of Gold, but the people of Pecos Pueblo didn't encounter Spaniards again until 1590, when Castaño de Sosa led an attack on several pueblos. In 1598, Juan de Oñate assigned a priest to live at the pueblo in an effort to convert the people there to Christianity. A small church was built soon after, which was replaced by a much larger adobe-brick mission in the following years. By 1610, the Spanish considered Pecos Pueblo to be of major importance because of its position along an increasingly popular trade route and its ability to act as a buffer from the Plains tribes who continued raiding Pueblo and Spanish settlements.

The relationship between the Spaniards and Pecos Pueblo fluctuated over the years but was mostly peaceful until the Pueblo Revolt of 1680, which expelled the Spaniards from the area until 1692. Upon their return, the Spaniards rebuilt the mission at Pecos. The pueblo remained inhabited, but by 1750 the population had dwindled due to sickness and continued raids by the Plains tribes. In 1768, a smallpox epidemic left only 180 survivors, and in 1838, the remaining population moved to Jemez Pueblo, whose inhabitants spoke the same language. The Jemez still consider the Pecos area as ancestral and work closely with the NPS regarding the interpretation of Pecos National Historical Park.

In 1821 after Mexico gained its independence from Spain, Mexico encouraged trade with the United States. As a result, the Santa Fe Trail came through the area and became a major trade route between the United States and Mexico. After the Treaty of Guadalupe Hidalgo in 1848 that gave the United States possession of the New Mexico Territory, the trail was also used by settlers from the east. Union troops passed through Pecos on their way to the Battle of Glorieta Pass, 4.5 miles to the west of Pecos, where they defeated Confederate troops in March 1862.

PECOS CANYON AREA HISTORIC DESTINATIONS

Regional Historic Areas

The Park is situated among a collection of important historical areas including Pecos National Historical Park, Pigeon's Ranch / Glorieta Battlefield, and Santa Fe National Historic Trail. The Park will incorporate this regional history into education and interpretive programming, as well as aesthetics for development.

Pecos National Historical Park

On the site of Pecos (orig. Cicuye) Pueblo, this park marks a historic crossroads of commerce and migration. The park has interpretive trails, mainly centered on the Pecos Mission Church; erected in 1717 and actively preserved by NPS.

Village of Pecos

The Village of Pecos is a historic waypoint entering the Pecos Canyon. PCSP will work with local residents and Chamber of Commerce to promote sustainable economic opportunities throughout the canyon.

Tribal Consultation

SPD will work closely with tribes and the State Historic Preservation Office regarding cultural resource issues, education and interpretation. SPD will conduct tribal consultation prior to any ground disturbing activities and for any projects that may have an impact on cultural resources.

LEGEND

- █ Management Area Boundary
- - - NPS Land Boundary
- █ DGF Land Boundary
- █ USFS Land Boundary
- - - Upper Pecos Watershed Boundary
- County Line
- Pecos Wilderness Area Boundary
- Santa Fe National Historic Trail

Figure 2-13: Regional Historic Areas Map

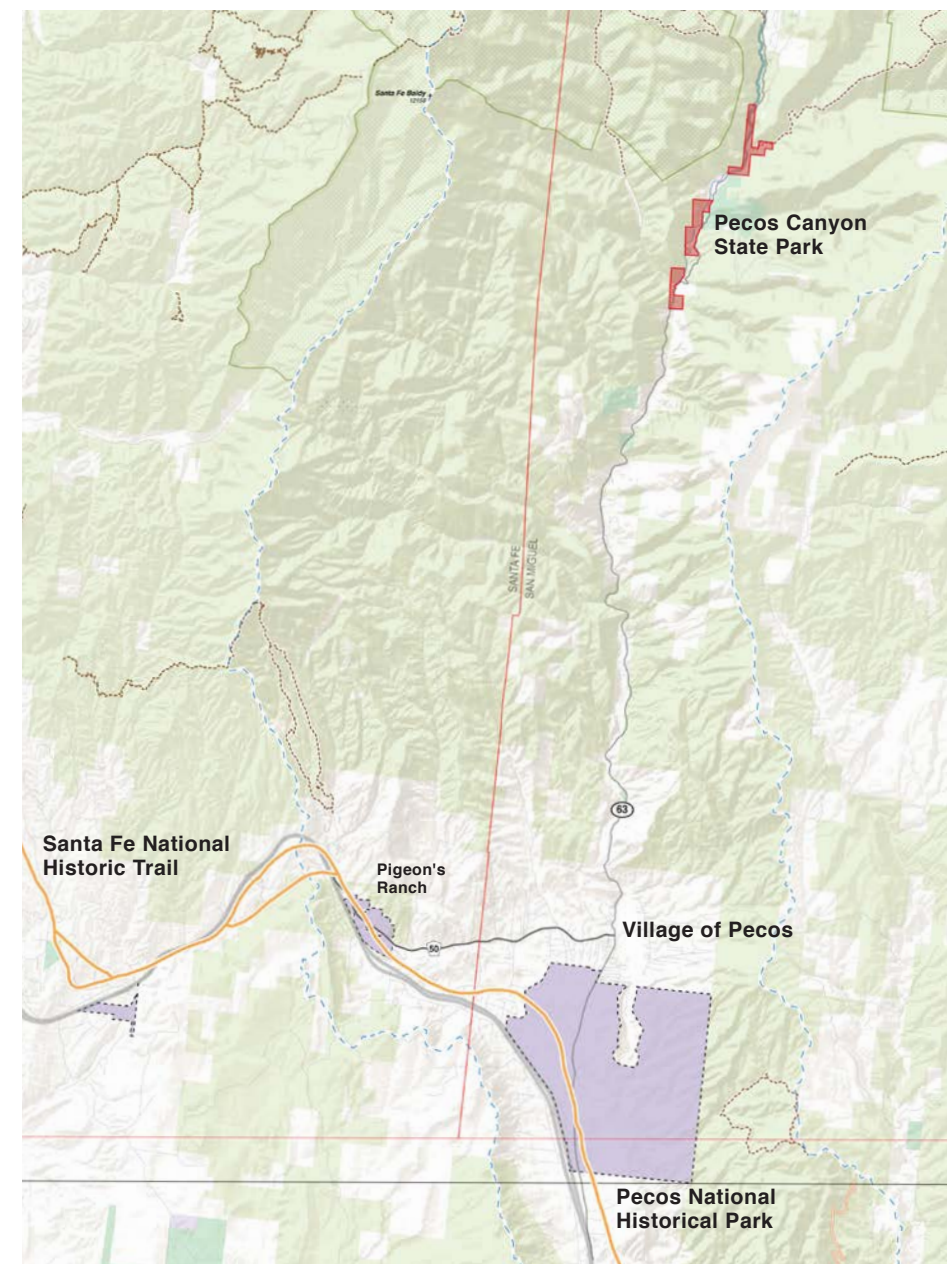


Image 2-15: Pecos Mission Church at Pecos National Historic Park



Image 2-16: San Antonio de Padua Church in the Village of Pecos

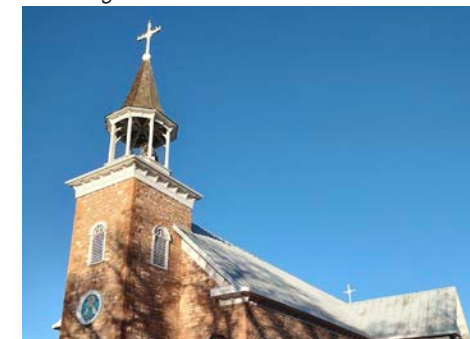


Image 2-17: Historic bridge at the confluence of the Pecos River and Holy Ghost Creek



In the 1880s, extensive logging began in the area to support the railroad and mines. The U.S. government's original survey of the area from 1882 shows a cabin in the vicinity of the Rio Pecos (formerly Bert Clancy) area, "Cooper's" ranch and a coal mine in the vicinity of Terrero, a saloon and store in the vicinity of the Willow Creek area, and "McRae's" ranch in the vicinity of the Rio Mora campground, which was the northernmost structure in the valley that was noted on the plat. The Pecos Forest Reserve was established in 1892. The land was transferred to the USFS in 1905, and it became part of Santa Fe National Forest when it was created in 1915.

Once the Pecos Mine began operating on a large scale in the 1920s, the company town of Terrero grew around it (see Figure 2-14: *Historic Terrero Townsite Map*). With a population of over 3,000 people at the height of mining operations, the town was officially recognized by the U.S. Postal Service in 1927. Most of the cultural resources in the Park are from the mining town era. Most of the town's structures were located within what is now the Willow Creek recreation area, and other mining-related buildings, structures, roads, and bridges occur along the length of Pecos Canyon; an original wooden bridge still stands over the river adjacent to Terrero campground.

By 1933, there were dozens of buildings in the vicinity of the mine. Most of these were the residences of the mine workers, but there were also offices for the mining company, a store, barber shop, mess hall, school, post office, doctor's office, and sheriff's office. A hospital and dairy existed in what is now the Terrero campground. When the mines closed, the company dismantled the town, but some of the archaeological remains of several of these structures are still present.

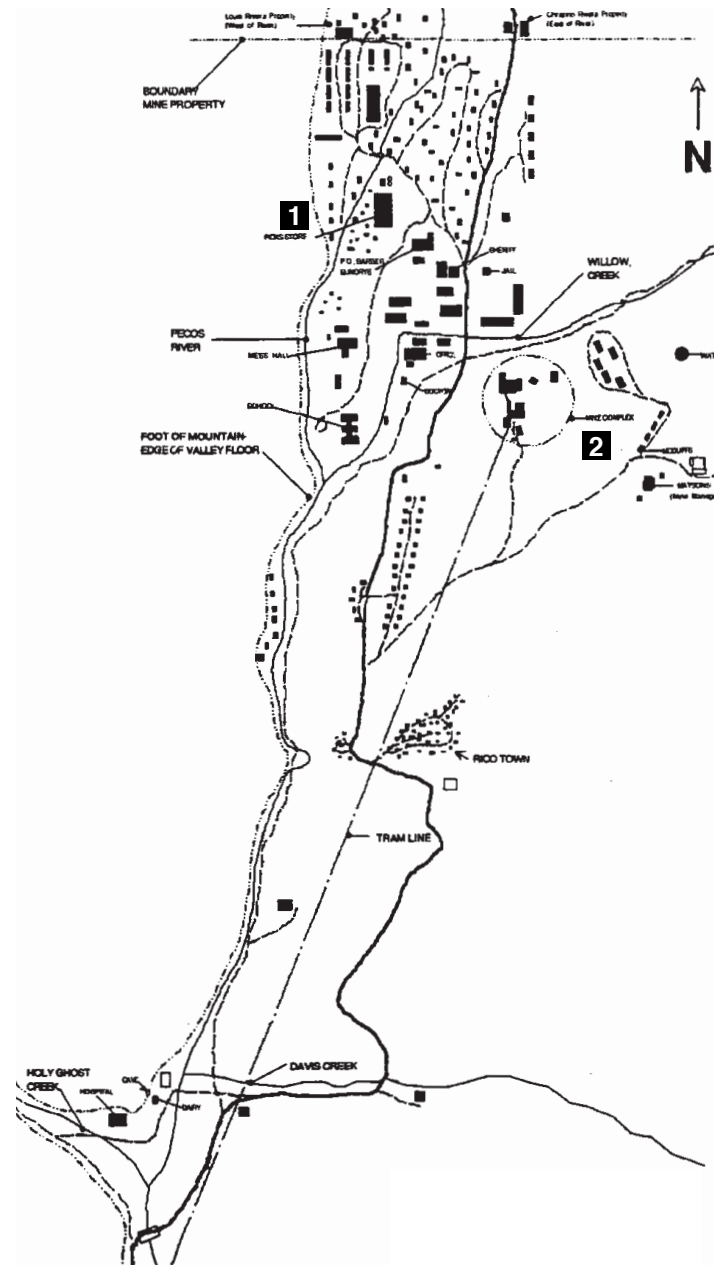
Image 2-18: The Terrero Store adjacent to Terrero Recreation Area.



Community landmarks are still evident in the canyon and serve as reminders of historic activities and uses. For example, the Terrero General Store, built in 1965, is an outfitter and Post Office for local residents and visitors. The river itself - a living landscape - has shifted alignment over time along with corresponding adjustments to New Mexico Highway 63, the primary access road alongside the river into the canyon.

Archaeologists have completed cultural surveys of some parts of the Park. SPD will continue to work with DGF and SHPO to maintain the heritage of cultural resources and provide interpretation where possible.

Figure 2-14: Historic Terrero Townsite Map, ca. 1933



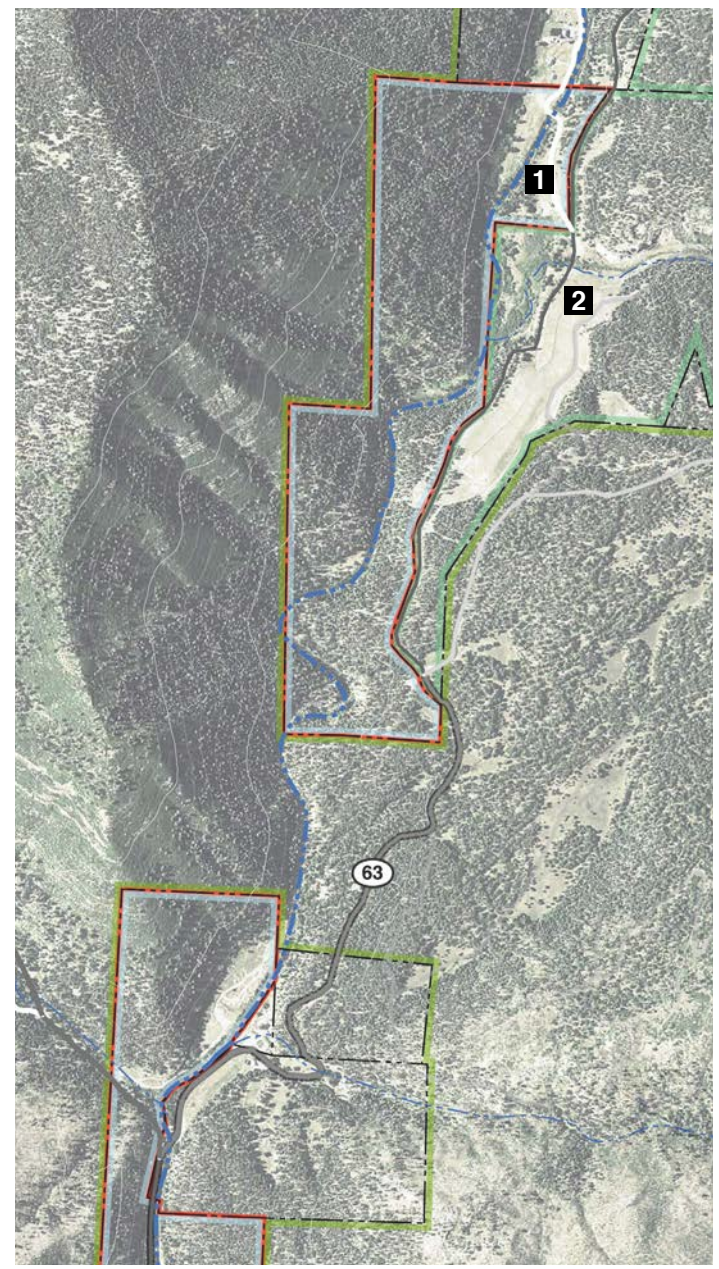
1 Image 2-19: Terrero Townsite ca.1933, Willow Creek Campground



1 Image 2-20: Willow Creek Group Shelter



Figure 2-15: Aerial Map of Terrero and Willow Creek Areas



2 Image 2-21: Terrero Mine complex and 12-mile long tram system near Willow Creek



2 Image 2-22: Entrance to former Mine Complex at Willow Creek



Recreational options within the Pecos Canyon and Pecos Wilderness have remained largely unchanged over the past 70 years. People come to camp, fish, hunt, hike the area trails, ride horses, or simply enjoy the outdoors.

The Pecos-Las Vegas Ranger District in Pecos, NM is operated by the Santa Fe National Forest and is currently the only staffed location to obtain information about recreation in the Pecos Canyon. It is typically open weekdays 8:00 am-4:30 pm, with a 30-minute closure at noon.

BOATING / WATERCRAFT

Shallow waters, rocky conditions, and private fences across the river generally limit the use of boats and watercraft in the Pecos River. The Park has no designated watercraft launch areas.

The WSR Recreation section management plan permits the use of non-motorized rafts, floats, or conveyance devices to float down the river but prohibits the construction of additional facilities to facilitate floating (*Final Pecos Wild and Scenic River Management Plan, 2003*).

River conditions typically are conducive to floating in spring only after seasons with sufficient snowpack to produce high flows. The few paddlers traveling down the section of the Pecos River from Cowles to Pecos during advantageous conditions must still be on the lookout for any number of hazards (fences, wires, sandbars, submerged rocks, etc.).

People engaged in boating on a river are subject to the NM Boat Act, which requires life jackets, a paddle, and a sound producing device (e.g. whistle or horn).

FISHING

Fishing is a popular recreational activity along the Pecos River and attracts anglers year-round from all over the country. Some are drawn to the Pecos River - 'Green Chile' Special Trout Waters, a one-mile stretch just north of the North Rio Mora Day-Use Area, where there is a 2-trout daily limit and tackle restrictions. Some anglers park at the dedicated Free Angler Parking areas at Rio Pecos, Willow Creek, or North Rio Mora to access the river. Others are brought to specific locations along the river by commercial fishing outfits, who have permits with SPD to serve as guides.

DGF stocks the river in multiple locations within the Park with sterile hybrid rainbow trout during the high season. Many casual users and families fish at locations downstream of known fish stocking locations.

DGF has implemented restoration efforts within the river and along the banks since 2011 to improve riparian and aquatic habitat and to attract anglers.

Anglers range in skill and commitment, evidenced by use patterns throughout the park. Casual users likely value proximity to the river more highly; easily accessible fishing holes adjacent to campsites and day-use areas are well-trodden and degraded. In contrast, there are numerous social trails that lead to more remote stretches of river that are harder to access.

Image 2-23: Anglers in the river near Terrero



Accessible Fishing

Accessible fishing is very limited within the canyon and there are no designated accessible fishing locations within the Park. Currently, only one ADA accessible fishing opportunity exists in Pecos Canyon, at Cowles Pond.

