COTTONWOOD CANYON

STATE PARK

COMPREHENSIVE PLAN

OREGON STATE PARKS

Nature **HISTORY** *Discovery*

VOLUME 1

Cottonwood Canyon State Park

Comprehensive Plan, July 2011
Volume 1

Oregon Parks & Recreation Department: Salem, Oregon

The mission of the Oregon Parks and Recreation Department is to provide and protect outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations.

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Title: Cottonwood Canyon State Park Comprehensive Plan, 2011

Prepared by: Mark Davison

Cover Image: Photo: Cottonwood Canyon, view of John Day River and red-tailed hawk in flight, OPRD 2010.

As we adopt this plan for Cottonwood Canyon State Park, Oregon's state park system is nearing the beginning of its second century. The decades have swept past, and parks have evolved from their role to preserve land to become what we value most: a place where people can connect with our spectacular natural home. New parks are our gift to the next generation, and we needed your knowledge, opinions and passion to plan Oregon's largest new state park in a generation. I'm grateful to everyone who rose to the occasion and participated in this public planning process.

COTTONWOOD CANYON: A VISION FOR THE FUTURE

Cottonwood Canyon represents Oregon's vision for the park system's second century. The new park, between Wasco and Condon in north Central Oregon, will ultimately preserve 16 miles of the John Day River – the longest free-flowing river west of the Continental Divide – and offer extraordinary recreation on the river and in the canyons. This is a rare opportunity to create a park that will preserve and enhance the quality of the John Day River, its salmon runs, and the sagebrush steppe landscape.

We aim to take the best of our past, and move ourselves to the future. A future where parks are a refuge for people and nature in a rapidly changing world. The Cottonwood landscape has changed over eons – been deposited, shifted, heaved, carved, ploughed, grazed, channeled, and sustained lives and livelihoods. Thanks to your help over more than a year's worth of public comment, the park we will create over the next century will preserve and add to Cottonwood's beauty, wildness, and heritage.

A RUGGED EXPERIENCE AWAITS

At Cottonwood Canyon, you can choose the nature of your experience with a wild landscape. We all judge wildness differently, and the park itself should welcome you with choices – ranging from a comfortable, more managed core, to the park's farthest reaches where you will discover a more natural setting. Seek the comfort of a wild land you already know, or push your boundaries and explore unfamiliar terrain. The wildness here is a changing experience: spend a pitch-black night in a solitary tent after hiking for miles, or perhaps retire to a rustic cabin to enjoy the company of friends as they settle in after a day of paddling and fishing the John Day River. Cottonwood Canyon, by design and in spite of it's vastness, will be a subtle, intimate, low-key park—a premier recreation experience that protects the treasured wildness of the place.

A PLAN IS THE PROLOGUE

This plan sets direction to guide the park forward for many decades: natural resource restoration is at the forefront, and recreation development is modest and "just enough" to invite the curious and adventurous, but not so much that the park is overwhelmed by the attention. The thoughtful public and professional comments which have shaped this plan are also a beginning of sorts—the start of a relationship between people and the park. As the park is created and begins its mission to serve people, it will need you again: as a visitor, to experience it, and as a volunteer, to help restore and enrich its lands and waters. As you did with the planning effort, I have no doubt you will again rise to the challenge and join us to make Cottonwood Canyon this generation's gift to future Oregonians.

Tim Wood, Director
Oregon Parks and Recreation Department

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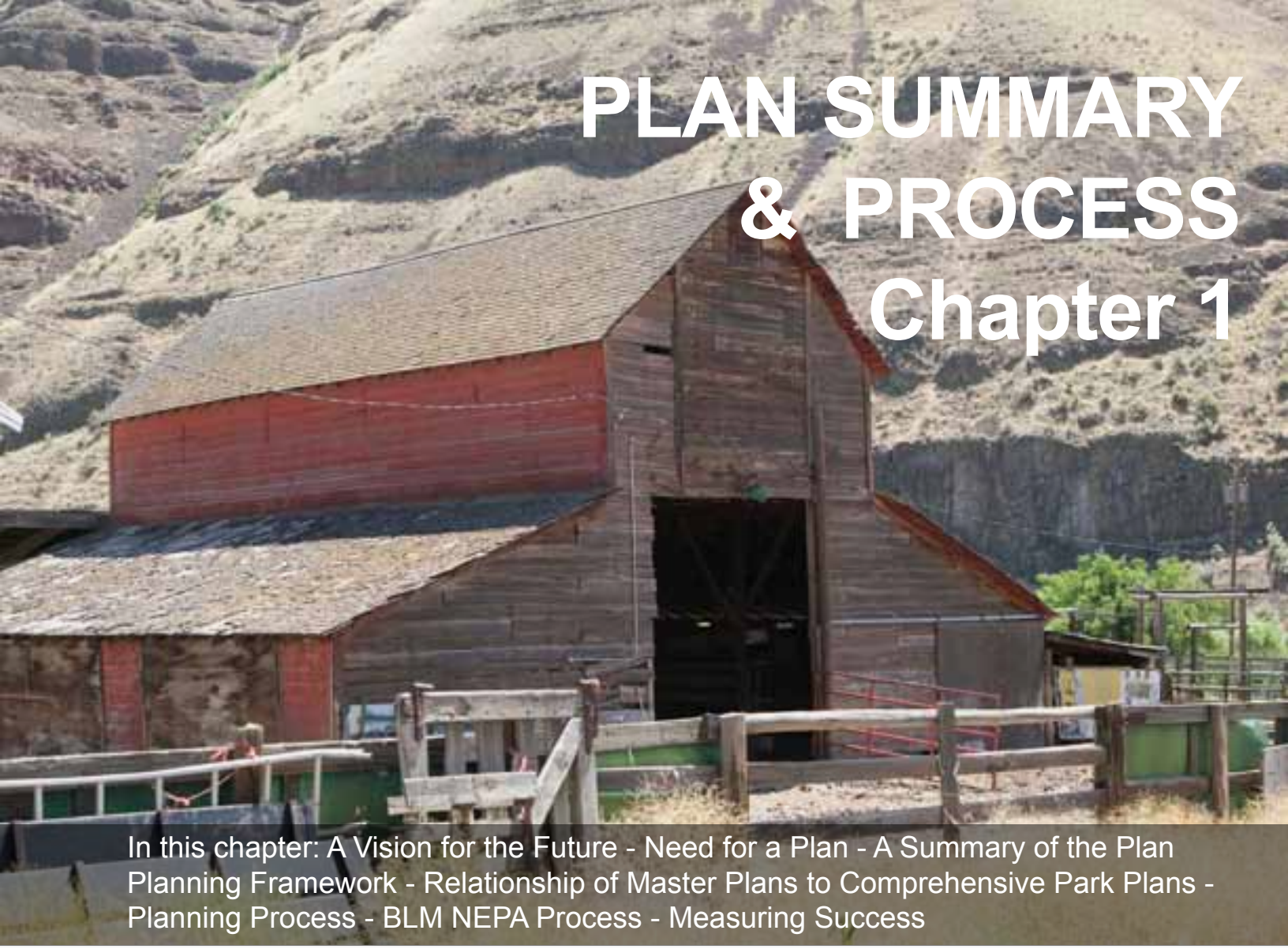


PLAN SUMMARY & PROCESS Chapter 1

In this chapter: A Vision for the Future - Need for a Plan - A Summary of the Plan Planning Framework - Relationship of Master Plans to Comprehensive Park Plans - Planning Process - BLM NEPA Process - Measuring Success

Photo 1.1 The Red Barn at Murtha Homestead, OPRD 2011

A Vision for the Park

Oregon's state park system, born in 1922, is nearing the beginning of its second century. As the decades pass, state parks have retained the core values of the mission statement: conserving land we value most and places where people can connect with our heritage and spectacular natural home. New parks are a gift to the next generation. This plan outlines the vision for Cottonwood Canyon, Oregon's largest new state park in a generation.