Free Angler Access Parking

Accommodations for Free Angler Access parking (free for fishing license holders) at Rio Pecos, Willow Creek, and North Rio Mora provide approximately 42 spaces. Per an MOA with SGC, this quantity of FAA parking must be maintained within the Park, but should be reconfigured to clearly distinguish FAA parking from Park parking.

See pg. 42 for additional detail on fishing.

Lisboa Springs Fish Hatchery

About one mile north of Pecos, the Lisboa Springs Fish Hatchery produces about 136,000 catchable-sized rainbow trout per year. Built in 1921, it is the oldest of the state's six fish hatcheries. Upgrades to the facility were made in 2008 to address whirling disease and reduce exposure to predators that spread the disease.

The proximity of the fish hatchery allows for regular restocking of the river within areas of the Park.

Image 2-24: Lisboa Springs Fish Hatchery



TRAILS

No formalized or accessible trails currently link areas within the Park. In day-use areas, informal trails connect parking areas to picnic tables and fishing areas.

Social Trails

Anglers have created social trails on both sides of the river to better access fishing locations. These trails are narrow, hard-packed trails that are eroded or disappear as they cross drainageways and tributaries. Social trails are largely on public lands; some private land owners have installed barriers across the river to prevent trespassing.

Although a 2022 NM Supreme Court ruling affirmed the public's right to recreate in and access public waterways across private lands, barriers prevent unimpeded access along the full extent of the river.

Backcountry Trails

Park internal access to 430 miles of Pecos Wilderness backcountry trails is through the Rio Mora Campground. Forest Service trail #240 (Las Trampas Trail/Rio Mora Loop Trail) is a 21.9-mile out and back trail that begins at Rio Mora Campground and ends at Trail 249. At present, SPD does not allow overnight parking, so access at this location is for day hiking only.

Motorized Use

No ATV or OHVs are allowed within the Park boundaries. The closest permissible OHV use is on designated USFS trails.

See pg. 44 for additional detail on trails.

Image 2-25: Narrow social trail along the river



DAY-USE

Day-use areas are dispersed along the river in seven locations. These destinations provide river access, limited amenities, and parking for an estimated 109 vehicles. In general, parking within day-use areas is not clearly defined and has led to large expanses of informal, inefficient parking.

Due to a lack of parking and a desire to access the river at multiple locations, visitors utilize widened shoulders of New Mexico Highway 63 in NMDOT right of way wherever possible. Although this practice occurs only in locations not constrained by the narrow canyon, it does pose safety concerns along the roadway. Unchecked vehicular access also contributes to the degradation of the riparian corridor.

To address insufficient parking, existing day-use parking areas should be made more efficient and expanded where possible. In addition, formalized intermediate parking locations along NM Highway 63 with river access would help address existing safety concerns and provide more opportunities for river access.

Image 2-26: Fishing along the banks of the Pecos River at Willow Creek Recreation Area



WILDLIFE

Areas within the park are designated as Gaining Access Into Nature (GAIN) program lands by the State Game Commission. This designation promotes wildlife-associated recreation such as: wildlife viewing, photography, hiking, and bicycling.

Hunting is not allowed within the park boundaries. However, some hunters with permits for GMU 45 (*Game Management Unit 45*) in the Santa Fe National Forest camp within the Park during the fall hunting season. Big game permits can be obtained for deer (Sept.-Nov.), elk (Sept.-mid-Nov.), and big horn sheep (Ewe-Sept, Ram-Aug.).

Image 2-27: Animal Tracks along the banks of the Pecos River



CAMPING

Camping is the most popular activity in Pecos Canyon, especially during summer. Many people who come to the area primarily for other reasons end up camping there, too. A 2008 study by the USFS estimated that around 600 people camped at the DGF Wildlife Areas each weekend over the summer. Approximately 75% of the campers at the sites were in vehicles including pickup trucks, camping trailers, fifth-wheel campers, and RVs. The remainder of the campers were in tents. 65% of the campers were either from Santa Fe or Albuquerque.

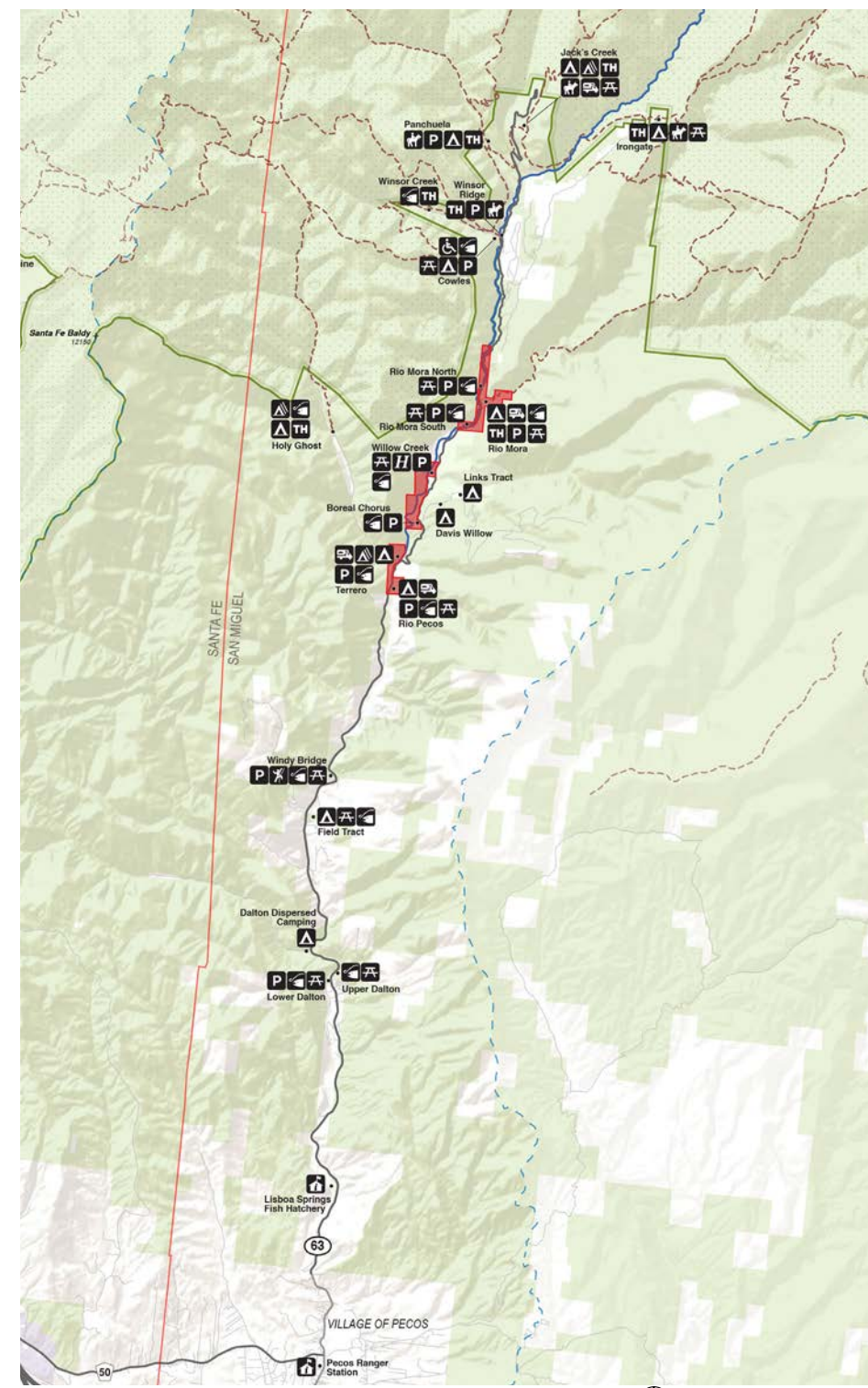
Camping is very popular with large, extended families, some of whom have been coming to the canyon to camp with family members for 40 years. Many people at the sites during the 2008 study indicated that they came to camp in the canyon because it was the only viable place for a large family group to gather outdoors. Other than anglers who were camping in the area, few people at the campsites reported that they were in the canyon to connect to nature. Many people said that they preferred to camp in the DGF campgrounds because of a lack of rules and enforcement and because there were no fees for camping.

Three separate studies between 2001-2009 determined that the campgrounds in the canyon, including the six USFS campgrounds, exceed capacity nearly everywhere, during nearly every weekend in the summer and early fall, which causes overflow issues into areas that are not suited for camping or intensive human use. Past use patterns led to user conflicts and damage to natural resources and facilities. Many residents in the area appealed for SPD to establish a state park in the canyon in order to prohibit or limit such patterns and behaviors. A 2009 DGF analysis of the Senate Joint Memorial that initiated establishment of Pecos Canyon State Park noted that “the establishment of a state park could have implications for extended family camping opportunities. Tighter control of this type of camping could make it more difficult for some large groups to camp together.”

Since conducting the studies, DGF made improvements to campgrounds and began giving citations to people who did not have a “Gaining Access Into Nature” (GAIN) permit. GAIN permits were implemented by DGF in 2009 and require people 18 years or older who are on DGF lands without a hunting or fishing license to pay a fee. The permits cost \$20 for one year or \$9 for a five-day pass. Prior to the GAIN permit program, camping at the DGF properties was free. Some people believe that enforcement has reduced the number of visitors to the canyon, or displaced them to existing USFS lands within the canyon. Although SPD charges fees for camping and day-use, SPD expects that most visitors will accept these fees in return for the services that SPD will provide including regular trash pick-up, regular cleaning and maintenance of the facilities, high quality campsites, enforcement of rules such as quiet hours after 10:00 pm, and law enforcement.

The 2021 survey suggested that most visitors approved of SPD’s job of managing the Park and are satisfied (77%) with the activities currently offered within the Park. In contrast to previous studies, visitors surveyed cited that the most important experiences and values were being in nature, peace and quiet, safety, and spending time with family. Recommendations for improving the experience ranged from upgrading campsites with amenities (picnic tables, shade, privacy buffers), addressing maintenance issues, more ranger presence, better signage/maps, and improving the fishing access/fishing areas.

Figure 2-16: Pecos Canyon Camping + Day-use Opportunities



Within Pecos Canyon there are multiple options for camping: camp sites distributed throughout the canyon along the river and within upper forested and meadow areas. All sites are primitive, with no electric hookups or potable water. Toilet facilities are vault toilets and have no running water.

Currently within the canyon, a total of 177 designated camping spots (145 USFS, 32 Park) are located throughout 12 campsites (9 USFS, 3 Park).

River Camping

A total of 67, or approximately 38% camping spots are located along the Pecos River or adjacent tributaries.

- 35 USFS Lands
Dalton, Field Tract, Cowles*
- 32 Pecos Canyon State Park
Rio Pecos, Terrero, Rio Mora

**Dispersed camping; campsites estimated from total area and user descriptions*

River camping sites are highly popular due to their proximity to the water. These locations offer cooler temperatures and access to fishing. Of the riverside camping locations within the canyon, just under 50% of camp sites are within the Park.

Forest Camping

Most of the existing camp sites within Pecos Canyon provide a forest area camping experience: 110 sites, 62% of total camping in the canyon. These are all managed by the USFS. Most locations typically have access to area trails and some have provisions for equestrian trailers and horses.

LEGEND

- | | | |
|--------------------------------|------------------------|----------------|
| Management Area Boundary | Campground | Horse Camping |
| USFS Land Boundary | Picnic Area | Sport Climbing |
| Upper Pecos Watershed Boundary | Group Campsite | Visitor Center |
| County Line | Parking (10+ Vehicles) | Trailhead |
| Pecos Wilderness Area Boundary | Accessible | Fishing Access |
| USFS Trail | RV Camping | |
| River, Major | | |

Park facilities and campgrounds, inherited from the DGF in 2019, have received minimal improvements to date with SPD management. The 32 individual sites and one group site have no amenities such as utilities (electric or water hookups), picnic tables, fire rings, grills, etc. Bear proof trash cans have been installed in some locations but not throughout the Park. Vault toilets are stationed at each campground and most day-use areas. Some of these have been in use since the 1990s and are in need of replacement. Park staff stock and clean the vault toilets on a regular basis.

Improvements to date have focused on clarifying Park extents and facilitating reservations. A new monument sign at Rio Mora and Rio Pecos identifies the entry to the site, kiosk signs provide information on fees and an overall Park map, and number posts have been installed at each camp site for reservations. Signs along New Mexico Highway 63 indicate Park boundaries (entering/leaving the Park).

Evidence of illicit primitive camping and campfires can be found in locations along the river banks, corresponding to social trails along the river. These sites are often located in clearings and have rudimentary stone fire pits and seating.

Image 2-28: Rio Pecos Campground; river access directly from campsites but with no shade or amenities provided within camp sites



Image 2-30: Primitive (illicit) camp site along the river near Boreal Chorus Day-use area; stones create a fire ring



Image 2-29: Terrero Campground; river access to left adjacent to campsites but with no shade or amenities provided within camp



Image 2-31: USFS Irongate Campground, a popular upland, forested retreat



An inventory of existing recreation area camping and parking locations was conducted in 2021. Since some use areas, particularly parking areas, are not clearly defined, estimated capacities for these locations were derived by assessing approximate usable area.

PECOS CANYON STATE PARK

Existing Conditions Inventory, 2021 assessment

Recreation Area	Camping RV/Tent	Walk-in	Parking* PCSP	Parking** Free Angler Access	Turnout
Rio Pecos Campsite Day-use Free Angler Access	8	--	-- 10	7	
Terrero Campsite Group Site Trailhead (NMDOT) Day-use	13	--	6 25		20
Boreal Chorus Day-use		--	5		
Willow Creek Group Site Day-use Free Angler Access	1		20 20	20	
South Rio Mora Day-use		--	7		
Rio Mora Campsite Day-use Parking	11	--	6		10
North Rio Mora Day-use Parking Free Angler Access			10	15	6
TOTAL	32 / 1	--	109	42	36

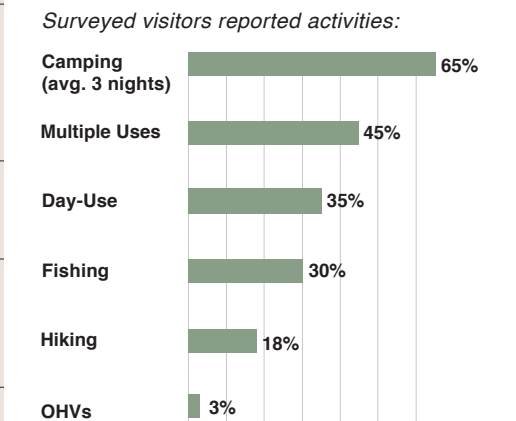
* Existing parking areas are largely undefined; estimates based on linear footage/area

** Turnouts are informal parking in NMDOT right of way; estimates based on field observations

Pecos Canyon has been a recreation destination since the 1920s. People come to the area to camp, fish, hike, backpack, hunt, and picnic. Over the last 20 years public input surveys were conducted to determine preferred uses, patterns, and preferences of visitors.

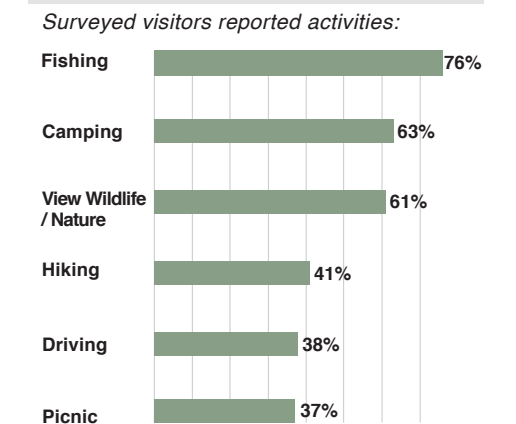
Visitor Survey 2010-2012 (USFS)

In 2010, 2011, and 2012, employees from the USFS conducted a survey of visitors in the canyon.



Visitor Survey 2021 (SPD)

The 2021 survey conducted by SPD opened during the Labor Day weekend and extended for a month. Most respondents were from in state (92%) and were primarily from Santa Fe (36%) and the Albuquerque area (29%). Over 56% have been coming to Pecos Canyon for 10 or more years.



Rio Pecos Recreation Area

The Rio Pecos recreation area (formerly Bert Clancy) is the southernmost and smallest of the recreation areas. It currently has nine campsites that can accommodate RVs. DGF installed a double vault toilet, metal barriers to prevent people from driving and camping too close to the river, and some trash receptacles in 2011. These improvements have helped to reduce the negative human impacts at the site, which were noted as being severe in the 2008 USFS study. There is no potable water available at the site.

In 2008, prior to campground improvements, USFS employees counted 28 vehicles at the Rio Pecos area at one time. A USFS study has determined that approximately five campers are present for every car, which would mean that approximately 140 people would have been at this campground at this time. Other visits during the summer found that estimated numbers of people ranged from 50 to 95 visitors at the site. The area has about two acres that are suitable and appropriate for camping.

In 2019, SPD added signage and a fee station. One camping spot is dedicated to a camp host to assist with camper needs.

Image 2-32: Rio Pecos Campground



Terrero Recreation Area

The Terrero recreation area is west across the river from the Terrero General Store. The portion of the area that is suitable for campground and facility development is approximately 3.7 acres. Around 18 loosely defined RV sites are in this area. USFS and SPD employees came to the area on two separate weekends in 2009 and calculated that the number of visitors at one time was 145 and 190 people (29 to 38 vehicles).

Like the Rio Pecos campground, people often camp in areas that are not defined sites and are widely dispersed throughout the area, including in the floodplain. Some of the more severe issues resulting from overcrowding were mitigated when DGF improved the campground in 2011 by adding a double vault toilet, more trash receptacles, and blocking vehicle access to areas in the floodplain. There is no source of potable water at this area. The 2008 USFS capacity report noted that the Terrero campground is popular with large family groups and other gatherings, but there are no campsites that are specifically designed to accommodate them.

In 2019, SPD added signage and a fee station. One camping spot is dedicated to a camp host to assist with camper needs.

Image 2-33: Terrero river access



Boreal Chorus Recreation Area

Visitors use two undesignated areas to the west of New Mexico Highway 63 across from Davis/Willow Road for dispersed camping. Multiple, redundant roads run through these areas and the roads are severely rutted and often muddy. A few picnic tables are in this area, but since there are no defined campsites, people camp wherever they can. In 2009, SPD staff counted 37 vehicles at these sites. These areas have no restroom facilities or potable water. There is about 1.3 acres of developable land at this site. Currently, signs are posted prohibiting camping in the area, but enforcement is spotty.