The opportunity to create a new state park in north central Oregon on the lower John Day River is truly once in a lifetime. This plan represents a shared vision among those living in Sherman and Gilliam Counties who have attended public meetings and continue to support this effort as we move to the next stage of opening the park. It also represents the shared vision of the nonprofit Western Rivers Conservancy, the federal Bureau of Land Management (BLM), Oregon Parks and Recreation Department (OPRD) and the citizens of Oregon. Completing the plan—its values and goals, strategies and actions—has been a shared effort with the local community, the regional public, community partners (including a neighbor group, local chamber of commerce, equestrian groups, and the Lower John Day Working Group to name a few), other agencies, and recreation and resource advocates. Over time, the specifics of park boundaries and land ownership may evolve, but this plan is intended to cover an area that best serves the landscape and those who visit it, ensuring a seamless experience for all.

This new park is a prime example of the role played by Oregon's state parks: protecting and enhancing places along major state rivers, lakes and the ocean shore as well as providing gateway facilities to enrich visitor experiences. Cottonwood Canyon State Park is the new, northern anchor in OPRD's chain of parks along the John

Photo 1.2 View upstream from Cottonwood Bridge, OPRD 2011

Day River system. Together with parks at Clarno, Clyde Holliday, Ukiah-Dale and Bates, Cottonwood Canyon can offer visitors a lifetime of exploration and enjoyment of the longest free-flowing river system in the Pacific Northwest. The plan for Cottonwood Canyon sets a new standard for the state park system, by defining OPRD's intention for land stewardship, historic and working lands protection, and community partnerships.

This park will take visitors beyond the Welcome Center and trailheads, to venture into the canyons and up to overlooks to experience what is a rugged Oregon place.

The qualities of the park—its natural and cultural resources—are defined by more than their current condition. Cottonwood Canyon is not pristine. This is confirmed by assessments of the plants, animals, soils and waters, plus a preliminary study of archaeological and historic resources (see Chapter 3 and the Appendices). As stewards of the park, OPRD devotes itself to two related resource goals: protecting good quality resources from harm, and restoring damaged resources to something closer to their potential. One of the purposes of an Oregon state park is to serve as a reference point, a living reminder of the best examples of different kinds of habitat and human culture. We all benefit from understanding the effects of natural and cultural changes in the way we live. The general values and goals in Chapter 8, and specific strategies in Chapter 9, apply this philosophy to Cottonwood Canyon State Park.

Outdoor recreation in an Oregon state park relies on natural and cultural resource management—protecting diverse examples of Oregon's best natural and cultural heritage—to create the setting for recreation. Recreation can be merely a physical experience, but it can also spark a deeper understanding of the state's identity and a love for the place, thanks to careful resource management.

The resource assessments and park service concepts in this plan are incomplete until they are shaped—and acted upon—by the regional community. Residents of Sherman and Gilliam Counties have told us no one lives in this territory as an island. Neighbors, coalitions, governments, formal and informal organizations all have long histories dedicated to improving the region. OPRD understands that Cottonwood Canyon will succeed only if it enters this community ready to learn, earn trust, and provide necessary services. The park also needs help to achieve its challenging natural and cultural resource goals. The skills of established partners are obviously crucial.

The traveling public in Oregon has learned to look for the iconic state park shield along the highways, knowing they will find welcoming, clean, comfortable places that are outstandingly beautiful. This park will take visitors beyond

the Welcome Center and trailheads, to venture into the canyons and up to overlooks to experience what is a rugged Oregon place.

The recreation vision for Cottonwood Canyon will enable visitors to choose the nature of their experience in this rugged landscape. This will range from the comfortable gateway off Highway 206, known as the West Entrance, to limited backcountry camping deep in the canyon. The West Entrance will provide day-use and camping designed to evoke the old ranch character formerly located there. From this gateway, short distance hikes, bike or paddle trips will allow visitors to venture deeper into the park to enjoy the rugged landscape. Adventurous visitors may take an overnight camping trip, via boat or foot, down the river and up into the canyon lands to primitive and more isolated places.

Need for a Plan

When a new state park is purchased, OPRD completes a plan to guide its future management. This includes how best to care for the park's natural, scenic and cultural resources, as well as provide interpretation and recreation that fit the park setting. A park of this size and importance merits a formal plan that will be approved by the public, by Oregon State Parks and Recreation Commission, Sherman and Gilliam County land use decision makers, and is then adopted into state rule.

This document represents the first phase of that planning work, known as the Cottonwood Canyon Comprehensive Plan. This volume focuses on resource stewardship guidelines, recreation concepts, operational management, and community partnerships. It describes park management values, goals, strategies, and actions that will conserve the landscape and enable careful access to those lands. The park maps and project descriptions provide the public, the Oregon State Parks and Recreation Commission, and local governments with a basis for approval of the plan. The plan serves as the basis for park management and development; operational strategies provide park managers with a basis for effectively taking care of the park and its day-to-day business.

The contents of this plan represent Volume 1, which covers the Master Plan for the park and will be submitted to the counties for their approval. Volume

A Summary of the Plan

- **An overview of the formal planning process** that guides management and stewardship of the park.
- **A summary of the park resource assessments,** including those for natural, scenic, cultural, and interpretive resources. It includes a regional view, a study area view, a view of the park in earlier times and a look at the current conditions and management needs.
- **A composite assessment of areas of the park** that identify high value resource areas, and areas that require restoration or can be considered for recreation purposes including day-use and overnight areas.
- **A summary of the regional and local recreational needs and trends** based on state and federal studies. It provides recommendations about the types of outdoor recreation the public wants, as well as what is potentially a good fit for recreation at the park.
- **An assessment of the park's natural and scenic features, as well as stories that offer opportunities for interpretation.** The assessment covers how best to orient visitors to the park, reviews potential audiences, proposes interpretive themes and recommends an ideal level of interpretive staff and facilities for the park.
- **A summary of comments and concerns** collected during the plan's public involvement and stakeholder input sessions, and key questions and answers that have emerged. This information was a basis for developing value and goal statements for the park.
- **A summary of opportunity areas within the park** that focus on either resource conservation or recreation, or a combination of both.
- **A statement of management values and goals.**
- **A statement of resource management strategies, recreation concepts, operational management and community partnerships.** This includes a general park plan map of proposed resource enhancement and recreation locations.
- **Management strategies for management zones,** including resource management and proposed recreation concepts.
- **An overview of the formal review and approval process** including county land use compatibility, State Scenic Waterway, Federal Wild and Scenic River and reviews for natural and cultural resource project approval.

2 expands upon the Volume 1 strategies and actions. This second volume includes annual or biennial projects for the park and is updated by the park manager based on the goals and strategies laid out in Volume 1. Volume 2 includes a detailed operational plan, interpretive plan, and natural and historic resource management prescriptions. Finally, Volume 3 includes substantial appendices of park inventories and assessments.

After Volume 1 is adopted and approved by the public, Oregon State Parks and Recreation Commission and the two local counties, it becomes the basis for enacting the plan's goals, strategies and actions. The plan can be updated only through an official amendment, an action that requires this same approval process. An OPRD plan is usually amended every five to twenty-five years, depending on the circumstances. Volume 2 of the Comprehensive Plan is more flexible; it stays inside the boundaries set by Volume 1, but adapts as the budget, natural events and other external forces change. In summary, the Comprehensive Plan is divided into three volumes:

Volume 1: Park vision, goals, strategies, concepts and mandatory land use planning information.