In 2019, SPD installed metal barriers along the road and stone boulders within the area and closed vehicular access to the site. A gated parking lot (capacity: three vehicles) provides staff access to the site. The closure has initiated passive restoration of the site. Areas of native vegetation is beginning to take hold, although evidence of past use is prominent and will take years to rehabilitate without active measures.

Image 2-34: Boreal Chorus Recreation Area



Image 2-35: Willow Creek Recreation Area



Willow Creek Recreation Area

Prior to 2012, the Willow Creek recreation area was only for day-use. A pavilion on the east side of the river can be rented out to groups for \$90 per day. The pavilion has picnic tables, fireplace, and a grill. Two single vault toilets are located at either end of the parking area. This area has about 2.2 acres that are appropriate for recreational development on the east side of the river. This is the only recreation area that has a well and a water right, but because of pollution caused by the mine, the well is not currently in operation. DGF has the water right, which is for three-acre feet per year.

Residents on the west side of the river use a bridge within the management boundary to access their property. Repairs to the bridge were conducted in Fall 2022. The west side of the Willow Creek area is seldom used. Primitive camping was allowed in this area when it was managed by DGF.

The Willow Creek recreation area is unsuitable for camping due to existing cultural, historic, and environmental remnants. Much of this area lies within the flood plain. SPD employees visited the area on Memorial Day weekend, 2009 and found only three cars parked there for fishing access. A visit in July 2015 found a small group camping on the west side of the river, but there were no campers on the east side of the river.

Beginning in 2021, SPD upgraded the Willow Creek Group Shelter (formerly Jamie Koch Pavilion) and parking area for safety, better functionality, and ADA accessibility. Improvements included formalizing the 21-car gated parking area, installing a new single-vault toilet to replace the existing outdated one, stabilizing the pavilion structure, upgrading the picnic tables, and adding grilling stations.

Rio Mora Recreation Area

The Rio Mora campground and recreation area (formerly Mora) is spread out and is often categorized by three separate areas, which were all used as campgrounds under DGF management: North Rio Mora, Rio Mora, and South Rio Mora. The South Rio Mora area is adjacent to the river on the west side of New Mexico Highway 63. The area has two single vault toilets on the east side of the road, but the majority of campers stayed on the west side of the road, which presented a safety hazard since people must cross Highway 63 in order to use the facilities. SPD employees counted 21 vehicles (105 people) over the Fourth of July weekend, 2009. There is no potable water in the area. The area contains signs prohibiting overnight camping, but enforcement was sporadic. About 1.9 acres encompassing both sides of the road are appropriate for development as a day-use area at this site.

More visitors come to the Rio Mora campground than any of the other camping areas. This may be due to the access that visitors have to both the Rio Mora and the Pecos River, which is directly across the street, and that DGF actively stock the river at this location. There is also more shade in this area than the other campgrounds. SPD employees counted 45 vehicles on Memorial Day weekend in 2009, 26 of these vehicles were RVs. The 2008 USFS capacity assessment of the site noted that 12 to 14 RV sites would be the most that could reasonably fit in this area. DGF improved the

Image 2-36: South Rio Mora Recreation Area



area in 2012, restricting the number of RVs the area can accommodate. The Rio Mora campground has about 2.3 acres that are suitable and appropriate for campground or facility development. The site has two single vault toilets and no potable water.

The North Rio Mora area is a parking area for fishing access that people used as a campground, especially during busy times. The area is a thin sliver of land around 275 yards long on the west side of New Mexico Highway 63 adjacent to the river. It varies in width from about five yards to 40 yards. A few picnic tables are located between the parking area and the river. SPD employees counted nine vehicles in this area during Memorial Day Weekend, 2009, seven of which were RVs. There is around 0.6 acres of developable land including the parking area at this site. No restroom facilities, potable water or trash receptacles are present in the area. The area contains signs prohibiting overnight camping, but enforcement was previously sporadic.

Image 2-37: Rio Mora Campground



Image 2-38: North Rio Mora Recreation Area



Fishing

People come from all over the country to fish for trout in the Pecos River. The Pecos Canyon and the headwaters in the high country are well-known fly fishing destinations. A one mile stretch of the Pecos River north of North Rio Mora day-use area is designated as Special Trout Waters: Green Chile Water. People are allowed to take only two trout that are at least 12 inches and restricted tackle (artificial fly or lure with single, barbless hook). Parking access to these waters is available just above the North Rio Mora area on the west side of New Mexico Highway 63. Areas higher up in the Pecos Wilderness are also Special Trout Waters: Red Chile Water (catch and release only), including the Pecos River above Pecos Falls and Jack's Creek. The Rio Mora is also known for its great fly fishing. People catch mostly rainbow and brown trout in the rivers. Many of the rainbows that people catch are between nine and 14 inches long.

Prior to the 1950s, the Pecos River was known for its Rio Grande cutthroat trout. Most of the other species in the river were Rio Grande chub, fathead minnow, flathead chub, long-nose dace, and white sucker. As more and more people visited the canyon, recreational impacts and land management practices took their toll on the fishery and the quality of fishing. Rio Grande cutthroat are now relegated to the smaller stream segments at higher elevations where brown and rainbow trout are less common.

A healthy riparian zone is needed for a healthy fishery. Extensive camping along the banks of the river throughout the canyon have led to a lack of riparian vegetation due to soil compaction and removal. Trout feed on many insects that make use of overhanging riparian vegetation. A lack of stream-side vegetation and increased soil compaction leads to increased water temperatures, erosion, and sedimentation. Coldwater fish species like trout prefer lower water temperatures, and sedimentation in the river destroys habitat for spawning and for the larvae of insects that the trout feed upon. These changes can limit the survivability and reproduction of trout, and cause the population to no longer be self-sustaining. In addition to the problems caused by recreation uses in the canyon, the mine waste from the Pecos Mine has historically impaired the fishery, as well.

As a result of the reduced cutthroat trout population, DGF began stocking the river with brown and rainbow trout raised in the Lisboa Springs fish hatchery. The department stopped stocking brown trout decades ago because they reproduce in the river naturally. However, brown trout compete with, and sometimes prey upon, the native Rio Grande cutthroat trout. DGF currently stock sterile hybrid rainbow trout that will not interfere with the planned reintroduction of the Rio Grande cutthroat trout. The other naturally reproducing species in the river currently include chubs, dace, and sucker fish.

The Pecos River fishery was further impacted by the Tres Lagunas Fire in 2013, and the subsequent heavy rains that fell in the canyon raced through the burn area and brought a large volume of ash and sediment into the river. The river has recovered significantly since then. Ongoing restoration efforts in the river and along the banks are intended to improve riparian and aquatic habitat and will benefit anglers in the years to come.

There are three free angler parking areas within the Park: at Rio Pecos, Willow Creek, and North Rio Mora. Anglers who park in these areas are not required to pay day-use fees. Free angler parking is signed, but not clearly distinguished from Park day-use parking.

With over 3.1 miles of river frontage within the Park, fishing will continue to be a major component of the recreation areas, since many people who are camping are also fishing. Fishing also brings people to the Pecos Canyon during fall, winter, and spring months when camping is less popular. SPD has been successful in providing excellent opportunities for both fishing and camping in several parks including Navajo Lake and Cimarron Canyon, both of which also have designated Special Trout Waters.

Image 2-39: Rio Grande Cutthroat Trout



Image 2-40: Brown Trout



Image 2-41: Rainbow Trout



Figure 2-17: Water Jurisdictional Boundaries Map

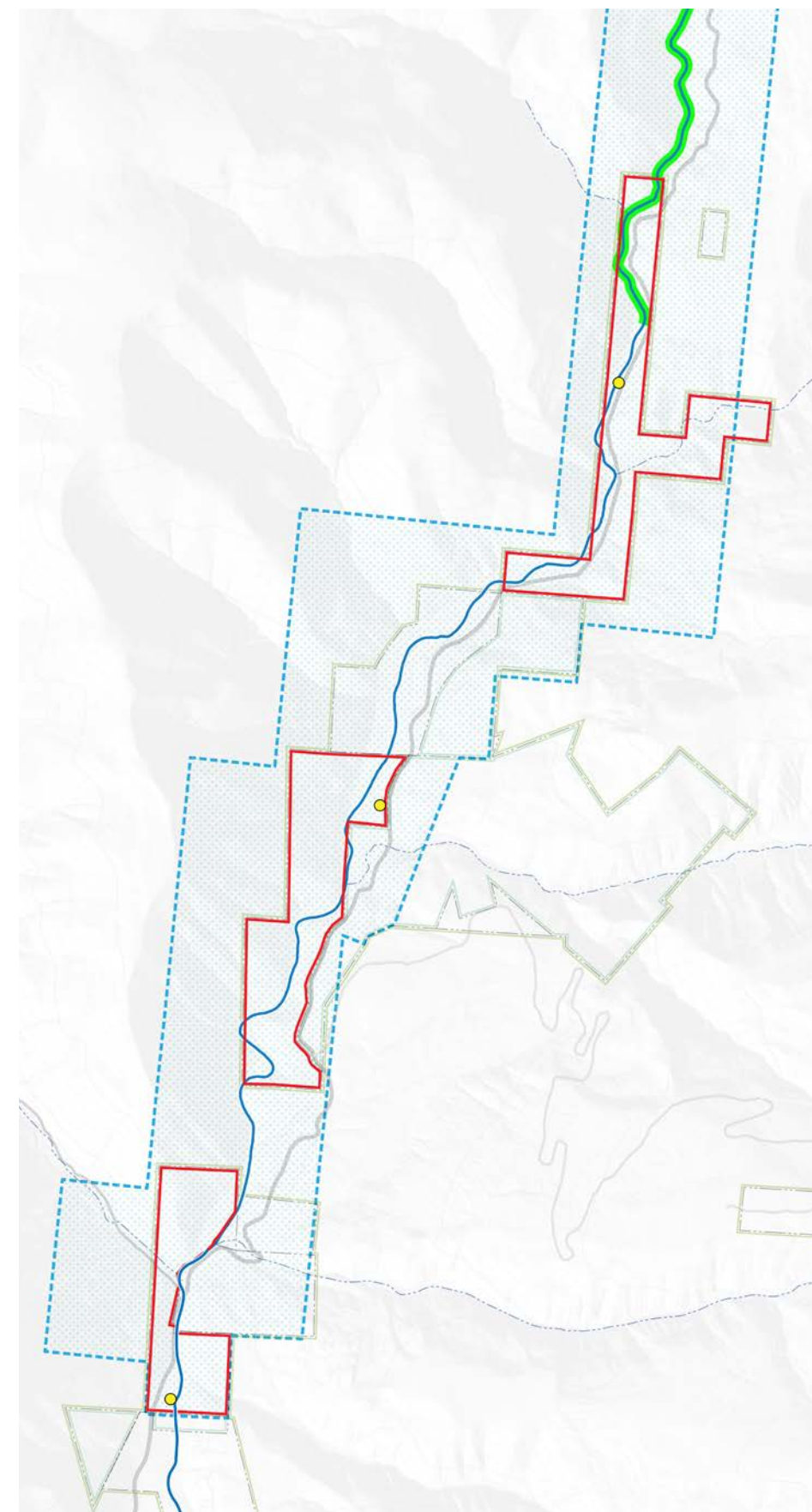
LEGEND

- Management Area Boundary
- DGF Land Boundary
- USFS Land Boundary
- - - Wild & Scenic River Corridor
- Special Trout Waters
- River, Major
- - - Stream, Minor
- Free Angler Access

Special Trout Waters —
 One stretch of DGF designated Special Trout Waters 'Green Chile Water' extends from Cowles downstream through Park boundaries for approximately .5 miles ending at Rio Mora North Recreation Area.

Wild & Scenic River - - -
 The entire length of the Pecos River within Park boundaries is designated as a Wild and Scenic Rivers (WSR), Recreation segment. WSRs are federally designated and preserved for their outstanding cultural, natural, and recreational values.

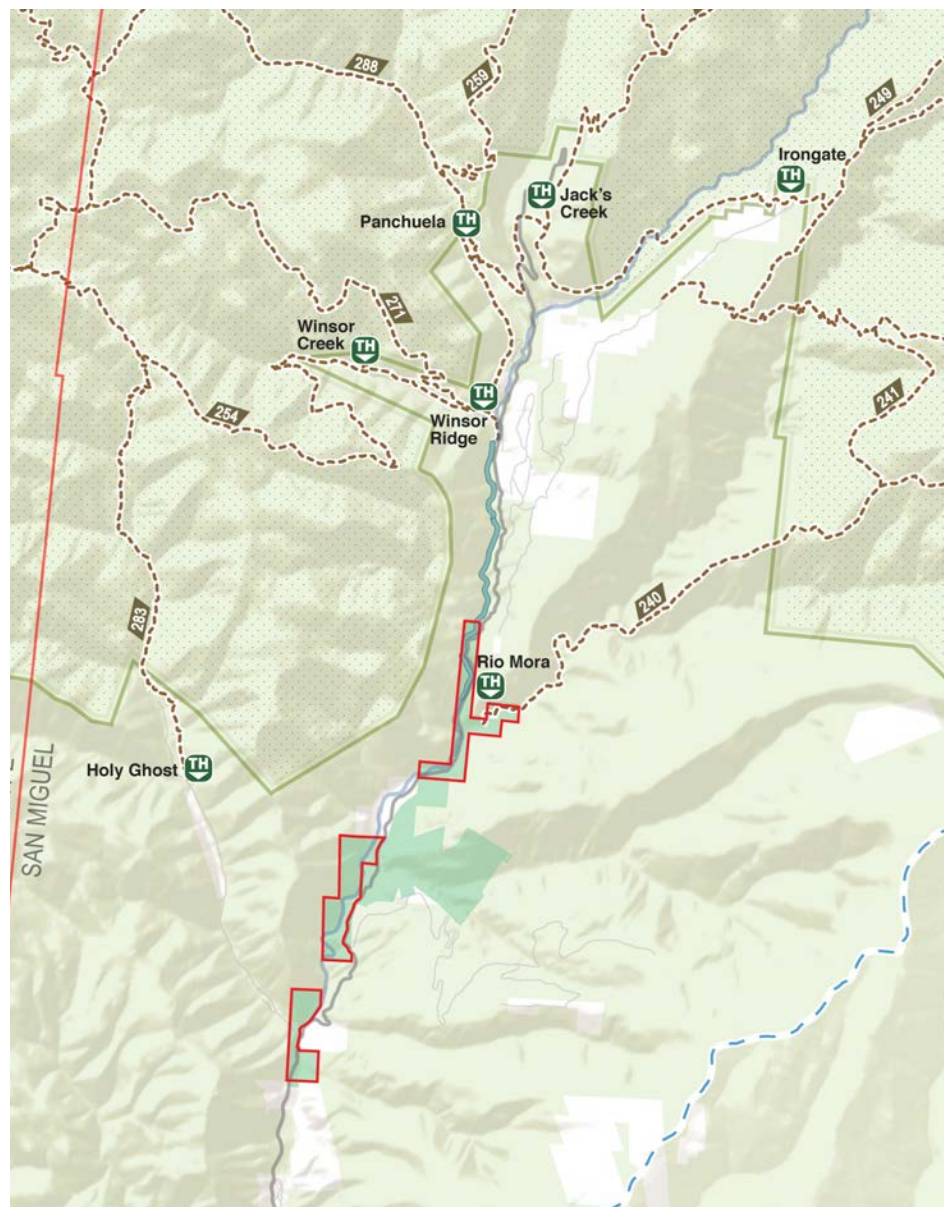
Outstanding National Resource Waters
 In July 2022, 180 miles of streams in the Upper Pecos Watershed were designated Outstanding National Resource Waters (ONRWs) with oversight by the USFS. Designated by New Mexico's Water Quality Control Commission (WQCC), ONRWs receive special protections from degradation.



Trails

The Pecos Canyon has a number of trailheads to access the extensive trail network within the Pecos Wilderness and on USFS lands. Over 430 miles of trails traverse the 223,667-acre Pecos Wilderness area of the Sangre de Cristo mountain range and provide access to a range of meadows, lakes, canyons, ridges, forests, and summits. Primary trailheads within the canyon are located north of the Park and provide access to popular trails including the Winsor Trail, Cave Creek Trail, Jack's Creek Trail, and Pecos Falls Trail. These trailheads are all found adjacent to USFS campgrounds.