Volume 2: Groundwork needed to create and operate the park.

Volume 3: Assessments undertaken to understand every aspect of the landscape and those who use it.

Planning Framework

The Comprehensive Plan for Cottonwood Canyon State Park accomplishes three tasks:

- It meets OPRD's legal obligation to provide a plan for local land use and state-level approval.
- It sets down the vision, goals, concepts and actions to guide park development and operation.
- It collects a library of assessments to help park managers succeed with their stewardship mission.

This plan works for a variety of audiences: the visiting public, park manager, county planners, local communities, and partner agencies. First and foremost, the Comprehensive Plan represents the vision of the public and describes their vision and intent for the park. The park manager at Cottonwood Canyon will use every volume to manage the park. Sherman and Gilliam Counties will review Volume 1 (which satisfies the legal requirements of a Master Plan), for compliance with their own County Comprehensive Plans. Our partner agencies, who jointly

Photo 1.3 Kestrel perched near Murtha Ranch, OPRD 2011

shaped the park boundary, will work with us to ensure the plan is implemented. Local communities can use it in partnership with us and each other to enhance the Lower John Day Region as a place to live, and as a thriving, economically vibrant travel destination.

Volume 1 contains the park vision and goals, and will guide overall park management. It also lists more specific strategies and actions—all related to the vision and goals—leading to the park's opening in 2013 and beyond. This volume, usually updated every 10 to 20 years, contains:

- Agency's purpose for the park
- Brief park history and regional context/role
- Overview of park natural, cultural, and scenic resources
- Overview of park recreational uses and facilities
- Overview of park operations
- Summary of stakeholder and public discussion
- Summary of physical and operational opportunities and constraints
- Park values and management goals
- Strategies and actions based on the values and goals; including resource prescriptions, recreation activities, supporting facilities, programs, staffing, and partnerships

Leaping off this springboard, Volume 2 describes work plans and detailed guidelines for park operation. This volume will be updated annually by the park manager to reflect completed projects and programs as well as work scoped for the upcoming year. It will form an annual record of work completed at the park based on priorities for park planning as spelled out in Volume 1, and contain:

- Natural Resource Management and Action Plans
- Cultural Resource Management and Action Plans
- Scenic Resource Management and Action Plans
- Interpretive Management and Action Plans
- Recreation Management and Action Plans
- Design Guidelines
- Public Safety and Emergency Management Actions
- Sustainable Management Plan
- Community Engagement and Partnerships
- Marketing and Concessions
- Maintenance Management Plan
- Administrative Operations

Volume 3 is a repository for inventories, assessments, technical reports, policies and other documents that support Volumes 1 and 2. Like Volume 2, this volume will grow over time. Sample reports already in Volume 3 include:

- John Day River Study Environmental. Assessment
- John Day River Management Plan
- Cottonwood Wildland Fire Plan
- Murtha Ranch Fisheries Report
- Vegetation Inventory and Botanical Assessment
- Historic Resource Assessment
- John Day River Boater Survey Results
- SCORP Regional Recreation Survey
- State Trails Plan

Relationship of Master Plans to Comprehensive Plans

This Comprehensive Plan includes a Master Plan component (in Volume 1) that complies with the legal requirements for undertaking planning at state parks, in accordance with Oregon Administrative Rule (OAR) Chapter 736, Division 18 and Chapter 660, Division 34. The rules mandate completion of research, analysis, plan contents, public involvement and plan approval. The Master Plan identifies the most appropriate types of recreation at the park, including the types and locations of supporting facilities. It also defines the general layout and capacity of proposed recreation activities including the supporting facilities and infrastructure. This is the basis for local jurisdictional review and decisions about the consistency of the Master Plan with the jurisdiction's zones, as well as Gilliam and Sherman Counties Comprehensive Plans.

Photo 1.4 View of cliff at point where Hay Creek meets the John Ray River, OPRD 2011

Planning Process

The planning process for public involvement is also outlined in state rule. OPRD goes beyond the state rule to ensure extensive public consultation and input for this plan. In general, this includes:

- Informal and formal public and stakeholder involvement before issuing a final draft plan
- Formal hearings for reviewing the plan
- Director and Oregon Parks and Recreation Commission support for amending state rule to include this plan
- Approving the plan through local jurisdictional land use

The first step is to confirm the department's management intent and vision for the park. For new parks, this is usually outlined in a report to the Oregon State Parks and Recreation Commission before the property is even acquired.

Staff gathered information about resources and potential uses, including natural, historic/prehistoric, scenic, existing uses and recreational and interpretive opportunities, plus information about the local communities and the surrounding region. The process included four rounds of public meetings in Sherman County, Gilliam County, Portland, and a meeting in Bend. A web site blog, mailings and meetings with interest groups provided many other opportunities for public comment.

BLM NEPA Process

Projects proposed on BLM lands covering trails and vegetative restoration, will require environmental analysis under the National Environmental Policy Act (NEPA), a public comment period, and a BLM decision regarding whether or not the projects will go forward. The analysis will consider the anticipated environmental effects of the proposed action and alternatives to the proposed action (including a "no action" alternative). Projects on state land may also require NEPA analysis if they are dependent on access through public land. Some of the proposed projects may not be in conformance with the BLM land use plan for the area, in which case they would not be permitted, or would require a BLM plan amendment to be allowed.

Measuring Success

Measuring the success of a new park can be difficult. Implementing this plan will include several layers of analysis to determine how successfully OPRD has translated the needs of the local community, statewide community and the agency as a resource steward into discrete actions that uphold the department mission and adhere to the park vision. The primary method for determining success is to apply a traditional project management approach based on cost, scope, and schedule (Figure 1.1). The planning process identified many actions; each of these actions has costs, schedules, and scopes of work. The tasks will be refined and prioritized based on available budgets and park needs as Cottonwood Canyon prepares for opening in 2013. The park manager, with the district and region manager, will prepare annual work plans to accomplish high priority items.

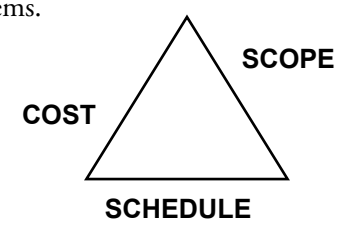


Figure 1.1


Photo 1.5 View towards Esau Canyon looking downriver, OPRD 2010

Local communities can use the plan in partnership with us and each other to enhance the Lower John Day Region as a place to live, and as a thriving, economically vibrant travel destination.

Annual work plans will help refine tasks. The annual work plan will also create a reporting tool for communication to the general public and stakeholders.
The planning process helps define the expected or desired visitor experience and helps identify successes and areas needing improvement. A broad community engagement effort—to reflect community and visitor needs and expectations—was essential to the planning process (Figure 1.2). The expected visitor experience becomes a measure of success that will help evaluate the implications of a change to cost, scope, or schedule.

The quality of the experience inherent in the visitor's expectation can be analyzed in several ways. The park manager can use the visitor experience to help prioritize and schedule tasks that will help meet (or exceed) visitor expectations or improve the overall quality of the visit. In most cases this will be a simple comparison with facilities or recreation experiences.

Figure 1.2

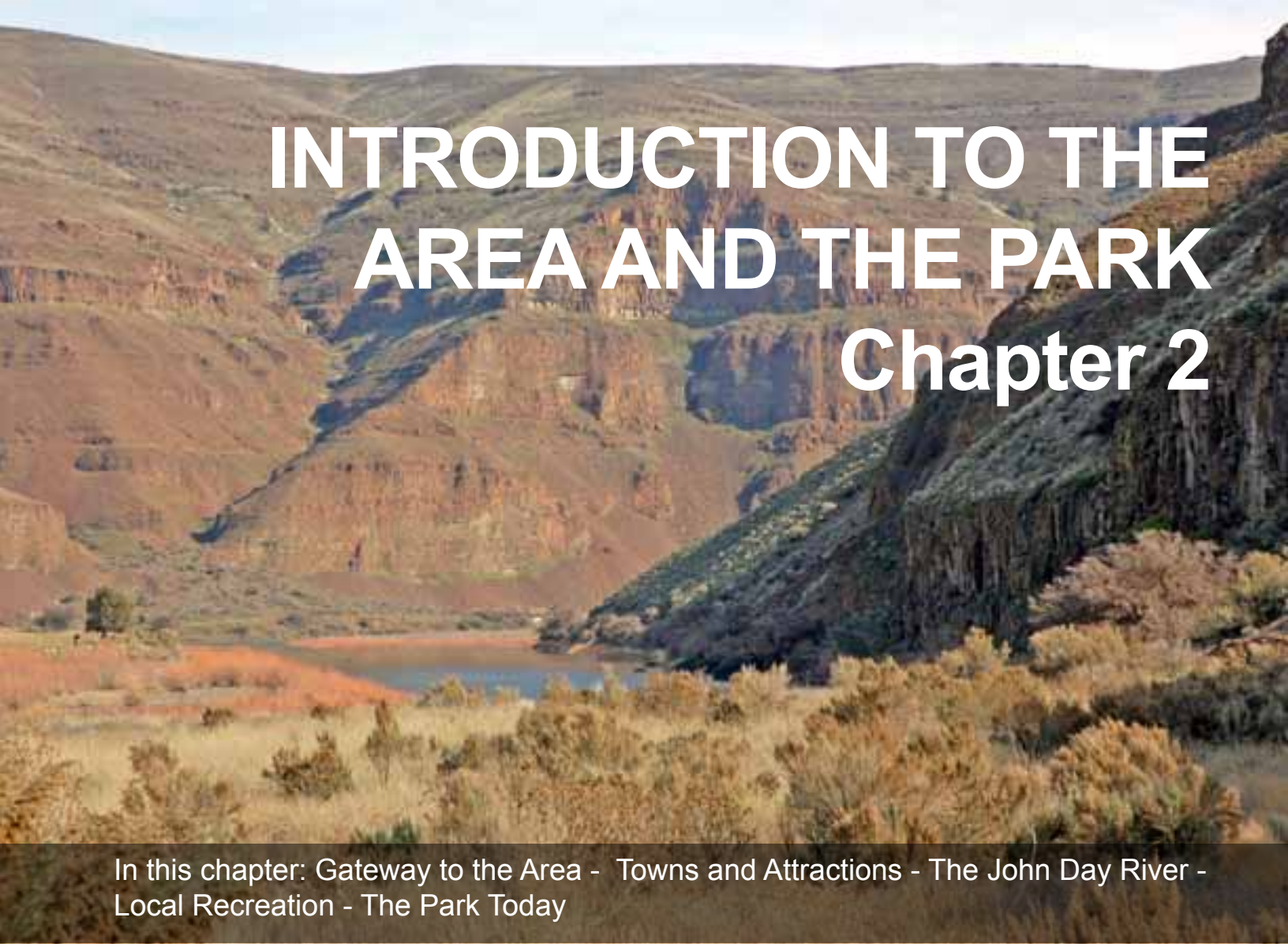
Visitor comments from park advisory committee members, and local stakeholders give a deep understanding of the visitor experience. The park manager may have to explore new ways to solicit comments about Cottonwood Canyon State Park after it opens. These may include on-the-ground visitor surveys, internet-based surveys, or follow up phone calls to registered campers and visitors. Including the visitor experience as a measure of quality also helps capture some of the intangible elements of park development related to resource protection and enhancement.

Finally, measures also help evaluate the effects of changes to the park budget, and communicate those effects and their related trade-offs. Much of this analysis is contained in the Operations section of Chapter 9: Park Strategies and Operations:

The finite budget for the park must be prioritized to accomplish a wide variety of tasks and actions. Due to changes on the ground, emergencies, and unanticipated park needs, annual plans will require changes. The criteria presented here can help identify ways that tasks and action plans can be adjusted with a conscientious effort to consider impacts to visitors and other resource values.

Photo 1.6 Native lichen on rocks near the Murtha Homestead, OPRD 2010

Photo 1.7 Western Burrowing Owl, OPRD 2010



INTRODUCTION TO THE AREA AND THE PARK
Chapter 2

In this chapter: Gateway to the Area - Towns and Attractions - The John Day River - Local Recreation - The Park Today

Photo 2.1 John Day River Canyon from JS Burres site, OPRD 2010

Gateway to the Area

Cottonwood Canyon is located in a region that is rich in natural resources, beautiful scenery and interesting history. Locals and visitors to the area enjoy year-round recreational opportunities including scenic driving, hiking, fishing, rafting, hunting, visiting historic sites and enjoying the many public lands and parks. The John Day River is the iconic draw for visitors to this region. Cottonwood Canyon provides important access to the Lower John Day Region and will be a gateway for river-related recreation while giving careful consideration to ensuring there is no impairment of the natural resources.

Visitors to the John Day River currently can access the park via JS Burres day use area off Highway 206. They travel along the state highways from local or more distant origins by car, truck or motorcycle, and sometimes bicycle. Tour buses are currently not common in this area, but there are well-advertised scenic driving and motorcycle routes. Both Sherman and Gilliam Counties have produced brochures detailing driving tours. These tours take in the local history of the two counties including the Oregon Trail, old towns, the railroad, and local wheat production. They also highlight emerging attractions in the two counties, such as new museums and improved tourist amenities. Traditional recreation activities like hiking, biking and horse riding are also available along tour routes.

From the perspective of the traveling public, the local towns are approximately half-an-hour ride from the park and the major cities are two to three hours away. Interstate 84 (I84), which is one of the major traffic routes to the west coast, is approximately half-an-hour drive to the park. From I84, the west side of the park is easiest to access from the Biggs Junction exit via Highway 97 and from Wasco

Major roads within the regional vicinity of the park:

Road	Route Connections	Major Intersections
Hwy 206	Wasco to Heppner	Via Cottonwood Canyon State Park Region and Condon
Hwy 19	Arlington and I84 to Condon	I84
Hwy 97	Biggs Junction and I84 to Bend	Via Wasco (where it connects with Hwy 206)
I 84	Passes through Arlington and Biggs Junction	Via Portland, Hood River and Boise

Table 2.1

Major cities and towns within the regional vicinity of the park:

City or Town	Driving Time	Distance (Miles)
Wasco	18 mins	15
Moro	30 mins	14
Biggs (and I84)	30 mins	24
Condon	30 mins	26
Arlington (and I84) to Hay Creek	47 mins	29
Arlington (and I84) to West Entrance	1 hr 6 mins	58
Portland	2 hrs 15 mins	125
Bend	3 hrs	133
Tri-Cities	2 hrs 30 mins	139
Salem	3 hrs 15 mins	177

Table 2.2

by connecting with Highway 206 at Cottonwood Bridge. The east side of the park at Hay Creek can be accessed via county gravel roads off Highway 206, or from the I84 exit at Arlington via Highway 19. The popular "Journey Through Time" Scenic Byway follows Highway 19 and parallels the John Day River between Kimberly and Service Creek.

Towns and Attractions

Condon and Wasco are the two main towns in the area. Condon, in Gilliam County, is 24 miles southeast of Cottonwood Canyon. Wasco, in Sherman County, is 15 miles northeast of Cottonwood Canyon and is 10 miles from access to Interstate 84. Both towns offer tourist accommodations and act as information centers for travelers coming into the Lower John Day River basin. The major cites and towns, as well as the major roads that are within the regional vicinity of the park, are listed in the two tables on the right (Table 2.1 And Table 2.2).