Figure 2-18: Pecos Wilderness Trail System Access Detail



- LEGEND**
- Management Area Boundary
 - DGF Land Boundary
 - USFS Land Boundary
 - - - Upper Pecos Watershed Boundary
 - County Line
 - - - Pecos Wilderness Area Boundary
 - - - USFS Trail
 - River, Major

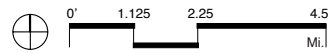
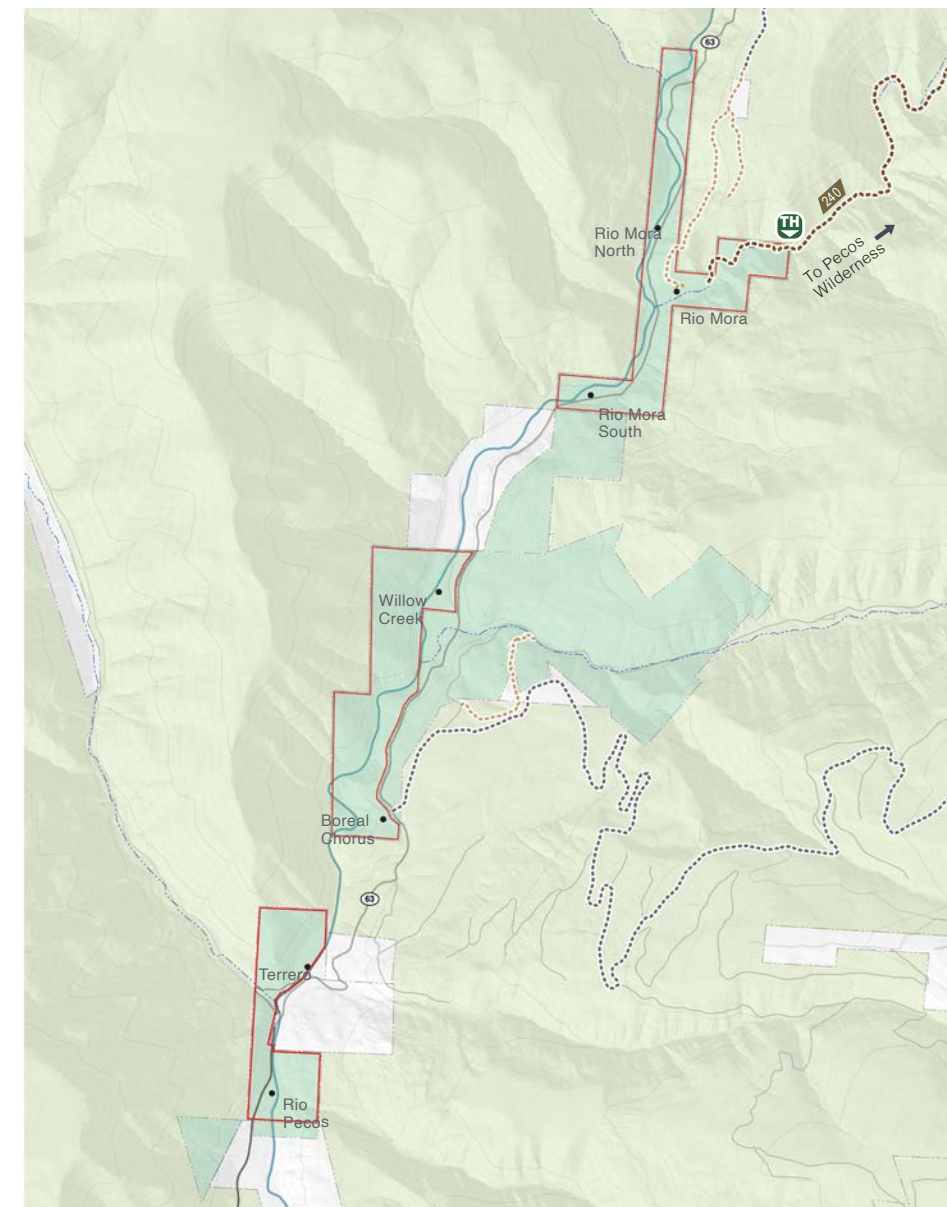
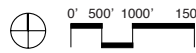


Figure 2-19: Upland Trails in PCSP



- LEGEND**
- Management Area Boundary
 - DGF Land Boundary
 - USFS Land Boundary
 - - - USFS Trails
 - - - User Trails
 - - - Vehicular Road / Trail



Within the Park, the Rio Mora Campground is currently the only location with a designated trailhead and access to backcountry trails. The Rio Mora Loop Trail begins at the east side of the campground along the Rio Mora. After a little over 4.5 miles, the trail enters the Pecos Wilderness and connects with a trail network that extends throughout the Santa Fe and Carson National Forests. Backcountry hikers may be interested in parking near the Rio Mora campground to leave their cars in a safe, patrolled area while they hike for extended periods. A change in Park policy will be required to allow overnight parking for backcountry trail hiker vehicles within SPD facilities.

Along the Pecos River, user-created trails provide access to fishing along the river during times of low water and high water. In some locations these social trails are present on both sides of the river. At day-use and camping areas, multiple short trails connect use areas directly to the river. Many of these social trails are narrow, rutted, unmaintained, and not designed as sustainable trails. While they provide access to the river, erosion from use and lack of maintenance adversely impacts the riparian zone.

Image 2-42: Social trail along the Pecos River



Visitor Experience

Park visitors who have been coming to the Pecos Canyon for decades have witnessed a shift in management. Likewise, the approach to resource management practices along the river has also changed as concern for the ecological health of the riparian corridor has increased. When SGC obtained land in Pecos Canyon for public use in 1950, recreation was largely unregulated.

Although there are camp sites throughout the canyon, most visitors are drawn to camp along the river, which they did historically in great numbers. In response to complaints from residents and visitors of misuse, DGF created a management plan and began initiatives to protect resources (1987). Since then, both DGF and USFS have implemented a series of measures to curb unlimited access and degradation of the river and riparian areas, including: installing barriers (pipe fencing, boulders) to limit vehicular access to the river and sensitive ecological areas, implementing upgrades to area roads and camping areas, installing features within the river to create deeper pools and encourage fish habitat, and managing forests within the upper watershed to mitigate forest fires and ensuing flooding. Despite these initiatives, abuse and degradation of some recreation sites continue.

In 2019, SPD assumed management of SGC-owned recreation area parcels within the Park to bring their expertise in managing recreation areas and campgrounds. The presence of a full-time ranger, along with seasonal staff allowed for more direct oversight of the Park and has helped establish a more focused vision of how this Park can both serve visitor recreational needs and protect and enhance ecological resources.



Image 2-43: Angler taking advantage of special trout waters within the Pecos River

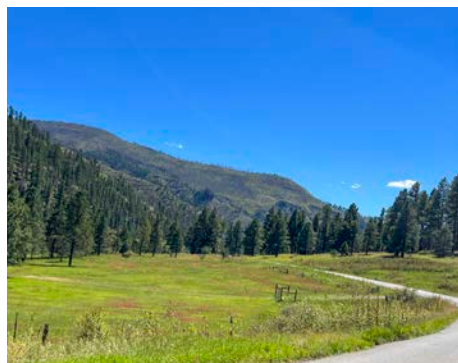


Image 2-44: Visitors experience occasional open views of Pecos Canyon as they approach the Park



Image 2-45: With sites difficult to access by RV, car/tent camping is a popular option in Pecos Canyon State Park



Image 2-46: River features throughout the Pecos River have improved aquatic habitat and provide opportunities for better fishing

Park Information

The change in management has ushered in a new era of communication and reservations. Current information on the Park is found on the EMNRD website and social media page. Campsites can be reserved in advance through ReserveAmerica.com during the high season (May-September). In this way, newcomers and media-savvy visitors are able to reserve spots and get information about the Park. However, older visitors and those accustomed to showing up to camp are taken unaware. A lack of WiFi access within the canyon makes last-minute on the spot reservations difficult. Only during the off-season (October-April) is camping allowed on a first-come/first served basis.

USFS campgrounds within the canyon utilize a different service for reserving camp sites: Recreation.gov.

Having no visitor center or point of contact at the entrance to the canyon or near the Park further exacerbates the ability to communicate effectively with visitors.

Emergency Temporary Closures

Since assuming management of the Park, SPD has elected to close portions or all recreation areas within the Park in response to local or national emergencies. In 2020 at the onset of the COVID-19 pandemic, the Park was temporarily closed to prevent spread of the disease at communal facilities. As the details of contagion became clearer, day-use areas were open to New Mexico residents and contact-less reservations allowed for recreation while adhering to strict pandemic rules.

In 2022, the Hermit's Peak/Calf Canyon Fire forced the closure of the Park as the fire extents came close to the canyon. Rio Mora Campground was used as a staging ground for fire management operations.

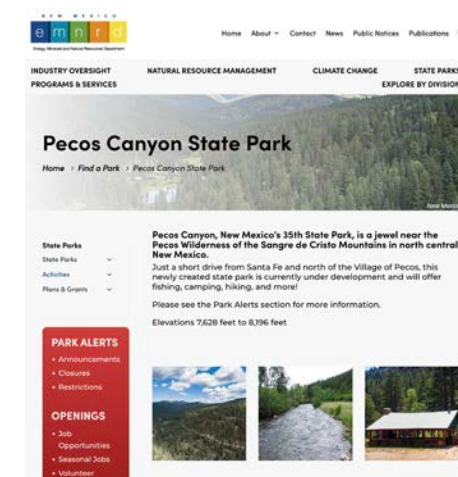


Image 2-47: Pecos Canyon State Park website and park information

Interpretation and Education

Interpretive and educational programs are intended to be an integral part of Park operations and the visitor experience with the goal of connecting visitors of all ages with the natural world. Educational programs will be developed in accordance with SPD interpretive frameworks tailored to the unique aspects of the Pecos Canyon.

Prior to distribution for public review, all interpretive media will be submitted for tribal review and input.

Learning opportunities exist Park-wide and can be developed as a network at different levels:

Destinations

Centralized locations for educational programming with indoor and outdoor exhibits, research, and classroom space to learn more about the Park's environment. These serve as gateways to learning.

Nodes / Stations

Launching points for seasonal programs, guided walks, and special activities located throughout the Park to introduce topics specific to the ecosystem.

Distributed

Smaller scale learning opportunities distributed throughout the Park can engage visitors and celebrate a sense of discovery. These include interpretive signage, interactive displays, art, brochures, or other media.

Interpretive Themes

Respect the Rio: existing initiative by USFS to place signage and explain impacts of human use on the river and river ecosystem, including best practices to protect the resource for future generations

Environmental Education: forest, upland, and riparian ecosystem health and diversity, including plants and wildlife

History in the Canyon: cultural history, settlement, Santa Fe Trail, mining, wildfires

General Preparedness: introduction to the outdoors including how to prepare yourself for an enjoyable experience camping, hiking, or fishing within the Park, including principles of 'Leave No Trace'

Outdoor Wilderness Training: training on backcountry wilderness preparedness, risk management, first aid, weather forecasting

Education for all ages: Junior Ranger program, adult naturalist classes, geocaching, regenerative strategies for backyard habitat enhancement

Stewardship Opportunities: wildlife monitoring, restoration planting, invasive species removal

Partnerships

Interpretive and educational programs will be prepared in partnership with existing entities within and in proximity to the park. Many partners have already collaborated to help with watershed protection and restoration efforts. These include NPS, UPWA, DGF, NMDOT, the Village of Pecos, San Miguel County, private landowners, the USFS, and Trout Unlimited, among others.



Image 2-48: Gathering area at Willow Creek



Image 2-49: Boreal Chorus Frog habitat



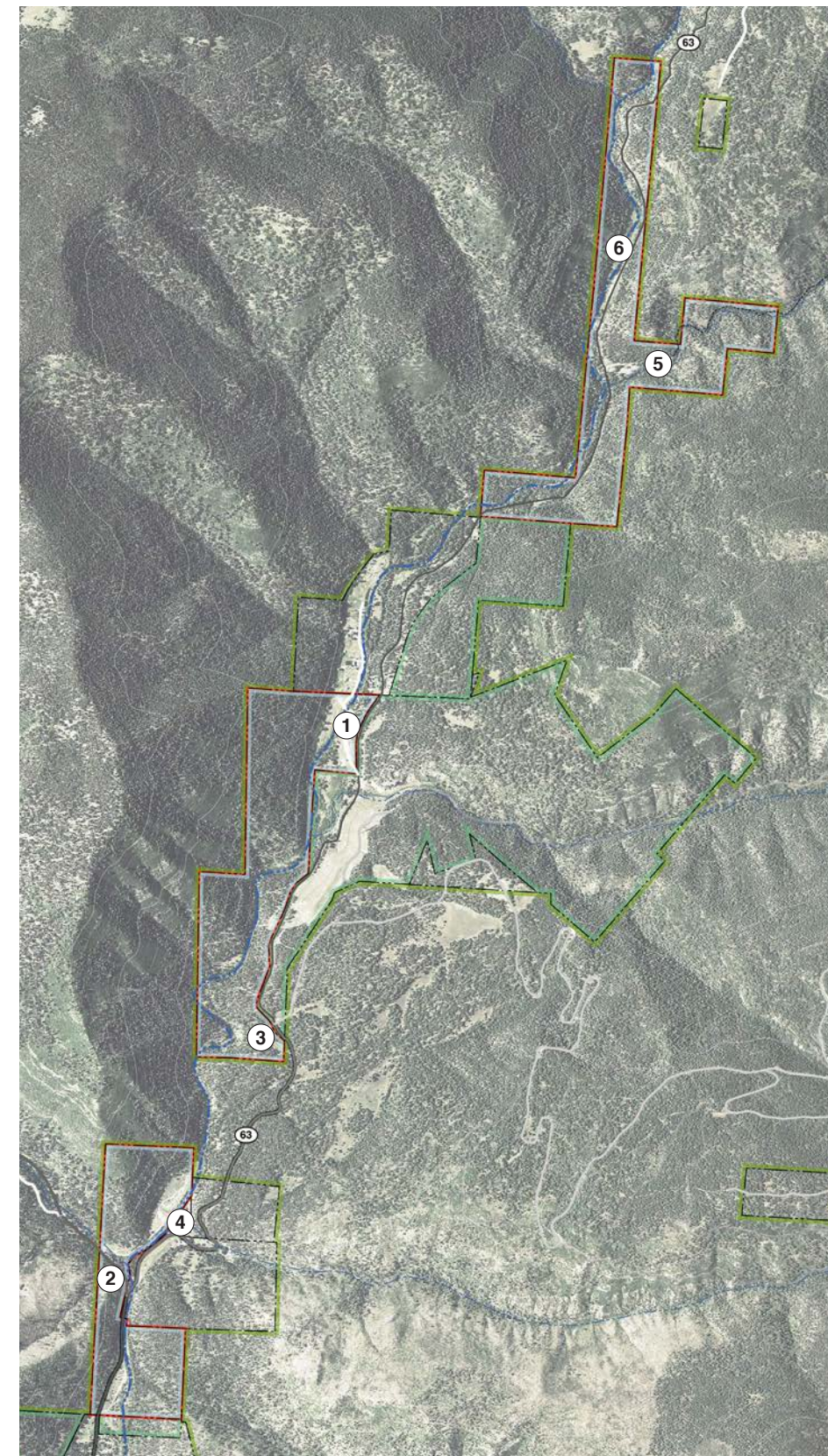
Image 2-50: Historic structure at Terrero General Store

Interpretation Points of Interest

Numerous points of interest exist within the Pecos Canyon that are opportunities for interpretation and education. Some of these include the following:

- ① Pecos Mine
Interpretive themes: canyon geology, historic mine area, Terrero village and surrounding mine community, historic remnants, impacts of mining on canyon ecology, ongoing restoration efforts
- ② Historic Bridge
Interpretive themes: transportation within the canyon
- ③ Boreal Chorus Frog
Interpretive themes: wetland ecosystem that supports the Boreal Chorus Frog
- ④ Terrero
Interpretive themes: Terrero general store
- ⑤ Gaging Station
Interpretive themes: Rio Mora stream gauge, hydrology of the Pecos River tributaries
- ⑥ Special Trout Waters
Interpretive themes: Green Chile Trout Water designations, aspects of the designation and types of amphibian species found in the river

Figure 2-20: Interpretive Opportunities Map



Infrastructure

Infrastructure within Pecos Canyon is present, but is limited by the constraints of the narrow canyon and small population of residents. This has preserved many areas within the canyon as relatively primitive and undeveloped.

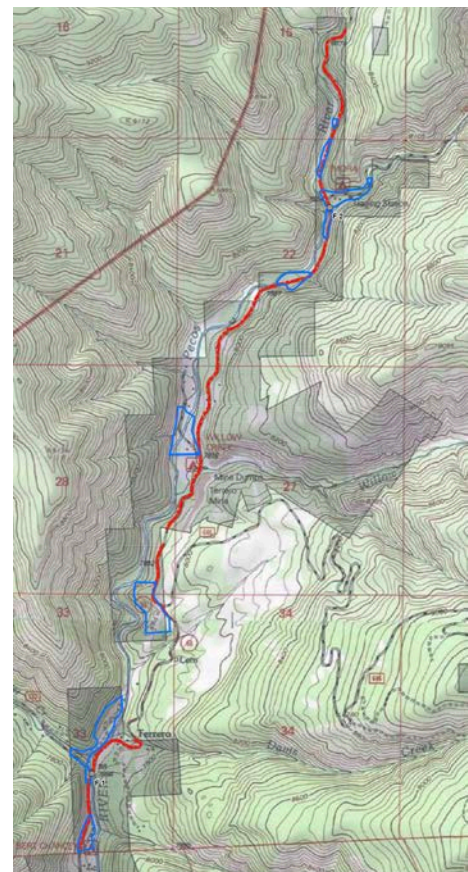


Image 2-51: Sections of NM HWY 63 within the Park are indicated in red. Adding up to almost 3.69 miles, this Right of Way is maintained by NMDOT.

Image 2-52: NM Highway 63 is a paved, narrow, 2-lane road with turnouts/informal parking at river access points throughout the canyon.



ROADS

The primary roadway within the Pecos Canyon is New Mexico Highway 63. Also known as Pecos River Road, it is a narrow 1.5-to 2-lane paved road located mainly within the base of the canyon, but also winds up through benches on the east side of the canyon past Terrero.

While some form of the road was present in the 1880s, over time some realignments have occurred, especially at river crossing locations. The historic Pecos River Bridge (Image 2-53) near Terrero remains as a remnant of the previous alignment, which was replaced in the 1980's by the current modern steel girder bridge. The bridge at Rio Mora, likewise, is a more modern 1958 bridge that is currently being slated for replacement.

NMDOT adopted New Mexico 63 into the New Mexico State Highway system in the late 1950's. Many improvements have been made including surfacing, grading, drainage, guard rails, and signage. The road right of way is maintained by NMDOT.

Holy Ghost Canyon Road (Forest Road 112) provides access to the Terrero Recreation Area and residences within Holy Ghost Canyon. It is a narrow (15' wide) uneven roadbed paved with asphalt.

Within the Park, internal roads and parking areas are unpaved surfaces in compacted dirt or base course.

Image 2-53: Historic Pecos River Bridge (ca. 1921 CE, LA 50325) near NM Highway 63/Holy Ghost Creek Road; last remaining Howe Through Truss bridge design in NM



SOLID / LIQUID WASTE

Bear-proof trash cans have been installed at Rio Pecos, Terrero, Willow Creek, and Rio Mora recreation areas for use by Park visitors. Residents and visitors to the canyon frequently deposit their trash in or adjacent to these receptacles. Solid waste management occupies much time by Park staff, particularly since the primary collection area is at Park offices located at the Lisboa Springs Fish Hatchery.

Liquid Waste

No sewer hookups or dump stations currently exist within the Park. The closest dump station is at the private KOA campground south of Santa Fe, a 25-mile drive from the Park. In some cases, RV users have emptied or leaked their liquid waste within the canyon, contaminating and adversely impacting the Pecos River and aquatic habitat.

WATER

One well is present in the Park at Willow Creek Recreation Area, but because of pollution caused by the nearby Molino Mine it is not operational. DGF has the water rights to this well, for three acre-feet.

No potable water is available within the Park and SPD has no water rights within the Park.

Image 2-54: Well and pump at the Willow Creek Recreation Area



ELECTRIC

Most of the private residences within the Pecos Canyon are served by overhead electric lines managed by Mora-San Miguel County Electric Coop. The lines generally extend along the base or lower slopes of the canyon within a dedicated easement.

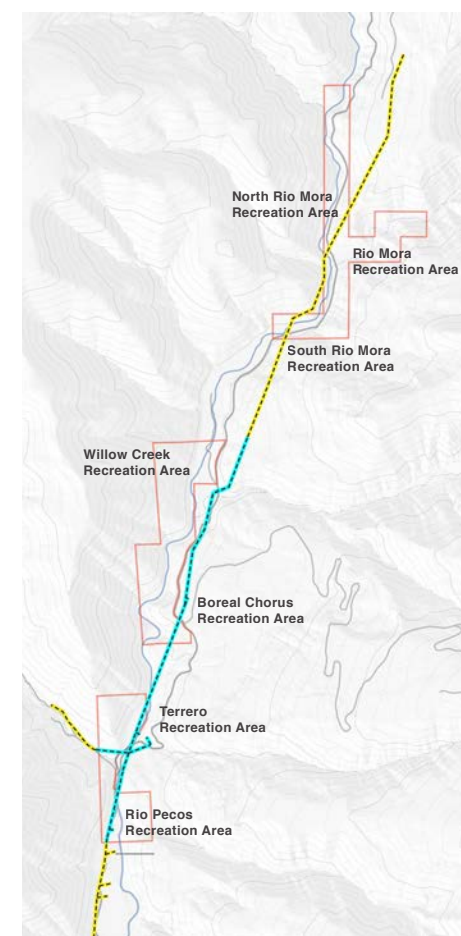
An electrical assessment obtained by SPD in 2019 indicated the Rio Pecos and Terrero Recreation Areas as the most viable for electric upgrades. Although these two sites are the most logical for receiving electric service because of the proximity to existing lines, electric utilities are present within and adjacent to most recreation areas within the Park.

At Terrero, existing overhead electric is a concern from a cultural resource viewshed protection standpoint. A line of power poles runs directly through the main campground area, diminishing the aesthetic quality of this site.

Image 2-55: Overhead electric lines near Terrero service the Terrero community and extend north and west



Figure 2-21: Existing electric lines near the Park



LEGEND

- Management Area Boundary
 - Overhead Electric, Surveyed
 - Overhead Electric, Aerial Traced
- Terrero Detail Map
- Management Area Boundary
 - Overhead Electric
 - Utility Pole

Figure 2-5: Mapped Existing Overhead Electric lines near Terrero Recreation Area



COMMUNICATIONS

Pecos Canyon has limited communication services. No Wi-Fi access is available within the Park extents. The closest reliable reception is in the Village of Pecos.

While some visitors to the Park appreciate being cut off from cell service to focus on being in nature, others would prefer connectivity.

Visitors who would like to make an on-line campsite reservation during peak season must pre-register or drive down the canyon to complete the process. During off-peak season, first-come camp sites are available and can be paid for online (where there is Wi-Fi).

Park rangers and staff communicate through short-wave radios.

Operations

Operations and Management

Operations and Management (O&M) includes diverse functions and procedures such as budgeting and staffing, visitation, fee collection, and maintaining partnerships. O&M at the Park, like all state parks, is informed by the following policies:

- EMNRD and SPD's "Policy and Procedures Manual"
- SPD's "Standards of Care Manual"

Park management, rules, and law enforcement authority are authorized by New Mexico statutes and the implementing rules in the New Mexico Administrative Code (NMAC).

Park Facilities

As a relatively new State Park, PCSP currently has no structures dedicated to administration, operations, and maintenance. Park staff operates out of leased and temporary sites for most of these tasks.

Visitor Center / Park Office
SPD currently leases office space at the Lisboa Springs Fish Hatchery for purposes of park administration. The hatchery is located 10.2 miles south of the Park's southern entrance at Rio Pecos Campground.

Maintenance Shop / Yard
There is no dedicated maintenance shop within the Park. Equipment is currently stored at the Lisboa Springs Hatchery south of the Park.

Image 2-56: Trash collection and cleaning with portable water tank at Rio Pecos Recreation Area



Restrooms
A total of two double, and five single, vault toilets are located throughout the Park at the following recreation areas:

- Rio Pecos (1 double vault)
- Terrero (1 double vault)
- Willow Creek (2 single vaults)
- Rio Mora South (2 single vaults)
- Rio Mora Campground (2 single vaults)

There is no potable water sources at any of these restroom locations. Maintenance staff currently hauls a portable water tank with hose attachments for cleaning out the restrooms.

Logistically, the Park is currently unable to transport a standard double vault toilet north of Terrero Recreation area due to roadway constraints.

Roads and Parking
The primary road through the Park is New Mexico Highway 63, originating in Rowe, NM south of the Park, and terminating north of the Park near Jack's Creek Campground (USFS).

NMDOT inventoried roads within Park boundaries include: Holy Ghost Canyon Road (access to Terrero Campground), Elk Mountain Road (across from Boreal Chorus Recreation area), and Terrero Ranch Road (access to Willow Creek recreation area).

Image 2-57: Informal parking/overnight camping at Rio Mora North, ca. 2011



Upland areas adjacent to the Park include a network of forest roads inventoried by USFS.

Informal parking and overnight camping is common along New Mexico Highway 63 at turnouts and shoulders wide enough to accommodate vehicles. This is a perennial concern for Park operations, contributing to significant ecological degradation while making fee collection and enforcement difficult. These problems persist in designated recreation areas as well, particularly when no signage or barriers are present.

Accessibility
Facilities in the Park do not meet current ADA standards. The nearest ADA accessible fishing site is at Cowles Pond, north of the Park.

Utilities and Infrastructure
Electric lines currently pass through the Rio Pecos, Terrero, and Willow Creek recreation areas. SPD had an electrical assessment completed of these areas, in anticipation of providing RV hookups for users and camp hosts at select sites. SPD will work with the local electrical cooperative, MSMEC, to provide electric service as needed. (See Appendix B for utilities documentation)

Water and Wastewater Systems
DGF has water rights to a well at the Willow Creek Recreation Area, but has been subject to contamination from past mining activities.

Image 2-58: Nearest accessible fishing site at Cowles Ponds, north of the Park



Park Management

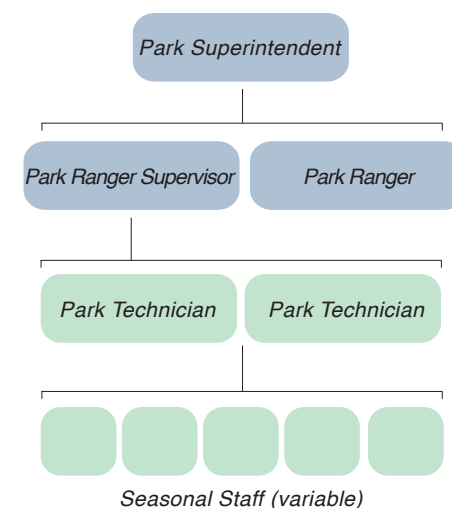
Hours of Operation
Park day-use hours are currently listed for 6:00 am - 9:00 pm. For campgrounds, check-in times are listed as 4:00 pm, with checkout at 2:00 pm the following day.

Fee Collections
The Park collects web-based and in-person payments for day-use activities. A single day-use pass can be purchased online or with a 'self-pay' envelope available at each recreation area. Annual day-use passes can be purchased online or from Park staff on-site.

Camping in non-reservation sites or 'first come first serve' sites can be paid at the Park with a 'self-pay' envelope. Reservations for overnight camping can only be made and paid for online.

Emergency Response
In 2022, SPD waived recreation fees and stay limits for New Mexico wildfire evacuees during a historic fire season. Rio Mora Campground was also utilized as a base camp for USFS fire crews performing work in areas near the Park.

Figure 2-22: Park Staff Organizational Chart



Law Enforcement / Organization
The Park currently employs a Park Superintendent / law enforcement agent, Park Techs, and seasonal workers. The Park's ideal staff organization is outlined in Figure 2-22: Park Staff Organizational Chart.

Partners
SPD entered into a management agreement with SGC in November of 2019. SPD also entered into a lease agreement with DGF for office space at the Lisboa Springs Fish Hatchery in April of 2020. SPD hopes to establish relationships with government departments, public safety entities, and local organizations that have a presence in Pecos Canyon and the Village of Pecos to foster public and interagency communication and to lay the groundwork for potential partnerships and future collaborations. This may include, but not be limited to, working with the EMNRD Forestry Division, San Miguel County, Pecos Canyon Volunteer Fire and Rescue, and USFS for fire management, thinning, and hazard tree removal purposes; collaborating with organizations like UPWA and volunteers to host trash cleanup days in the Canyon; working with the NMDOT on highway, signage, and traffic flow plans; collaborating with DGF, NMED, and UPWA on riparian restoration and fish habitat improvement projects; working with the Village of Pecos, USFS, and NMED to create a convenient and environmentally sound way for people to dispose of their RV waste; working with schools in the Village of Pecos on programs and interpretation in the Park, and opportunities for students to visit the Park. SPD will partner with several other entities and organizations in the Pecos area as opportunities arise.

Capital Improvements
SPD has received approximately \$2,350,000 from the New Mexico Legislature for capital improvement projects in the Park. Some projects are underway and future projects will include campground improvements at the Terrero, Bert Clancy, and Mora campgrounds and may also include improvements at other locations. Such improvements could include the creation of a visitor point-of-contact and campground improvements such as picnic shelters, picnic tables, grills/fire rings and vault toilets. ADA upgrades will be incorporated to provide fully accessible options.

Staffing
SPD currently has staff present in the canyon and is in the process of hiring additional staff. Full time staff will include three full-time law enforcement positions including the Park superintendent and 2 full-time Park techs. During the summer months, SPD hopes to employ part-time, temporary Park technicians, who will tend to daily maintenance tasks at the Park during the busy season. Full-time position typical duties include:

- Park Superintendent: Oversees Park management
- Park Ranger/Maritime Enforcement Officer: Responsible for law enforcement, boating safety, and interpretive programming
- Park Technician: Responsible for grounds, facility, and equipment maintenance

Volunteers
SPD will be seeking volunteers who will be camp hosts, and others who will perform such tasks as welcoming visitors and providing them with information, conducting routine maintenance, hosting interpretive programs, and lending help when the Park is hosting events or large groups.

Concessions

SPD will seek out concessionaires who wish to act as fishing guides or conduct other business within the Park. Fishing guides pay an annual \$300 fee in order to conduct business within Park management boundaries. Other concessionaires may pay a percentage of income to SPD to conduct business on Park property.

Budget

Initial start-up needs for staff, operations, and capital improvements were expected to be approximately \$740,000 for the first year of Park operations, including the purchase of vehicles, equipment, office equipment, and other miscellaneous items. At full staffing and operational levels, SPD expects recurring funding needs for staff, operations, and capital outlay will be approximately \$410,000 per year.

SPD estimates that annual Park revenue will be approximately \$125,000 based upon revenue at Cimarron Canyon and Sugarite Canyon State Parks.

Recent operational and personnel costs are described in Figure 2-23.

Visitation

Pecos Canyon is an extremely popular place to visit from May through September. A 2008 study conducted by USFS for DGF counted 3,700 vehicles in the canyon in one day during the summer with average daily traffic of more than 700 vehicles passing Terrero. The study estimated that around 600 people camped at the DGF properties each weekend during that summer. Around 35% of the visitors surveyed were day-use visitors and 65% were camping. 65% of the campers were from either Santa Fe or Albuquerque. Based on previous visitation to the Canyon, SPD expects the Park will be at full capacity every weekend during peak season.

Visitation from 2020-2022 has been significantly affected by both the COVID-19 pandemic (2020-2021) and Calf Canyon/Hermits Peak Fire (2022). This is reflected in the following total visitation numbers:

- Jan-Dec 2020: **13,286**
- Jan-Dec 2021: **18,012**
- Jan-Jul 2022: **12,046**

Figure 2-23: Park Budget FY20-21

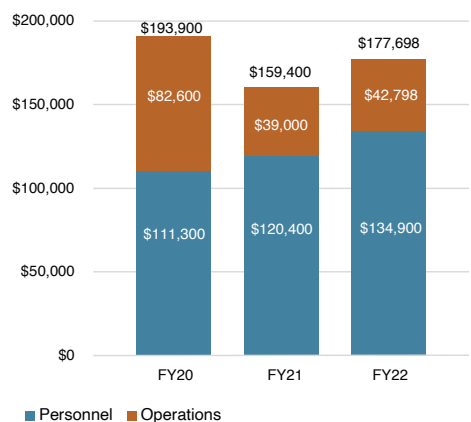


Image 2-59: Sign displaying day-use and camping fee information



Image 2-60: RVs and tent camping at Rio Mora Campground, July 2019



CHAPTER 3

Recommendations



Recommendations

Issues and Recommendations

Issues are concerns, problems, threats, or opportunities. The issues were raised by SPD staff, stakeholders, partner organizations, or by the public. Not all issues will result in an action. Some issues may be beyond SPD's control, or may not be a priority during this planning period. The issues are listed in the categories that correspond to this plan's organization.

The following recommendations are also listed in the "Action Plan" following this section. After the public comment period, the final action items will be prioritized using the criteria developed in the Strategic Operations and Sustainability Plan (SOS). Some actions will require further research, evaluation, planning, or design before they can be implemented. Each action is contingent upon available funding and other resources, and there is no guarantee that it will be feasible or that it can be funded and implemented in the proposed timeframe.

Resource Recommendations

Several previous studies and documents noted the lack of shade in some areas of the Park and the adverse impact to riparian health, particularly at Terrero and Willow Creek. SPD should partner with DGF to plant native tree species such as cottonwood and willow to provide shade and buffers between campsites while also restoring a diverse ecological habitat and beautifying the campgrounds. SPD may also wish to plant vegetation in other areas that do not have adequate ground cover and tree canopy.

- Plant trees near campsites and other areas that experience heavy use to provide shade and buffers between individual sites and between campgrounds.
- Establish a riparian revegetation buffer of 25' (min.) from the OHWM between the river edge and camping/day-use areas.
- Revegetate areas that are not appropriate for recreation uses that have bare ground with a diversity of native plant material.
- Install barriers to establish limits of restoration areas and prevent vehicular access.
- Manage restoration efforts to provide habitats for threatened, endangered, and species of concern.
- Install bioswales and water quality basins to manage stormwater runoff and pollutants from adversely impacting riparian health.

The Boreal Chorus area (formerly known as the Frog Bog) has suffered severe ecological damage in the past due to off road vehicle use. SPD should work with partners to restore this area by reducing erosion, further limiting vehicle access, and reestablishing native vegetation.

- Restore the Boreal Chorus area for habitat and ecological diversity.

The Terrero town site is in the vicinity of the Willow Creek recreation area. SPD will design the recreation area in a way that best preserves the significant, contributing features of the town. Further archaeological surveys and monitoring will be conducted in the area as needed.

- Design the recreation area in a way that best preserves the significant, contributing features of the town and identify opportunities for interpretation.

Image 3-1: Denuded wetland at Boreal Chorus Recreation area



Recreation Recommendations

SPD has studied appropriate uses and capacities for each recreation area and recommends developing those areas accordingly for a better visitor experience. For example, the North Rio Mora Recreation Area (formerly North Mora) was intended as a parking area and not a campground. People had used the area for RV and tent camping, but the site is more appropriate for a parking area for anglers and possibly a picnic and day-use area. The South Rio Mora Recreation Area (formerly South Mora) is also more appropriate for a day-use and picnic area.

The Willow Creek recreation area is currently underutilized, while the Rio Mora Campground (formerly Mora Campground) is often over capacity. SPD could add more recreational opportunities to the Willow Creek area, while establishing well-defined sites at the Rio Mora area to reduce the risk of overcrowding, possibly including walk-in camping east of the Rio Mora Campground along the river and other areas.

The best areas for group camping and large gatherings are at Terrero and Willow Creek because they currently have the most open space for large groups to gather and are separate from day-use and camping areas. SPD should improve the existing facilities and establish new facilities for this type of use.

- Determine the appropriate uses and desired capacities for each recreation area and develop those areas accordingly.
- Develop walk-in campsites in the Park.

The campsites and roads in the Park are poorly defined, and people end up camping and driving in random places, which leads to soil compaction, erosion, reduced vegetation, and areas of bare ground. These factors contribute to sediment entering the river, which diminishes water quality. Poorly defined campsites can also lead to areas in the Park being over capacity, which diminishes visitor experience and can lead to user conflict. SPD should define the campsites and areas where people drive and park to reduce the area of land disturbed by recreation use and confine the use in appropriate areas. During this process, SPD may also improve the campsites by adding shade shelters, picnic tables, grills, and tent pads. Once campsites are defined SPD will determine which sites should be managed under the reservation system.

- Define campsites, roads, and parking areas.
- Add shade shelters, picnic tables, grills, and tent pads to some campsites.
- Define day-use parking, access, and picnic areas.
- Define internal site pedestrian circulation including accessible paths and trails along the river.

Image 3-2: Passive enforcement strategy employed at several recreation areas



Camp Hosts

Many state parks have a camp host site for volunteers who help manage camping areas. Typically these sites are located in areas of the campsite that provide opportunities for oversight and engagement with campers but are away from entry points and high noise areas.

- Define camp host sites on the edge of the camping areas near the river, where possible.
- Add shade shelter, picnic table, and grill to host site.
- Add water tanks, septic tanks, and electric at camp host sites where possible.

ADA Accessibility

The facilities in the Park do not meet current ADA standards. SPD will construct ADA accessible campsites, group shelters, and day-use picnic areas and will also provide ADA access to new and existing vault toilets wherever possible. SPD will construct ADA accessible parking areas and internal circulation to accessible facilities where possible.

- Provide ADA accessibility where feasible.

People come from all over the country to fish in the Pecos River. People of differing abilities should also have access to this activity. SPD should provide ADA access for fishing at one or more of the recreation areas.

- Work with DGF to determine the feasibility of providing ADA fishing platforms or piers in at least one of the recreation areas and implement if feasible.

Trails

The only official trail in the Park is the Mora Loop Trail, which starts at the east side of the Rio Mora Campground. SPD can connect the Park recreation areas with a multi-use trail by using the sustainable and appropriately placed parts of existing user trails near the river along with new trail sections and crossing structures. SPD can also work with partner agencies to identify opportunities to connect to other trails in the area to provide access to existing and planned trail systems within the Pecos Wilderness and on USFS lands.