Visitor survey and park attendance records show recreation in the John Day River basin has greatly increased since the 1980s. The major recreation activities focus on sightseeing, camping, fishing, hunting, wildlife and bird watching, swimming, boating, and of course hiking. The major draw, in terms of visitors-per-annum to the area, is the John Day Fossil Beds National Monument with good hiking trails drawing approximately half-a-million visitors per annum. There is also the Oregon Trail John Day Crossing Interpretive Site down river from Cottonwood Canyon. BLM land along the John Day River offers opportunities to launch boats onto the river with small day-use areas for picnicking. Wilderness boat camps are located along the river on BLM property. However, there are no public campground facilities provided along the lower reaches of the river. The last overnight camp with facilities is almost a hundred miles upstream of Cottonwood Bridge, near Service Creek. The BLM offers four semi-developed campgrounds in total; the Service Creek Campground located at the Highway 19/207 junction; Muleshoe Campground, located 10 miles west of Spray; and Lone Pine and Big Bend Campgrounds, located ten miles north of Kimberly along the North Fork. In addition, Wheeler County operates Shelton Wayside and Bear Hollow fee campgrounds, located off Highway 19 between Fossil and Service Creek. Condon operates an RV Campground on the edge of town and the town of Spray is pursuing development of an RV park.

In the region, the Wilderness Study Area (WSA) managed by the BLM is remote and undeveloped public lands that offer primitive and unconfined recreation opportunities. Nearly 50 miles of the Lower John Day River between Clarno and Cottonwood Bridge flow through the WSA. Three additional WSA's, Pat's Cabin, Sutton Mountain and Spring Basin are located near the John Day River between Service Creek and Clarno. Hunting, backpacking, horseback riding, paddling, and photography are some of the typical recreation activities suitable for WSAs.

Recreation in the John Day River basin has greatly increased since the 1980s.

Backcountry horse riding is increasing in popularity, especially at Sutton Mountain and Spring Basin.

OPRD's Role along the John Day River and in the region as a Park Provider

Photo 2.2 Watercraft on John Day River

The addition of Cottonwood Canyon State Park to the parks system supports OPRD's intention to distribute state park access along the John Day River, and provide the public with access for paddling. OPRD must carefully balance this remit against the desire to protect natural, cultural and scenic resources. At Cottonwood Canyon, the rugged landscape is in a designated state and federal Wild and Scenic Corridor. It is imperative that desired access and recreation opportunities are carefully designed to protect the landscape setting. Currently, at other areas along the John Day River there are publicly owned river access points, staging areas and visitor hubs at strategic locations to guide visitors away from crossing and using private lands.

OPRD's role along the John Day River first started many years ago with full service camping and river access at Clyde Holliday State Recreation Site (SRS) on Highway 26. OPRD later added river access sites at Clarno State Park on the mainstem and Ukiah-Dale State Scenic Corridor (SSC) on the North Fork. During the last few years, the department has also taken on the stewardship, management and interpretation of Kam Wah Chung State Heritage Site in John Day, which offers interpretation of a National Historic Landmark for Chinese settlement. In 2011, as part of the Park-a-Year program, Bates State Park is due to open soon and will provide day-use and camping opportunities on the Middle Fork of the John Day River.

In recent years, visitors exceed the capacity of state parks along the John Day River during the summer season. For example, Clyde Holliday's campground is fully booked during peak season weekends, causing the department to acquire an adjacent property with the intention of expanding the campground over the next few years. All OPRD sites on the river, except Ukiah-Dale SSC in Umatilla County are planned for expansion in coming years to meet some of the growing interest in John Day River access. The goal is to alleviate crowding at existing state and federal sites, abate the shortage of camping sites, provide more interpretation and offer more parks with enhanced habitat values.

Given the several State Scenic Waterway sections along the river, and the joint state and federal Wild and Scenic River corridor, it is imperative that the new state parks and expansion at existing state sites are carefully managed to protect this tremendous setting. This plan outlines how the setting can be protected while still allowing limited access to the river.

Cottonwood Canyon State Park is intended to be a gateway attraction for both Gilliam and Sherman Counties. Tourism marketing associated with the towns of Condon and Wasco can feature the park, and promotion of the new park could make a strong connection in the ongoing discussion about heritage branding of the Lower John Day basin with the important attractions and recreational sites. The development of the park will expand the interpretation offered by OPRD and other providers on the John Day River system.

Cottonwood Canyon Geographic Features and Place Names

Geographic features:
20 canyons
4 Springs
2 Coves
1 Flat
1 Falls
3 Hollows
1 Basin
2 Grades
1 Bridge
2 Roads
1 Lane
and "The Gooseneck"

Place names:
Willow Springs Canyon (Mile point 50)
Hawkins Spring
Grass Canyon
Minto Cove
Lon Eakin Flat
Piano Box Canyon
Indian Cove
Little Ferry Canyon (Mile point 52)
Dipping Vat Canyon
Currie Canyon
Dipping Vat Spring
Horseshoe Falls
Gooseneck, The
Rose Briar Canyon
Buck Hollow
Ferry Canyon
Owens Basin
Deep Canyon (Mile point 52)
Devils Canyon
Taylor Grade
Bull Canyon (Mile point 46)
Willow Spring Canyon
Bull Canyon
Bruckert Canyon (Mile point 45)
Ruggles Grade
Cottonwood Bridge (Mile point 40)
Cottonwood Canyon
Esau Canyon (Mile point 36)
Spring Hollow
Hay Creek Canyon (Mile point 30)
Hay Canyon Road
Devils Butte Road
Mikkalo Lane
Six mile Canyon
Seven Mile Spring
Tenmile Canyon
Corral Hollow
Scott Canyon (Mile point 27)

The Park Today

Nearly 16 miles of the John Day River passes through the park, from approximately river-mile (RM) 46 to 30. Traveling 252 miles from the North Fork headwaters to the Columbia River, the John Day River is the longest dam-free, free-flowing stretch of river in the Northwest, and one of twelve of the longest free-flowing stretches west of the Great Plains. The study area, comprised of properties owned by OPRD, Western Rivers, DSL and BLM, encompasses approximately 16,000 acres. Cottonwood Canyon State Park accounts for approximately 14% of the study area (2,403 acres); Western Rivers owns approximately 31% (5,611 acres); and the BLM is the largest landowner with 55% (10,262 acres). These properties occur within Township 1S - Range 18E, Township 1S – Range 19E, Township 1S - Range 20E, Township 2S - Range 18E, Township 2S – Range 19E, and Township 2S - Range 20E. OPRD's Eastern Region office in Bend and the North Central District based out of The Cove Palisades State Park, administer the park.

Sherman and Gilliam Counties, the local community, and state agencies have identified conservation of important natural resource actions along the John Day River as highly important. The lower John Day River Canyon, including the study area for this plan, has the best native grasslands and sagebrush shrub-steppe habitat found on the Columbia Plateau. Precious few corridors of intact habitat of this kind remain in the entire Columbia Basin.

The lower John Day River Canyon also supports Oregon's largest herd of California bighorn sheep with an estimated 600 to 650 animals, and hosts the largest remaining wild spring and fall Chinook runs in northeast Oregon. Supporting the healthiest run of wild summer steelhead in the Columbia Basin, the John Day River is of paramount importance to

The John Day River Canyon, which is the central spine of the park, has outstanding rugged Columbia Plateau scenery.

Photo 2.3 Murtha Ranch Buildings, OPRD 2010

this federally listed 'threatened' species. The land also supports healthy populations of species identified as 'at risk' in the Oregon Conservation Strategy, including western burrowing owl, ferruginous hawk, grasshopper sparrow, loggerhead shrike and northern sagebrush lizard.

Other species include Rocky Mountain elk, mule deer, pronghorn antelope, coyote, mountain lion, white-tailed jackrabbit, northern harrier, Swainson's hawk, rough-legged hawk, red-tailed hawk, prairie falcon, merlin, American kestrel, sage sparrow, great blue heron, common merganser, chukar, gray partridge, California quail, alligator lizard, western rattlesnake and gopher snake. The ranch area has the potential to provide important nesting habitat for golden eagle and peregrine falcon. The weeds left over from the former ranching operation are the current major cause of native habitat loss, and it will take a major effort to restore the natural plant communities in this area.

The major geographic feature in the park is the John Day River, cradled in the John Day River Canyon. Along with the river, the bottomlands and riparian edge form the biggest landscape features of the canyon. Four major side-canyons empty into the John Day River within the park including Hay Creek Canyon, Rattlesnake Canyon, Esau Canyon, and the park's namesake, Cottonwood Canyon. The uplands area that forms the rim of the canyons has evidence of ancient habitation in the cliffs above the river and along it. At the ranch, ruins of homesteads and other early settlement structures are scattered around, contributing to the weathered character of the place.

The evocative names of these lands express their wild nature and illustrate deep ties to the land. Names like 'Piano Box Canyon' or 'Dipping Vat Spring,' together with traces of prehistoric passage that mark the walls, landforms and weathered historic sites, illuminate the story of the place (see sidebar).

The place names represent the historic settlement of the canyon. Today, traces of homesteading and ranching are evident at the Murtha Homestead, which retains its major ranching houses, out-buildings and grazing fields. Foundations from former homesteading and even a

At the ranch, ruins of homesteads and other early settlement structures are scattered around, contributing to the weathered character of the place.

schoolhouse are evident. Esau, the first location settled for ranching in the park, still has agricultural fields, corrals and some advertising painted on the canyon wall. Throughout the bottomlands, fences and gates denote former grazing areas. Jeep roads on both sides of the canyon and up the side-canyons were the means by which former ranch occupants accessed this remote terrain.

Highway 206 is the approach road to the park, crossing the John Day River at Cottonwood Canyon Bridge. County roads off Highway 206 provide access to more remote areas such as Starvation Lane and Hay Creek Canyon Road. Starvation Lane is a gravel county road on the north side of the John Day. Off Highway 206, the road follows along the north rim of the canyon for about eight miles before plunging down several hundred feet to the river below via a sharply curving route. Ranch owners opened the route to access the river, but the route is not heavily used. Another county road, Devils Butte Road, leaves Highway 206 about eight miles southeast of the river and travels about seven miles to an intersection with the road along Hay Creek. This is a two lane, all-weather road, with some steep drops without guardrails. The road travels about 11 miles beyond Hay Creek, intersecting with a paved road at Rock Creek before traveling another several miles to Rock Creek and McDonald Crossing. The road along Hay Creek is county-maintained about halfway to the river, and then becomes a one lane, gravel and dirt road along a deeply gullied section of the creek. A steep, one-lane dirt road leaving the Esau bottomland goes up through BLM lands to a gate a few hundred feet from Devils Butte Road (the last few hundred feet cross private property). A jeep road runs from JS Burres to the Esau Bottomlands, and another runs from the Murtha Homestead past the Esau Bottomlands on the north side of the river before terminating at a landslide one-mile beyond.

Many of the visitors currently paddle into the park from the Clarno access, 70 miles upriver from JS Burres. The trip through the canyon from Clarno can take up to five days, or can be done in a couple of days, depending on water levels and pace. For this reason, JS Burres is already an important take-out/put-in site. Those currently putting-in at JS Burres will mostly do a day trip downriver and take out at the end of Starvation Lane, across from Hay Creek. Others will park at the JS Burres wayside and follow the jeep roads down either side of the John Day River. Besides rafting, recreation that is already happening in the park includes hiking, fishing, horse riding, hunting and wildlife viewing.

The John Day River Canyon, which is the central spine of the park, has outstanding rugged Columbia Plateau scenery. The twisting, high-cliffed river canyon affords many dramatic views and helps protect the remote feeling of the canyon below. Boating down the river offers views into the twists and branches of the canyon. Climbing to the top of the rolling landscape allows views to distant snow-capped mountains and the expanse of the Columbia Plateau. These views can only be achieved by boating, biking, hiking or horseback riding. Murtha Ranch is included in several state and federal land designations that can help protect the scenic setting as well as guide management.

The Designations:

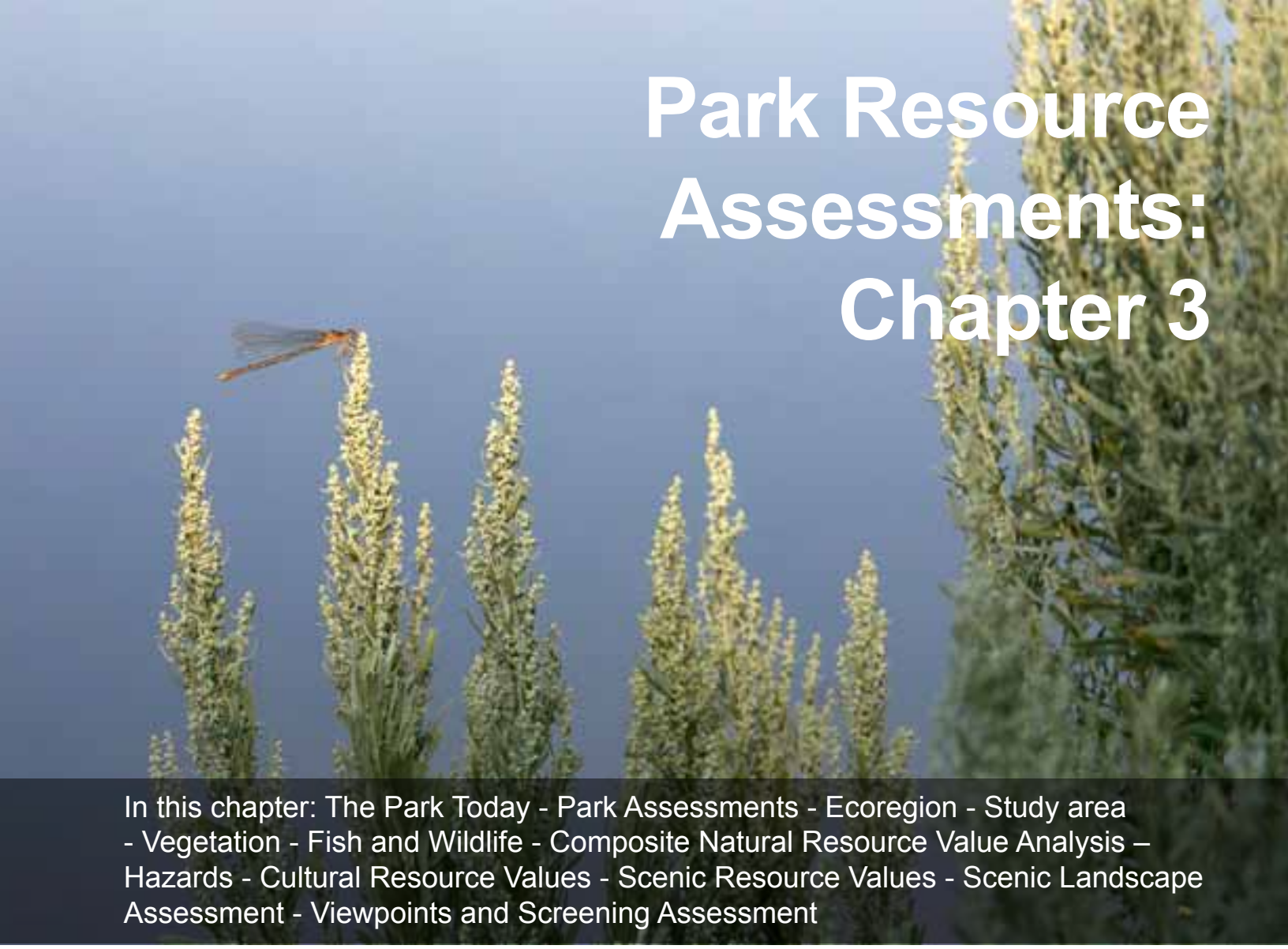
- State Scenic Waterway
- Federal Wild and Scenic River
- BLM Wilderness Study area, (BLM lands south of highway)
- State Wildlife Refuge (along the river and out ¼ mile from the river)
- State Conservation Strategy/Lower John Day Opportunity Area, (south of highway)
- BLM Prineville District, John Day River Study Area