- Develop a connector trail from Rio Pecos (Bert Clancy) to Rio Mora North (North Mora) to connect all recreation areas within the Park.
- Develop a trail from the Boreal Chorus area (Frog Bog) down to the river north to the Willow Creek area and south to the Terrero area.
- Look into the potential for developing other trails in the Park that connect to off-site trail systems.
- Develop wayfinding signage system for Park trails, trailheads, and access to off-site trails.
- Provide opportunities for overnight parking for people accessing backcountry trails.

Transportation Recommendations

The growing popularity of outdoor recreation coupled with increased visitation can be seen with recreational sites at capacity and overflow parking onto roadways. This impacts safety of the roadway and emergency access. The physical constraints of the narrow canyon limit the ability to address transportation in typical ways such as widening roads; a more creative, comprehensive approach is warranted.

Parking Study

SPD should work with partners within Pecos Canyon to study and address parking and transportation issues. Communicating locations and numbers of available parking at the entry to the canyon could provide visitors an overview of how to plan their trip.

- Conduct a parking/transportation study to identify issues and transportation-related solutions within Pecos Canyon.

Education and Interpretation Recommendations

Communicating the Park's cultural context, history, and ecological setting to visitors can help increase appreciation of the Park and support stewardship efforts. SPD should establish programs and engage visitors with an array of passive and active educational and interpretive means.

- Communicate restoration efforts and its importance to the health of the river with interpretive signage and educational programs.
- Design recreation areas in a way that best preserves significant, contributing historic resources and identify opportunities for interpretation.
- Developing education programing, interpretation in the Park, and opportunities for students to visit the Park.
- Partner with agencies and non-profit entities to establish programs and assist with educational and interpretive programs.

Facilities Recommendations

SPD needs to establish Park infrastructure for improving the visitor experience, increasing staff efficiency, and promoting overall health and sanitation within Pecos Canyon.

Visitor Center / Point-of-Contact

SPD should establish a point-of-contact or visitor center that ideally is located either within the Village of Pecos north of the junction with NM Highway 50 or at the southern end of Pecos Canyon. This location would serve to orient new visitors to Pecos Canyon prior to driving up to the Park. It could serve as an exhibit and an educational hub. It should be sustainably designed and use renewable energy sources to the greatest practical extent.

A second, smaller point-of-contact should be more centrally located within Pecos Canyon in close proximity to the campgrounds and New Mexico Highway 63. Ideally, the location should be close to existing electric and phone lines, have an existing well and/or water rights, and have the capacity to support a wastewater system, such as a septic tank and leach field.

- Determine most viable site for a point of contact/visitor center on currently managed property, leasing of existing facilities, or purchase of additional property.
- Program point-of-contact/visitor center and smaller centralized point-of contact.

Park Maintenance Shop/Yard

Locate an area central to the Park that has enough space to serve as a Park shop and yard. The yard should be large enough to hold equipment and materials for daily park operations. This location could be found on the property owned by DGF, or property could be purchased by EMNRD at another location that has yet to be identified.

- Determine operational needs and location of central shop/yard; construct.

Staff Housing

Many state parks have a residence available for rangers/law enforcement personnel working at the parks. A ranger residence helps ensure that there is a law enforcement officer available for emergencies within a park, which enhances visitor safety. SPD will determine if a ranger residence at the Park is needed or desirable.

- Determine whether it is necessary to establish a ranger residence within Park boundaries and construct if needed.
- Identify locations and opportunities for additional staff housing in proximity to the Park.

Comprehensive Signage Plan

SPD needs to develop a comprehensive sign plan for the Park to help communicate the recreation areas within the Park, provide wayfinding and orientation information, and relay interpretive information. Since 2019, SPD has installed self-pay stations and signage within the Park to identify property extents along the road, explain SPD rules, and provide other information. Further efforts to clarify the proper use of the recreation areas will help.

- Develop outdoor signage to mark boundaries, campsites, recreation areas, and provide a clear definitions of SPD rules and other information.

Utility Recommendations

Utility upgrades within the recreation areas and within the canyon serve to improve the visitor experience and can help address some environmental and water quality concerns.

Liquid Waste

Visitors to Pecos Canyon in RVs must travel over 50 miles to the nearest RV waste dump station. By some accounts, this has led to people allowing their RV waste to slowly leak from their RVs onto the road as they leave the canyon or even dumping their RV waste directly into the river. People who visit Pecos Canyon in RVs need to have a convenient and ecologically sound way to dispose of their RV waste.

- Work with partners to identify a convenient location for RV liquid waste disposal that is ecologically sound.
- Communicate locations and distances to RV waste dump stations and educate visitors about the adverse effects of improper liquid waste disposal on the watershed.

Solid Waste

Although DGF added bear-proof trash cans at the recreation areas in 2011 and 2012, overflowing trash receptacles and improper trash disposal continue to be a problem in the canyon.

- Provide adequate access to trash disposal at each recreation area.
- Work with partners to establish a solid waste transfer station in proximity to the Park.
- Provide centralized recycling opportunity within the canyon.
- Solicit volunteers and friends groups to have cleanup days in the Park.

Vault Toilets

DGF added several vault toilets at the Wildlife Areas in 2011 and 2012, but more vault toilets and properly located vault toilets are needed, particularly within high use areas. Upgrades or replacements of outdated vault toilets are also needed.

- Construct additional vault toilets, relocate, and improve others where needed.
- Consider ease of regular maintenance in the siting and layout of the vault toilets.
- Maintain required setbacks from floodplain.

Water

The recreation areas in the Park currently have no access to potable water. DGF has water rights to a well at the Willow Creek area, but it has experienced only intermittent use because of contamination from the Pecos Mine. SPD will explore the feasibility of drilling a well as a source for potable water. SPD will also determine the best sources of water for other areas and will provide potable water to those sites if practical.

- Provide potable water to the recreation areas where practical.
- Provide potable water tanks (refillable) at camp host sites.
- Provide temporary water for Park revegetation/restoration efforts.

Electric

Electricity is not available anywhere in the Park. SPD will need utility connections at a visitor center, shop, and at a ranger residence, if one is constructed. SPD may also wish to provide electric service to camp host sites and some campsites. Electric lines currently pass through the Rio Pecos (Bert Clancy), Terrero, and Willow Creek recreation areas. SPD should establish sustainable and environmentally friendly infrastructure in the Park. In locations where electric service is not feasible, off-grid solar systems that do not detract from the natural environment should be explored.

- Establish sustainable and environmentally-friendly electric infrastructure in the Park.

Management Recommendations

The operable units (mining reclamation) have undergone extensive remediation activities since the early 1990s, but SPD still needs to ascertain what monitoring activities remain, and what entity will be responsible for those activities.

- Work with NMED and DGF to ascertain what monitoring activities are required and what party will be responsible for those activities.

Opportunities exist to engage current partners and establish relationships with new partners to improve conditions in the Pecos Canyon (*see partnerships list to right*). This may include collaboration for:

- Fire management, thinning, and hazard tree removal purposes.
- Hosting trash cleanup days.
- Improving highway, signage, and traffic flow plans.
- Installing and monitoring riparian restoration projects.
- Finding a convenient and environmentally sound way for people to dispose of their RV waste.

SPD will conduct outreach in order to promote communication between government entities in the canyon, residents, and visitors. By increasing communication, SPD hopes to make people aware that a new entity is operating in the canyon and increase awareness of new rules, facilities, and recreation opportunities to create a smoother transition from DGF management to SPD management.

- Conduct outreach campaign to create a smoother transition from DGF management to SPD management.

SPD hopes that a friends group for Pecos Canyon State Park will be established. A friends group can help Park staff perform maintenance tasks, help with large events, raise money for projects, welcome visitors, provide information, and host interpretive programs.

- Encourage the establishment of a friends group for Pecos Canyon State Park.

Partnerships

SPD hopes to establish relationships with government departments, public safety entities, and local organizations that have a presence in Pecos Canyon and the Village of Pecos in order to foster public and interagency communication and to lay the groundwork for potential partnerships and future collaborations. This includes but is not limited to working with:

Government Entities

- US Forest Service
- US Fish and Wildlife Service
- National Park Service
- Tribes
- New Mexico Department of Game and Fish
- EMNRD Forestry Division
- NM Department of Transportation
- NM Environment Department
- San Miguel County
- Mora County

Local Organizations / Entities

- Village of Pecos
- Pecos Canyon Volunteer Fire and Rescue
- Upper Pecos Watershed Association
- Pecos Independent School District
- Adjacent neighbors and land owners of Pecos Canyon State Park
- Local conservation groups, hiking and outdoor organizations, and other entities that are interested in the Park

Recreation Area Improvement Recommendations

Based on existing conditions analysis, public input surveys, stakeholder/ agency recommendations, a series of general improvements for each recreation area has been identified.

Rio Pecos Recreation Area

The Rio Pecos Recreation Area, the first recreation area visitors arrive at coming up the Pecos Canyon, is heavily used and can set the precedent for how TMZs are managed throughout the Park.

Specific tasks include:

- Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.
- Coordinate recreation area improvements with DGF, NMDOT, SHPO, NMED, and other entities with jurisdictional oversight. Improvements include compliance with ADA accessibility codes.
- Upgrade recreational amenities to provide infrastructure for better RV camping locations, tent camping, a host site, vault toilet relocation outside the flood zone, day-use amenities, day-use/Free Angler Access parking improvements, centralized pay station/sign board, and trail system upgrades.
- Prepare utility upgrade plan and coordinate upgrades with the associated agency (MSMEC, NMED, etc.)
- Update MOA with DGF for 'Free Angler Access' parking area configuration.
- Establish limits of Park boundary with signage and fencing.
- Upgrade park entry monument signage to be more prominent and in character with Park messaging and brand identity; include directional signage to park prior to the entry point.
- Prepare a mitigation plan for historic resources in coordination with SHPO and other agencies with oversight.

Rio Pecos Recreation Area

LEGEND

- Management Area Boundary
- PC- RIP (Riparian Zone)
- PC - FOR (Forest Zone)
- PC - REC (Recreation Zone)
- PC - ROA (Roadway Zone)

KEY MAP

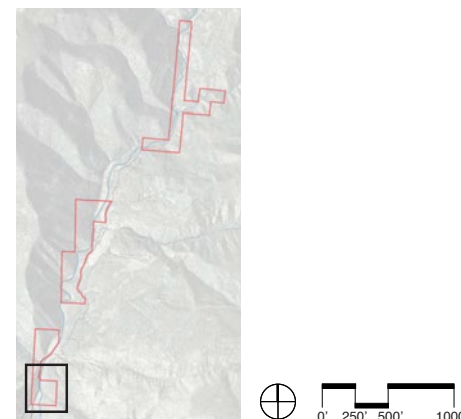
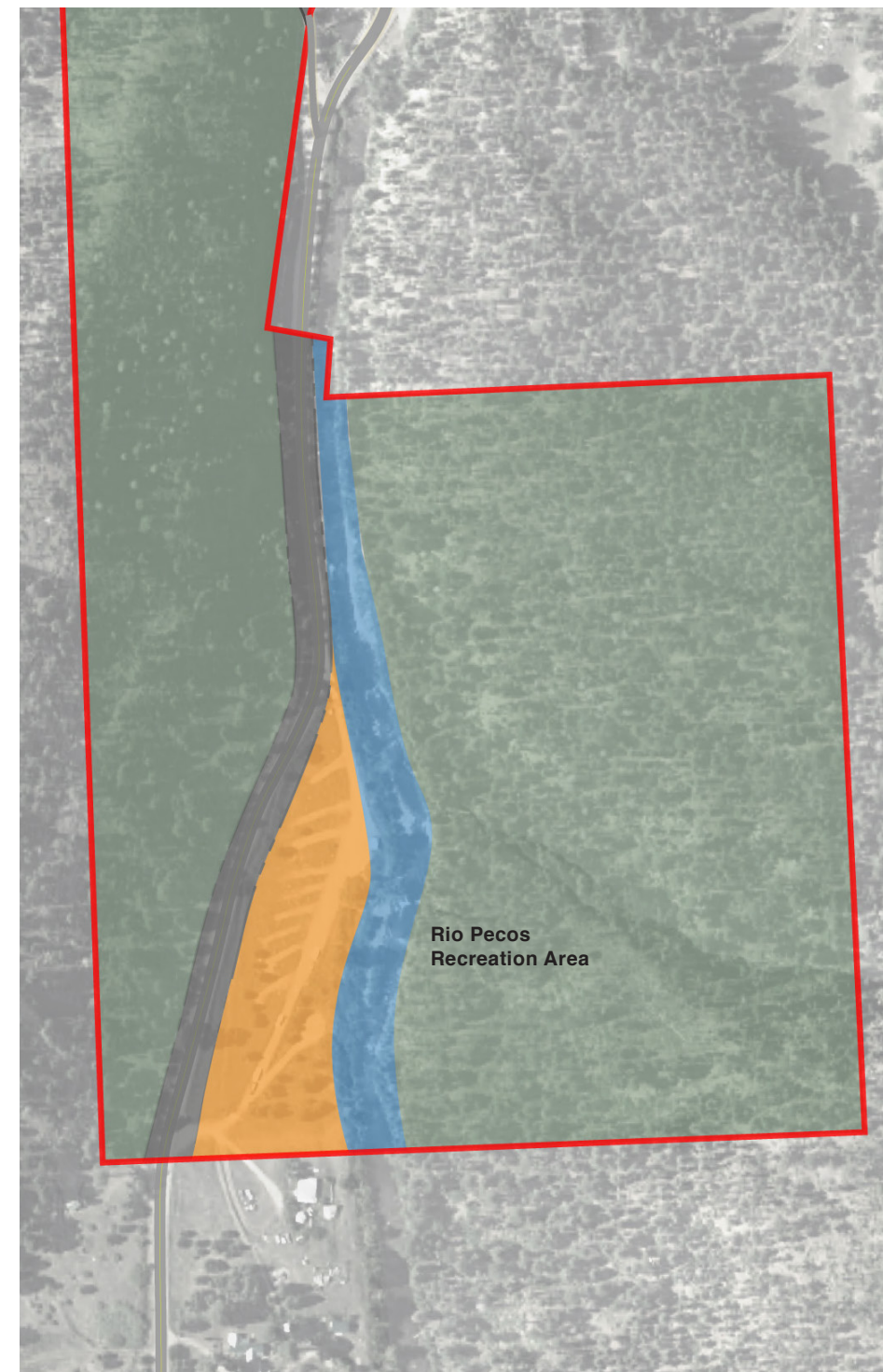


Figure 3-1: Rio Pecos Terrain Management Zones



Terrero Recreation Area

The Terrero Recreation Area is the only area within the Park that is separated from New Mexico Highway 63 on the west bank of the Pecos River. It is also heavily used due to its secluded but accessible location.

Specific tasks include:

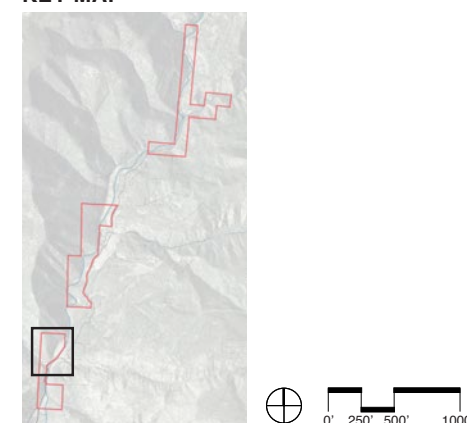
- Prepare mapping of wetland areas and identify best practices for preservation and education.
- Partner with tribal entities to prepare recommendations for resource preservation and visual enhancement.
- Prepare a mitigation plan for historic resources in coordination with SHPO and other agencies with oversight.
- Identify roadway and bridge improvements along Holy Ghost Road in coordination with DGF and USFS.
- Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.
- Coordinate recreation area improvements with DGF, NMDOT, SHPO, NMED, and other entities with jurisdictional oversight. Improvements include compliance with ADA accessibility codes.
- Upgrade recreational amenities to provide infrastructure for better RV camping locations, tent camping, a host site, vault toilet relocation, day-use amenities, day-use parking improvements, vehicular circulation, centralized pay station/sign board, and trail system upgrades.
- Plan for a new group site with shade structure, vault toilet, picnic tables, small parking area, and associated amenities.
- Prepare utility upgrade plan and coordinate upgrades with the associated agency (MSMEC, NMED, etc.)

Terrero Recreation Area

- LEGEND**
- Management Area Boundary
 - Easement
 - PC- RIP (Riparian Zone)
 - PC - WET (Wetland Zone)
 - PC - FOR (Forest Zone)
 - PC - REC (Recreation Zone)
 - PC - ROA (Roadway Zone)
 - PC - SPE (Special Management Zone)

Figure 3-2: Terrero Terrain Management Zones

KEY MAP



Boreal Chorus Recreation Area

The Boreal Chorus Recreation Area is recovering from decades of recreational use. The site of an emergent wetland with Boreal Chorus frogs, it is set approximately 250' higher than the Pecos River in a heavily forested area adjacent to New Mexico Highway 63. Its ecological setting, wildlife, and direct roadway access make it suitable as a hub for educational and interpretive programs.

Specific tasks include:

- Prepare mapping of wetland areas and wildlife habitat to identify best practices for restoration, preservation, and education.
- Partner with government agencies to prepare recommendations for resource restoration and enhancement. Include recommendations for off-site improvements to stormwater management, restoration, and access control.
- Coordinate recreation area improvements with DGF, USFS, NMDOT, NMED, and other entities with jurisdictional oversight. Improvements include compliance with ADA accessibility codes.
- Study potential for low-impact recreational amenities such as an interpretive center, outdoor classroom, parking improvements, access control, walk-in tent camping, vault toilet, day-use amenities, day-use parking improvements, centralized pay station/sign board, and trail system upgrades.

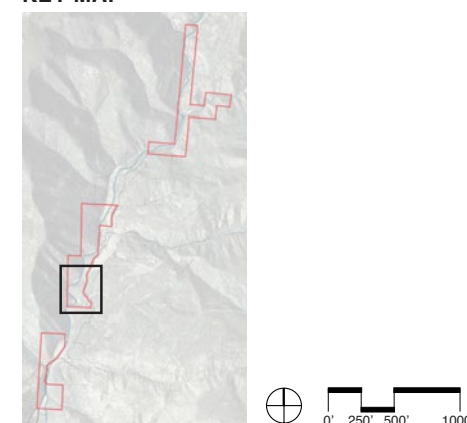
Boreal Chorus Recreation Area

LEGEND

- Management Area Boundary
- PC- RIP (Riparian Unit)
- PC - WET (Wetland Unit)
- PC - FOR (Forest Unit)
- PC - REC (Recreation Unit)
- PC - ROA (Roadway Unit)

Figure 3-3: Boreal Chorus Terrain Management Zones

KEY MAP



Willow Creek Recreation Area

The Willow Creek Recreation Area is located within the historic Terrero town site along the Pecos River north of the confluence with Willow Creek. Its location in proximity to historic mine activities resulted in site remediation and environmental monitoring.

Specific tasks include:

- Identify environmental monitoring obligations and entities responsible for monitoring activities/reporting. Work with NMED and DGF to identify required monitoring and responsible parties.
- Prepare mapping of wetland areas and identify best practices for preservation and education.
- Secure/locate access easement agreements through the recreation area and across the Pecos River vehicular bridge to private properties north of the parcel boundary, or identify alternate access to private properties that does not traverse Park managed property.
- Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.
- Coordinate recreation area improvements with DGF, NMDOT, USFS, NMED, and other entities with jurisdictional oversight. Improvements include compliance with ADA accessibility codes.
- Upgrade recreational amenities to provide infrastructure for vault toilet relocation, day-use amenities, day-use parking improvements, vehicular circulation reconfiguration, centralized pay station/sign board, and trail system upgrades.
- Prepare a mitigation plan for historic resources in coordination with SHPO and other agencies with oversight.

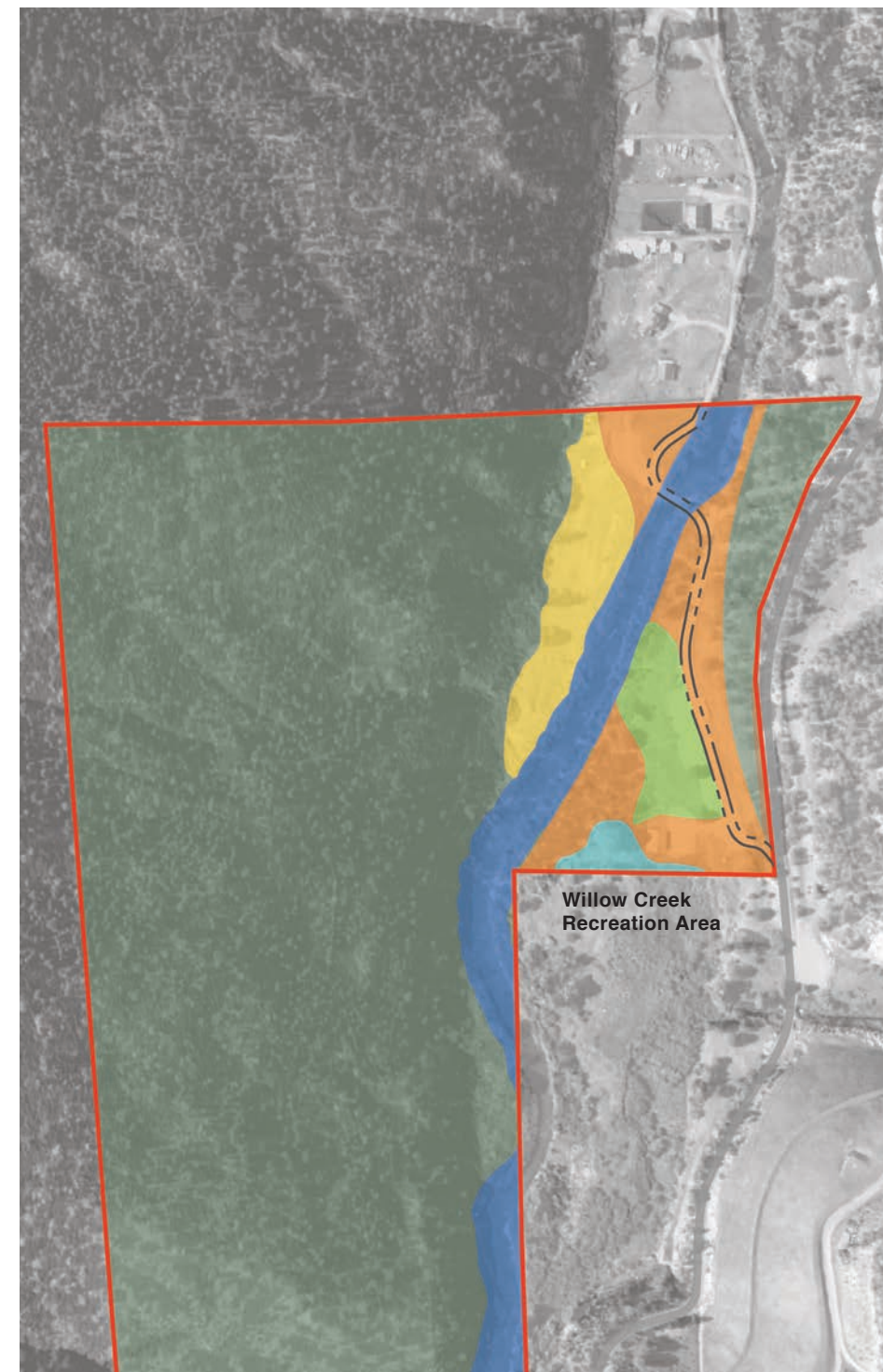
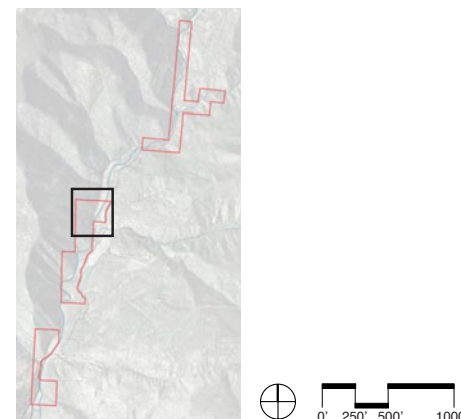
Willow Creek Recreation Area

LEGEND

- Management Area Boundary
- - - Easement
- PC- RIP (Riparian Zone)
- PC - WET (Wetland Zone)
- PC - FOR (Forest Zone)
- PC - REC (Recreation Zone)
- PC - ROA (Roadway Zone)
- PC - CUL (Cultural Landscape Zone)
- PC - SPE (Special Management Zone)

Figure 3-4: Willow Creek Terrain Management Zones

KEY MAP



North Rio Mora Recreation Area

North Rio Mora Recreation Area, the northern most recreation area within the Park, is a narrow strip of land between the river and the highway.

Specific tasks include:

- Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.
- Coordinate recreation area improvements and access with DGF, NMDOT, USFS, and other entities with jurisdictional oversight. Improvements include compliance with ADA accessibility codes.
- Upgrade recreational amenities to provide infrastructure for day-use amenities, day-use parking improvements, safe vehicular circulation, centralized pay station/sign board, and trail system upgrades.
- Update MOA with DGF for 'Free Angler Access' parking area configuration.
- Establish limits of Park boundary with signage and fencing.

Rio Mora Recreation Area

The Rio Mora Recreation Area encompasses a day-use area west of New Mexico Highway 63 along the Pecos River and a campground north of the confluence with the Rio Mora. This area serves as a trailhead for backcountry hikers to access USFS trails and the Pecos Wilderness trail system.

Specific tasks include:

- Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.
- Coordinate recreation area improvements and access with DGF, NMDOT, USFS, and other entities with jurisdictional oversight. Improvements include compliance with ADA accessibility codes.
- Upgrade recreational amenities to provide infrastructure for better RV camping locations, tent camping, a host site, vault toilet relocation, day-use amenities, day-use parking improvements, vehicular circulation, centralized pay station/sign board, and trail system upgrades.
- Work with NMDOT to coordinate improvements to recreation areas with new bridge design/construction.

South Rio Mora Recreation Area

The South Rio Mora Recreation Area sits in a narrow, forested strip of land between the river and the highway.

Specific tasks include:

- Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.
- Coordinate recreation area improvements and access with DGF, NMDOT, USFS, and other entities with jurisdictional oversight. Improvements include compliance with ADA accessibility codes.
- Upgrade recreational amenities to provide infrastructure for day-use amenities, day-use parking improvements, centralized pay station/sign board, trail system upgrades, and potential walk-in camp sites.

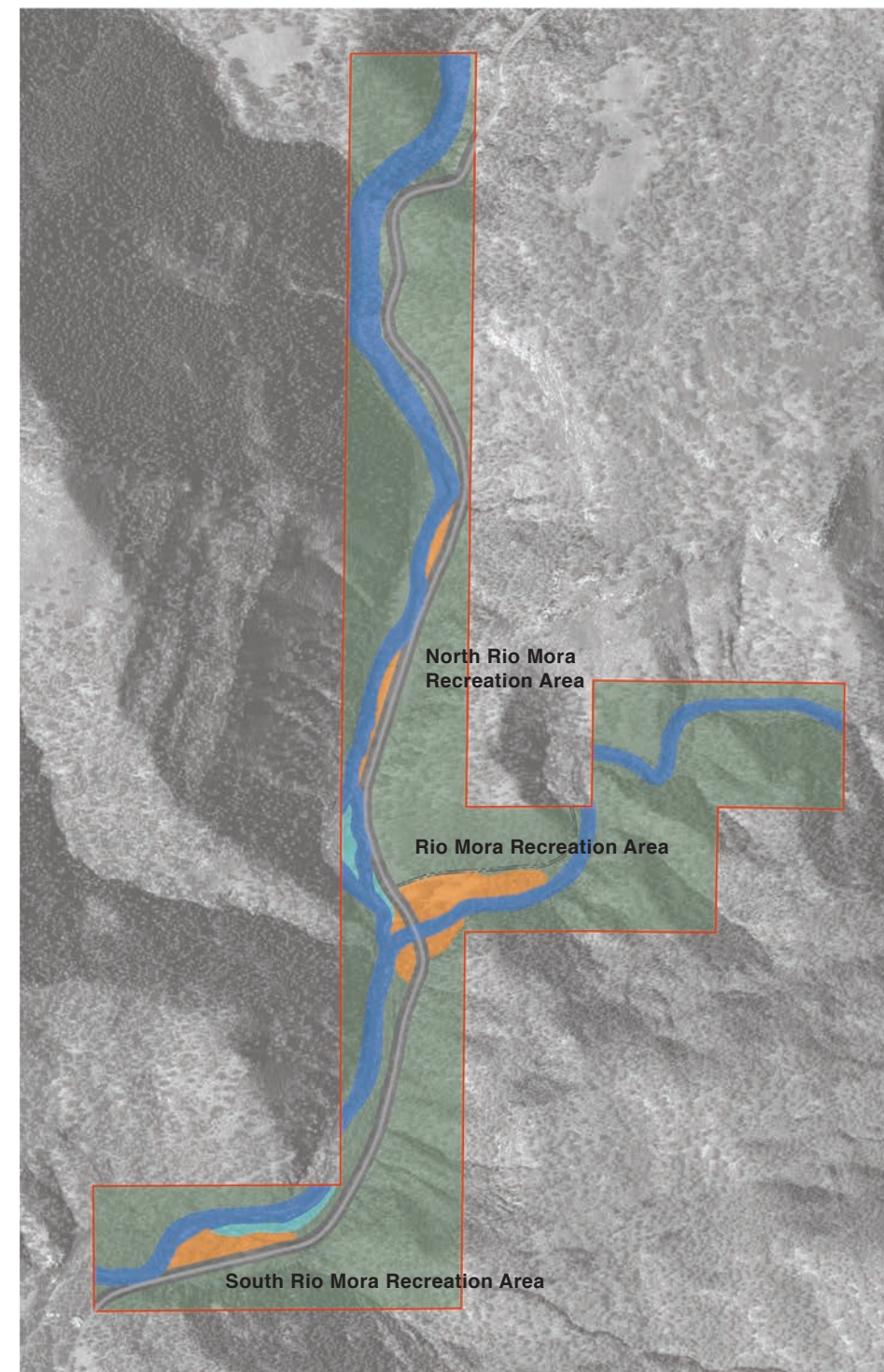
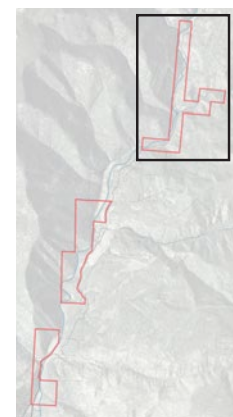
North Rio Mora, Rio Mora, South Rio Mora Recreation Areas

Figure 3-5: Mora Terrain Management Zones

LEGEND

- Management Area Boundary
- PC- RIP (Riparian Zone)
- PC - WET (Wetland Zone)
- PC - FOR (Forest Zone)
- PC - REC (Recreation Zone)
- PC - ROA (Roadway Zone)

KEY MAP



Action Plan

Capital Improvements

Goal Tenure	Scale	Need	Goal Description	Bureau Leads	Terrain Management Zone	Management Plan References
1-5 years	Willow Creek Recreation Area	Site Organization	Define day use parking, access, and picnic areas.	DD, FO	PC-REC	Chapter 3, Pg. 68
1-5 years	Willow Creek Recreation Area	Access/Circulation	Define internal site pedestrian circulation including accessible paths and trails along the river.	DD, FO	PC-REC, PC-RIP	Chapter 3, Pg. 68
1-5 years	Boreal Chorus Recreation Area	Site Organization	Define day use parking, access, and picnic areas.	DD, FO	PC-REC	Chapter 3, Pg. 66
1-5 years	Boreal Chorus Recreation Area	Access/Circulation	Define internal site pedestrian circulation including accessible paths and trails along the river.	DD, FO	PC-REC, PC-RIP	Chapter 3, Pg. 66
1-5 years	Rio Mora South	Site Organization	Define day use parking, access, and picnic areas.	DD, FO	PC-REC	Chapter 3, Pg. 70
1-5 years	Rio Mora South	Access/Circulation	Define internal site pedestrian circulation including accessible paths and trails along the river.	DD, FO	PC-REC, PC-RIP	Chapter 3, Pg. 70
1-5 years	Rio Mora North	Site Organization	Define day use parking, access, and picnic areas.	DD, FO	PC-REC	Chapter 3, Pg. 70
1-5 years	Rio Mora North	Access/Circulation	Define internal site pedestrian circulation including accessible paths and trails along the river.	DD, FO	PC-REC, PC-RIP	Chapter 3, Pg. 70
1-5 years	Rio Mora Campground	Site Organization	Define day use parking, access, and picnic areas.	DD, FO	PC-REC	Chapter 3, Pg. 70
1-5 years	Rio Mora Campground	Access/Circulation	Define internal site pedestrian circulation including accessible paths and trails along the river.	DD, FO	PC-REC, PC-RIP	Chapter 3, Pg. 70
1-5 years	Rio Mora Campground	Site Organization	Define campsites, roads, and parking areas.	DD, FO	PC-REC	Chapter 3, Pg. 70
1-5 years	Rio Mora Campground	Visitor Amenities	Add shade shelters, picnic tables, grills, and tent pads to some campsites.	DD, FO	PC-REC	Chapter 3, Pg. 70
1-5 years	Terrero Campground	Site Organization	Define day use parking, access, and picnic areas.	DD, FO	PC-REC	Chapter 3, Pg. 64
1-5 years	Terrero Campground	Access/Circulation	Define internal site pedestrian circulation including accessible paths and trails along the river.	DD, FO	PC-REC, PC-RIP	Chapter 3, Pg. 64
1-5 years	Terrero Campground	Site Organization	Define campsites, roads, and parking areas.	DD, FO	PC-REC	Chapter 3, Pg. 64
1-5 years	Terrero Campground	Visitor Amenities	Add shade shelters, picnic tables, grills, and tent pads to some campsites.	DD, FO	PC-REC	Chapter 3, Pg. 64
1-5 years	Rio Pecos Recreation Area	Site Organization	Define day use parking, access, and picnic areas.	DD, FO	PC-REC	Chapter 3, Pg. 62
1-5 years	Rio Pecos Recreation Area	Access/Circulation	Define internal site pedestrian circulation including accessible paths and trails along the river.	DD, FO	PC-REC, PC-RIP	Chapter 3, Pg. 62
1-5 years	Rio Pecos Recreation Area	Site Organization	Define campsites, roads, and parking areas.	DD, FO	PC-REC	Chapter 3, Pg. 62
1-5 years	Rio Pecos Recreation Area	Safety/Security	Install guard rail along east side of NM Hwy 63 to protect recreation area	DD, FO	PC-REC	Chapter 3, Pg. 62
1-5 years	Rio Pecos Recreation Area	Visitor Amenities	Add shade shelters, picnic tables, grills, and tent pads to some campsites.	DD, FO	PC-REC	Chapter 3, Pg. 62
1-5 years	Park	Visitor Amenities	Determine most viable site for a point of contact/visitor center, shop/yard.	AD, FO, DD	Facilities	Chapter 3, Pg. 56
5-10 years	Park	Visitor Amenities	Construct point of contact/visitor center, shop/yard.	DD, FO	Facilities	Chapter 3, Pg. 56
1-5 years	Park	Visitor Amenities	Establish sustainable and environmentally-friendly infrastructure in the Park including solar electric and electric lines when feasible	DD, FO	PC-REC	Chapter 3, Pg. 56
1-5 years	Park	Operations	Determine location and quantity of staff housing within Park boundaries	AD, FO, DD	Facilities	Chapter 3, Pg. 56
5-10 years	Park	Environmental Restoration	Install bioswales and water quality basins to manage stormwater runoff and pollutants from adversely impacting riparian health.	DD, FO	PC-REC, PC-RIP	Chapter 3, Pg. 56
1-5 years	Park	Visitor Amenities	Provide potable water tanks (refillable) and septic tanks at camp host sites.	DD, FO	PC-REC	Chapter 3, Pg. 56
5-10 years	Park	Visitor Amenities	Develop walk-in campsites in the Park.	DD, FO	PC-REC	Chapter 3, Pg. 56
1-5 years	Park	Site Organization	Determine the appropriate uses and desired capacities for each recreation area and develop those areas accordingly.	AD, FO, DD	PC-REC	Chapter 3, Pg. 56
10+ years	Park	Access/Circulation	Develop a connector trail from Rio Pecos (Bert Clancy) to Rio Mora North (North Mora).	PS, DD	PC-REC, PC-RIP	Chapter 3, Pg. 56
1-5 years	Park	Access/Circulation	Look into the potential for developing other trails in the Park that connect to off-site trail systems	PS, DD	PC-REC, PC-RIP, PC-FOR	Chapter 3, Pg. 56
1-5 years	Park	Access/Circulation	Identify right of way requirements and partnership needs for a park-wide trail system / connector trail.	PS, DD	PC-REC, PC-RIP, PC-FOR	Chapter 3, Pg. 56
10+ years	Park	Visitor Amenities	Develop wayfinding signage system for park trails, trailheads, and access to off-site trails.	PS, DD	PC-REC	Chapter 3, Pg. 56
1-5 years	Rio Mora Campground	Access/Circulation	Provide opportunities for overnight parking for people accessing backcountry trails.	AD, FO, DD	PC-REC, PC-ROA	Chapter 3, Pg. 70
10+ years	Boreal Chorus Recreation Area	Environmental Restoration	Restore the Boreal Chorus area for habitat and ecological diversity.	PS, DD	PC-WET	Chapter 3, Pg. 66
5-10 years	Park	Environmental Restoration	Establish a riparian revegetation buffer of 25' (min.) from the OHWM between the river edge and camping/day use areas.	PS, DD	PC-RIP	Chapter 3, Pg. 56
10+ years	Park	Environmental Restoration	Revegetate areas that are not appropriate for recreation uses that have bare ground with a diversity of native plant material.	PS, DD	PC-RIP, PC-WET, PC-FOR	Chapter 3, Pg. 56