The natural, cultural, scenic, recreational and community values at Murtha Ranch are so closely associated that they should be considered a composite landscape, where the overall character is consistent with the purpose of the park. As a large, relatively intact natural river system remote from urban development pressures, and with a high potential for the restoration of native habitats along the river, the lower John Day River and its canyons provide important corridors of wild, intact habitat and scenery at a scale that can remain representative over time.

The evocative names of these places express their wild nature and illustrate deep ties to the land.

Photo 2.4 Common goldeneye, OPRD 2010

Photo 2.5 Canyon Overlook, Sherman County



Park Resource Assessments: Chapter 3

In this chapter: The Park Today - Park Assessments - Ecoregion - Study area - Vegetation - Fish and Wildlife - Composite Natural Resource Value Analysis – Hazards - Cultural Resource Values - Scenic Resource Values - Scenic Landscape Assessment - Viewpoints and Screening Assessment

Photo 3.1 Dragonfly on Sagebrush, OPRD 2010

Park Assessments

OPRD prepares resource inventories and assessments as a basis for resource management and recreation planning. This chapter summarizes resource inventories and assessments for Cottonwood Canyon State Park. Assessments include natural (abiotic and biotic), cultural (historic and prehistoric), and scenic (landscape character and views). The 'eco-region' discussed in this chapter is the John Day River, the Columbia Plateau Ecoregion, and Cottonwood Canyon State Park, including OPRD, DSL, Western Rivers, and BLM land.

Summary maps are included in this document for the major resource assessments in addition to the Composite Natural Resource Value Assessment Map. Detailed resource maps and technical reports not published in this document are available at the OPRD headquarters office in Salem and on the OPRD web site.

Some of the surveys and assessments will need more time before enough data is collected to fully understand the patterns and systems. For instance, fish and wildlife surveys and water quality monitoring need to run for a number of years before more detailed scientific-based decision-making can occur; specifically, further study is needed to enhance target fish species habitat. While some resource projects will occur in future phases as more data is gathered, many projects can proceed using known data. For example, there is enough information to prioritize riparian restoration projects along the John Day River within the public lands. Plant community assessments and the 'water features and wetlands maps' classifying high-to-low quality habitats, provide an accurate assessment of current conditions as well as show areas for potential enhancement and protection from intensive use.

1. Natural Resources Assessments

Abiotic:

1.1 Geological features and hazards
1.2 Topography (LiDAR)
1.3 Physiography
1.4 Soils
1.5 Hydric soils
1.6 Watersheds (5th Field)
1.7 Floodplain
1.8 Water features
1.9 Climate
1.10 Rainfall
1.11 Wind
1.12 Slope / Aspect / Hill shade

Biotic:

1.13 Habitat Types
1.14 Existing plant communities
1.15 Wetland species and NWI occurrences
1.16 Aquatic habitat and fish populations
1.17 Sensitive plant species occurrences and habitats
1.18 Historic vegetation
1.19 Occurrences of invasive plants,
1.20 Sensitive fish and wildlife occurrences and habitats
1.21 Wildlife use patterns and high value habitats
1.22 Special designations

2. Cultural Resource Assessments

Archaeology:

2.1 Archeological surveys and likely occurrence areas
2.2 Tribal Interests - consultation
2.3 Ethnographic resources

Historic:

2.4 Evaluation of historic structures, ranch
2.5 Listed sites/structures
2.6 Historic context
2.7 Historic vegetation from natural resource inventory
2.8 Ethnographic resources - oral Histories

3. Scenic

3.1.1 Character areas assessment
3.1.2. Landscape types
3.2.1. Viewpoints
3.2.2. View corridors
3.2.3. Screening

Regional Physiography

Geology is the foundation of the landscape, and it provides the template for ecosystems both today and through time. By understanding the origin of landforms, we first begin to grasp the meaning of Cottonwood Canyon State Park. The John Day River mainstem, branches and tributaries travel 281 miles, exposing more than 300 million years of Oregon's geologic history. This geologic richness results from the river's persistence through a long history of uplift. Today, the John Day River slices through the core of the Blue Mountain anticline, a major up-fold in Oregon's crust, to reveal the early history of the Blue Mountains and more recent history along its flanks.

The river's headwaters rise from the 120-million-year old granite rocks of the Elkhorn Mountains near Anthony Lake. The canyons of North Fork and South Fork cut through the remnants of volcanic islands and the sea floor that was Oregon's first land.

Farther downstream, in the John Day Valley, the river follows the trace of the John Day Fault and exhumes the broad valley from its entombment in vast volumes of ash. Known as the Rattlesnake Tuff, this ash erupted catastrophically from a vent near Burns, and filled the nascent valley to overflowing within hours.

South of the towns of John Day and Prairie City, the Strawberry Mountains thrust over younger rocks by the John Day Fault. On the range's east side, Strawberry Mountain is a largely andesitic volcano about 13 million years in age. Similar volcanics are on the ridges between the Main Fork of the John Day River and the Middle Fork, including Ragged Rocks. The west end of the Strawberry Range and most of the Aldrich Mountains represent much older rocks, 300 million to about 200 million years in age.

The confluence with the South Fork at Dayville brings additional components of ancient island geology from the branch's headwaters near Izee. Then, a few miles west of Dayville, the John Day River slices its way through Picture Gorge, a tilted stack of basalts 16 million years old. Locally known as Picture Gorge basalt, these rocks are part of the much larger and globally significant Columbia River basalt— eruptions that covered much of eastern Oregon, Washington, and western Idaho in a 2-mile thick blanket of basalt flows. Picture Gorge basalt lines much of the river from Picture Gorge to Twickenham. Different varieties of Columbia River basalts (Grande Ronde and Wanapum basalts) appear

below Clarno, and persist as the major bedrock all the way to the Columbia.

Picture Gorge is a portal to a different geologic landscape. Here, the river parts an uplifted ridge of 16-million-year-old basalt flows, and enters the John Day Fossil Beds National Monument. For the next 30 miles, the river engages with these basalts and the older rocks of Oregon's first volcanic landscapes, from about 45 to 20 million years in age.

Along the river's gentle gradient from Picture Gorge to Kimberly, its valley is a multi-hued montage of ancient volcanic ash, aptly named the John Day Formation. Here, older rocks are a deep red hue, belying their origins as wet soils beneath a tropical jungle 45 to about 38 million years ago. The upward fading shift in hues—from deep reds to blue-greens to pallid buff colors, signals a changing climate that cooled from tropical oxidized reds to cooler, less humid Mediterranean blue-greens, finally becoming an arid and temperate grassy oak savanna just before the onset of Columbia River/Picture Gorge basalt eruptions 16 million years ago.