Capital Improvements, Continued

Goal Tenure	Scale	Need	Goal Description	Bureau Leads	Terrain Management Zone	Management Plan References
5-10 years	Park	Environmental Restoration	Plant trees near campsites and other areas that experience heavy use.	PS, DD	PC-REC	Chapter 3, Pg. 56
5-10 years	Park	Environmental Restoration	Outline and implement measures to increase resiliency to flood events.	PS, DD	PC-REC	Chapter 3, Pg. 56
1-5 years	Willow Creek Recreation Area	Cultural Preservation	Design the recreation area in a way that best preserves the significant, contributing features of Terrero Townsite.	PS, DD	PC-CUL	Chapter 3, Pg. 68
5-10 years	Park	Environmental Restoration	Install bioswales and water quality basins to manage stormwater runoff and pollutants from adversely impacting riparian health.	PS, DD	PC-REC, PC-RIP	Chapter 3, Pg. 56
10+ years	Park	Environmental Restoration	Manage restoration efforts to provide habitats for threatened, endangered, and species of concern.	PS, DD	PC-RIP, PC-WET, PC-FOR	Chapter 3, Pg. 56
1-5 years	Park	Sanitation	Provide adequate access to trash disposal at each recreation area.	FO, DD	PC-REC	Chapter 3, Pg. 56
5-10 years	Park	Operations	Provide centralized recycling opportunity within Pecos Canyon.	AD, FO, DD	Waste Disposal	Chapter 3, Pg. 56
1-5 years	Park	Site Organization	Develop outdoor signage to mark boundaries, campsites, recreation areas, and provide a clear definitions of SPD rules and other information.	FO, DD	PC-REC, PC-FOR, PC-ROA	Chapter 3, Pg. 56
1-5 years	Park	Sanitation	Construct additional vault toilets, relocate, and improve others where needed.	DD	PC-REC	Chapter 3, Pg. 56
1-5 years	Park	Utilities	Prepare utility upgrade plan and coordinate upgrades with the associated agency (San Miguel Electric, NMED, etc.).	DD	PC-REC	Chapter 3, Pg. 56

Operations and Management

Goal Tenure	Scale	Tags	Goal Description	Bureau Leads	Management Plan References
5-10 years	Boreal Chorus Recreation Area	Education/Interpretation	Develop educational programs and infrastructure to support and communicate restoration efforts.	PS, FO	Chapter 3, Pg. 66
1-5 years	Terrero Campground	Partnerships	Partner with tribal entities to prepare recommendations for resource preservation, site management, visual screening, and enhancement.	AD, PS, DD	Chapter 3, Pg. 64
1-5 years	Park	Ecological Restoration	Prepare wetland delineation / mapping and identify best practices for preservation and education.	PS, DD	Chapter 3, Pg. 56
1-5 years	Park	Historic Preservation	Prepare a mitigation plan for historic resources in coordination with SHPO and other agencies with oversight.	PS	Chapter 3, Pg. 56
1-5 years	Park	Safety/Security	Conduct a fire preparedness survey with local agencies to identify measures to increase park and watershed resilience.	FO, LE	Chapter 3, Pg. 56
1-5 years	Rio Pecos Recreation Area	Contracts/Agreements	Update MOA with DGF for 'Free Angler Access' parking area configuration in coordination with infrastructure upgrades.	AD, DD	Chapter 3, Pg. 62
1-5 years	Willow Creek Recreation Area	Contracts/Agreements	Update MOA with DGF for 'Free Angler Access' parking area configuration in coordination with infrastructure upgrades.	AD, DD	Chapter 3, Pg. 68
1-5 years	Rio Mora North	Contracts/Agreements	Update MOA with DGF for 'Free Angler Access' parking area configuration in coordination with infrastructure upgrades.	AD, DD	Chapter 3, Pg. 70
1-5 years	Park	Partnerships	Coordinate recreation area improvements with DGF, NMDOT, SHPO, NMED, and other entities with jurisdictional oversight. Improvements include compliance with ADA accessibility codes.	AD, PS, DD	Chapter 3, Pg. 56
1-5 years	Rio Pecos Recreation Area	Ecological Restoration	Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.	PS, DD	Chapter 3, Pg. 62
1-5 years	Terrero Campground	Ecological Restoration	Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.	PS, DD	Chapter 3, Pg. 64
1-5 years	Rio Mora South	Ecological Restoration	Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.	PS, DD	Chapter 3, Pg. 70
1-5 years	Rio Mora North	Ecological Restoration	Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.	PS, DD	Chapter 3, Pg. 70
1-5 years	Rio Mora Campground	Ecological Restoration	Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.	PS, DD	Chapter 3, Pg. 70
1-5 years	Willow Creek Recreation Area	Ecological Restoration	Establish restoration goals and timeline for riparian riverbank restoration and revegetation within the recreation area in coordination with DGF and other entities with jurisdictional oversight.	PS, DD	Chapter 3, Pg. 68
5-10 years	Park	Education/Interpretation	Communicate restoration efforts and its importance to the health of the river with interpretive signage and educational programs.	FO, PS, DD	Chapter 3, Pg. 56
1-5 years	Park	Ecological Restoration	Work with NMED and DGF to ascertain what monitoring activities are required for site remediation and what party will be responsible for those activities.	PS, DD	Chapter 3, Pg. 56
1-5 years	Park	Partnerships	Encourage the establishment of a friends' group for Pecos Canyon State Park.	FO, PS	Chapter 3, Pg. 56
1-5 years	Park	Education/Interpretation	Conduct community outreach campaign to create a smoother transition from DGF management to SPD management.	FO, PS	Chapter 3, Pg. 56
10+ years	Park	Partnerships	Establish relationships and collaborate with State and local governments, and local organizations to improve the conditions in Pecos Canyon.	AD	Chapter 3, Pg. 56
1-5 years	Park	Partnerships	Solicit volunteers and friends groups to have trash cleanup days in the Park.	FO, PS	Chapter 3, Pg. 56
1-5 years	Park	Policy	Determine policy change necessary to allow overnight parking for backcountry hikers in select day use parking areas (e.g. Rio Mora day-use area)	AD, FO	Chapter 3, Pg. 56

Photography Credits

All photography by Design Office unless otherwise noted

Chapter 2 - Park Assessment

pg.23, Image 2-6.....New Mexico Environment Department
 pg.23, Image 2-7.....New Mexico Environment Department
 pg.25, Image 2-10.....New Mexico Environment Department
 pg.26, Images 2-11,13.....commons.wikimedia
 pg.26, Image 2-12.....Jim Rorabaugh, www.fws.gov
 pg.26, Image 2-13.....https://thefroglady.wordpress.com
 pg.31, Image 2-15.....courtesy Sam Sterling Architecture
 pg.31, Image 2-16.....Debbie Cusic, via maps.google.com
 pgs.32, Image 2-18.....Marjorie Childress, https://nmindepth.com
 pg.33, Image 2-19,21.....New Mexico Environment Department
 pg.33, Image 2-22.....Marjorie Childress, https://nmindepth.com
 pg.34, Image 2-24.....B. Wasden, maps.google.com
 pg.38, Image 2-31.....Shane Vann, maps.google.com
 pg.42, Image 2-39.....https://magazine.wildlife.state.nm.us
 pg.42, Image 2-40.....Gilles San Martin, www.flickr.com
 pg.42, Image 2-41.....https://www.wildtrout.org/content/rainbow-trout
 pg.54, Image 2-60.....Chris Hammetter, maps.google.com

Referenced Material - Plans and Reports

Hooper, John M.D. 2019. *A Class III Cultural Resources Inventory of 57.15 Acres for the Proposed Pecos Canyon State Park, Near Terrero, San Miguel County, New Mexico*. Submitted to EMNRD, State Parks Division. WestLand Resources, Tuscon, AZ.

Matlock, S. 2012. *Pecos Canyon Recreation Area Suffers from Limited Maintenance*. The Santa Fe New Mexican, Santa Fe, NM.

Matlock, S. 2012. *Without funds, Pecos Canyon Park and Protection a Long Shot*. The Santa Fe New Mexican, Santa Fe, NM.

Matlock, S. 2014. *Pecos Canyon Business Owners, Visitors look to State Park Plan to Revive Area*. The Santa Fe New Mexican, Santa Fe, NM.

Matlock, S. 2014. *Game Officers Crack Down on Permits for State Land Use*. The Santa Fe New Mexican, Santa Fe, NM.

McDuff, L.F. 1993. *Tererro, History of a New Mexico Mining Town*. Suisun, California.

McLemore, V.T., L.A. Brandvold and D.K. Brandvold. 1993. *A Reconnaissance Study of Mercury and Base Metal Concentrations in Water and Stream and Lake Sediment Samples Along the Pecos River, Eastern New Mexico*. NM Geological Society Guidebook, 44th Field Conference.

New Mexico Department of Game and Fish. 2011. *Comprehensive Wildlife Conservation Strategy*. Santa Fe, NM.

New Mexico Environment Department. 1998. *Final Decision Document, Pecos Mine Operable Unit, Upper Pecos Site, Tererro, NM*.

New Mexico Environment Department, Surface Water Quality Bureau. 2005. *Total Maximum Daily Load (TMDL) for the Pecos Headwaters Watershed*. Santa Fe, NM.

New Mexico Environment Department, Surface Water Quality Bureau. 2013. *Water Quality Survey Summary for the Upper Pecos River Watershed*. Santa Fe, NM.

Outstanding National Resource Waters information found at: <https://www.env.nm.gov/surface-water-quality/onrws/>

Riesmeyer, W.D. and J.M. Robertson. 1979. *Precambrian Geology and Ore Deposits of the Pecos Mine, San Miguel County, NM*. New Mexico Geological Society, Annual Fall Field Conference Guidebook.

Robinson, W.P., 1995. *Innovative Administrative, Technical, and Public Involvement Approaches to Environmental Restoration at an Inactive Lead-Zinc Mining and Milling Complex near Pecos, NM*. Proceedings of Waste Management.

Species listings found on the web at: <http://www.bison-m.org>

Upper Pecos Watershed Association. 2007. *Upper Pecos Watershed Restoration Action Strategy*. La Calandria Associates, Santa Fe, NM.

Upper Pecos Watershed Association. 2008. *Pecos River Recreational Planning Study*. Nelson Consulting, Farmington, NM.

Upper Pecos Watershed Association. 2012. *Upper Pecos Watershed Based Plan, Submitted to the New Mexico Environment Department*. La Calandria Associates, Santa Fe, NM.

USDA Forest Service. 1987, amended 2010. *Santa Fe National Forest Plan*. Santa Fe, NM.

USDA Forest Service. 2002. *Pecos Wild and Scenic River Recreation Inventory and Management Plan Recommendations*. Recreation Solutions, Sonora, CA.

USDA Forest Service. 2003. *Environmental Assessment for Pecos Wild and Scenic River Management Plan and Forest Plan Amendment*. Santa Fe, NM.

USDA Forest Service. 2003. *Final Pecos Wild and Scenic River Management Plan*. Santa Fe, NM.

USDA Forest Service. 2004. *Landscape Scale Assessment for the Pecos River Headwaters Watershed*. CEEM X report.

USDA Forest Service. 2008. *Pecos Canyon Recreation Use Capacity Assessment*. Prepared for New Mexico Department of Game and Fish, Santa Fe, NM.

USDA Forest Service. 2012. *Final Environmental Impact Statement for Travel Management on the Santa Fe National Forest*. Santa Fe, NM.

USDOI, Fish and Wildlife Service. 1991. *Investigation of Trace Element Contamination from Tererro Mine Waste*. Ecological Services, NM Field Office.

Weather data found on the web at: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nm3157>

Wild and Scenic Rivers information found at: <https://www.rivers.gov/wsr-act.php>

Glossary

biological assessment - *A scientific study or inventory of organisms to assess the condition of an ecological resource.*

cultural landscape - *Cultural properties that represent the combined works of nature and of man and a landscape which may be valued because of the religious, artistic, or cultural associations of the natural element.*

cultural resources - *Physical evidence or place of past human activity: site, object, landscape, structure; or a site, structure, landscape, object or natural feature of significance to a group of people traditionally associated with it.*

encumbrance - *A right to, interest in, or legal liability on real property that does not prohibit passing title to the property but that diminishes its value.*

exposed aggregate concrete - *A concrete surface with the aggregate (fragments of stone) exposed, formed by applying a retarder to the surface before the concrete has set and subsequently removing the cement to the desired depth.*

inholding - *A tract of land under private ownership within a larger portion of land.*

interest group - *A group of people with voluntary association that seeks to publicly promote advantages for its cause.*

interpretive planning - *The initial step in the planning and design process for informal learning-based institutions like museums, zoos, science centers, nature centers, botanical gardens, heritage sites, parks, and other cultural facilities where interpretation is used to communicate messages, stories, information and experiences.*

invasive species - *A plant, fungus, or animal species that is not native to a specific location (an introduced species), and which has a tendency to spread to a degree believed to cause damage to the environment, human economy, or human health.*

kiosk signage - *A small to medium stand-alone sign that provides information about services.*

locatable minerals - *The General Mining Law of 1872, as amended, opened the public lands of the United States to mineral acquisition by the location and maintenance of mining claims. Mineral deposits subject to acquisition in this manner are generally referred to as "locatable minerals." Locatable minerals include both metallic minerals (gold, silver, lead, copper, zinc, nickel, etc.), nonmetallic minerals (fluorspar, mica, certain limestones and gypsum, tantalum, heavy minerals in placer form, and gemstones) and certain uncommon variety minerals.*

master plan - *To develop or improve (land, a community, a building complex, or the like) through a long-range plan that balances and harmonizes all elements.*

management plan - *The process of assessing an organization's goals and creating a realistic, detailed plan of action for meeting those goals. A management plan takes into consideration short and long-term strategies.*

natural resources - *Resources that exist without actions of humankind.*

open space - *A piece of land that is undeveloped (has no buildings or other built structures) and is accessible to the public.*

outcropping - *A visible exposure of bedrock or ancient superficial deposits on the surface of the Earth.*

placemaking - *A multi-faceted approach to the planning, design, and management of public spaces. Placemaking capitalizes on local community's assets, inspiration, and potential with the intention of creating public spaces that promote people's health, happiness, and well being.*

recreationists - *Someone who engages in a recreation, especially an outdoor leisure activity.*

regulatory signage - *traffic signs intended to instruct users on what they must or should do (or not do) under a given set of circumstances.*

restoration, ecological - *The return of a landscape, ecosystem, or other ecological entity to a predefined historical state; the practice of renewing and restoring degraded, damaged, or destroyed ecosystems and habitats in the environment by active human intervention.*

salable minerals - *In 1947, Congress passed an act allowing the disposal of sand, stone, gravel, and common clay through a contract of sale. In 1955, another act of congress removed common varieties of sand, gravel, stone, pumice, pumicite, and cinders from the 1872 mining law and placed them under the 1947 act. Since these mineral materials are available only by sales contract, they are termed "salable" minerals.*

site amenities - *Features on a site that provide comfort, convenience, or pleasure (seating, drinking fountains, restrooms, etc.).*

stakeholder - *Refers to an individual, group, or organization who may affect or be affected by, or perceive itself to be, affected by a decision, activity, or outcome of a project.*

sustainable trail - *A trail that avoids sensitive ecological areas, provides a buffer to protect ecologically sensitive and hydrologic systems, follows best practices of stormwater management, limits tread erosion through design and construction, and follows topography to minimize erosion. Trails often follow areas already influenced by human activity to minimize impact.*

viewshed - *A geographical area that is visible from a location. It includes all surrounding points that are in line-of-sight with that location and excludes points that are beyond the horizon or obstructed by terrain and other features (e.g., buildings, trees). Conversely, it can also refer to area from which an object can be seen.*

wayfinding signage - *Signs or markers that encompass the ways in which people orient themselves in physical space and navigate from place to place.*

Appendix

APPENDIX

A PROPERTY INFORMATION

Simmons Tract, Portion of Tract 47, Feb. 8, 2018, Sheet 1/2

Simmons Tract, Portion of Tract 47, Feb. 8, 2018, Sheet 2/2

Willow Creek, Feb. 8, 2018, Sheet 1/2

B UTILITIES DOCUMENTATION

PCSP Electric Assessment, 2019

Cost Estimate for Electrical Service, Dec. 2019

Context Map: Light Pollution

Cleveland Placer, Tract 42, Feb. 8, 2018, Sheet 1/1

Recommendations

UPDATE WITH RECOMMENDATIONS AFTER SCORING ACTION ITEMS

Canyon-wide Initiatives

- Pecos Canyon Visitor Center
- Solid waste transfer station
- Liquid waste dumping station
- Parking and access
- Education

Education + Interpretation

Recreation

Park Resources

Facilities

Management