The John Day Formation reveals eruptions that emanated from broad, explosive volcanoes 45 to about 20 million years ago during the Oligocene period. Today, several Oregon landmarks, including Smith Rock north of Redmond, and Steins Pillar, east of Prineville, mark remnants of these huge and long extinct volcanoes.

The John Day Formation preserves a nearly continuous history of the plants and animals that occupied this landscape. Just beyond Picture Gorge, the river's east banks reveal red tropical soils of 40 million years ago. They range from dusky blue-green ashy soils (Turtle Cove) 30 million years old to buff layers of 20 million years old. Somber Columbia River basalts, named for Picture Gorge that erupted about 16 million years ago, cap them.

The river's North Fork enters at Kimberly. Upstream near the town of Monument, the North Fork cuts through a set of feeder dikes for the Columbia River basalts, as well as colorful layers of the John Day Formation. The river's Middle Fork, which joins the North Fork upstream from Monument, cuts through a valley composed of Clarno Formation's Eocene and Oligocene volcanoes, with tributary streams from the north contributing components of upper mantle and accreted terraces from the Greenhorn Mountains. Beyond its confluence with the Middle Fork, the North Fork cuts its canyon through Triassic to Pennsylvanian (possibly Devonian) rocks. Its headwaters in the Elkhorn Mountains have been uplifted significantly during the past 10 million years, providing substantial down-cutting power.

From Kimberly to Spray, a basalt-rimmed canyon of mostly Picture Gorge basalt flows confines the river. The valley broadens upstream from Spray as it cuts through softer John Day Formation sediments, and again a basalt canyon confines the river from Spray to Twickenham.

Beyond Twickenham, the John Day River enters rocks of the Clarno Formation. They represent Eocene 45-55 million-year-old volcanoes that rose above a subtropical forest. The rugged topography reveals the anatomy of once-majestic, Mount-Hood-sized peaks. Much of the canyon walls consist of mudflows and lavas that formed the bulk of the volcano(s). Andesite plugs and basaltic dikes that once carried lava to now-vanished summits slice through this topography. Amine Peak, Sand Springs Butte, and other notable and unnamed features preserve an ancient system of volcanic plumbing. Cathedral Rock represents an ancient (approx. 45 million year-old) andesite lava flow that filled a narrow valley.

Steep topography carved from unstable and sometimes fragile volcanic materials is prone to landslides. At times, huge slides, (some measuring ¼ mile or more across) in this portion of the river have blocked the river's channel, creating large temporary lakes forcing changes in the river's course. Some of these slides remain unstable. Ancient landslides partly control the river's abrupt turn to a northward direction near Cherry Creek, where a system of north-south fractures cut through the Clarno Formation rocks.

Near the Clarno take-out, where Highway 218 crosses the river, the Clarno Palisades form an imposing landscape. Here, mudflows and debris flows followed an ancient river channel, preserving some of a 45- million-year-old Eocene forest that includes palm trees, bananas, magnolia, fig, and other plants diagnostic of warmer times (and higher CO_2). The John Day Fossil Beds National Monument showcases the towering cliffs carved from the mudflows, and their attendant fossil record in their Clarno Unit, about three miles east of the Clarno take-out.

Five miles north of Clarno, the John Day River begins cutting through a narrower canyon defined by 16-15-million-year-old Columbia River basalts. These basalts are different from those at Picture Gorge. They are part of the extensive Grande Ronde and Wanapum series of flows. They erupted from vents in eastern Oregon and Washington, and even western Idaho. Each flow forms a separate, columned layer up to 150 feet thick.

Known as the Columbia Plateau Ecoregion, the study area geology consists of basalt flows overlain by an accumulation of loess deposited during previous Ice Age events. The faulting, fracturing, and incising of the basalt plateau has resulted in the formation of many canyons and steep V-shaped valleys. The largest and most striking canyons occur along major fault lines, and contain some of the areas significant rivers such as the John Day River. Throughout the area, bedrock basalt lies on or near the ground surface, wherever the loess soil deposits have been eroded. In its last forty miles, the John Day River has carved spectacular meanders into its deep canyon. These entrenched meanders indicate that the river is still following its ancient channel across what was once, 14 million years ago, a relatively flat plain. The power to both widen its upper valleys and cut its way through a thousand feet of basalt along the lower river has been provided by gradual uplift of its headwaters region.

Geology is the foundation of the landscape, and it provides the template for ecosystems both today and through time.

There is a minimal geologic record of events between 13 million years ago and the Pleistocene, or Ice Age in the John Day Basin, except for the eruption of the Rattlesnake ignimbrite described above.

The Maupin Fault Zone (also known as the Maupin-Condon Fault Zone) also cuts through the canyon near the river's confluence with Thirty Mile Creek. This is an active fault zone. Its mechanism is not fully understood, but relatively small M 1-4 earthquakes occur frequently, especially east of Maupin. This linear zone extends across the John Day River, and provides a conduit for springs, as well as bog chert --or warm-water mineral deposits of calcite and silica. Two faults related to this zone are mapped within or adjacent to the park's boundaries.

The great Ice Age floods that inundated much of the Columbia Basin repeatedly between two million and 15,000 years ago had little impact on the John Day River. Floodwaters cut an auxiliary channel, a short cut, through Blalock Canyon and into the lower-most John Day River during the greatest floods. Gravel deposits at the John Day River's confluence with the Columbia indicate that floodwaters backed up as far as two miles upstream. There is no record of outburst floods along the river itself. There is, on the other hand, a good record of Pleistocene and Early Holocene (less than 10,000 years) deposits of loess that both cap the uplands and appear as large ridges and very fine dunal sands within the lower canyon near the Cottonwood Canyon State Park.

Photo 3.2 Hay Creek looking east , OPRD 2010

Terrain

Topographically speaking, the study area covers the John Day River Canyon, side canyons, ridges, river bottomland, and flat uplands. All slope aspects are represented. The majority of the study area consists of the John Day River Canyon and Hay Creek Canyon as well as Rattlesnake, Cottonwood and Esau side canyons. The Gooseneck Overlook area includes the major ridgeline in the park (1,600 feet) and the main peak is adjacent to Esau Canyon, known as Indian Point (1,560 feet). The Canyon Overlook area contains the highest point within the park; the main overlook is 1,920 feet. It then drops 1,320 feet to the river below, the highest drop in the park. Slopes in the park vary from nearly vertical cliff faces along the canyon walls to flat bottomlands. The bottomlands slope an average of approximately 6% from the base of the walls down to the high water line. From the base of the canyons up to the rim, the slope varies from approximately 30% up to vertical, and in some cases include overhanging rock faces. The slopes in the 30% to 70% range are often associated with vegetated canyon sides. Those above 70% are related to the exposed rock faces.

Climate

Cottonwood Canyon State Park lies within the Columbia Plateau Ecoregion, made up entirely of lowlands with an arid climate, cool winters and hot summers. The deep canyon within the connected public lands creates many microclimates that do not conform to averages described for the region, but the following gives a general understanding of typical temperatures for the area. The hottest months at Cottonwood Canyon are generally July and August with temperatures averaging 81.5 degrees. The temperatures can rise to 103 degrees. The coldest months are generally January and December and average winter temperature is 22.5 degrees. The climate is relatively dry. Most of the precipitation is during the winter; November through February generally sees the most precipitation. The precipitation is in the form of rain in the lower elevations and snow in the higher ridges and peaks. Heavy showers and thunderstorms occur in the summer months, with 10 to 15 inches per annum.

Ecoregion

The John Day River is a long, remote and relatively intact natural river system. With a free-flowing length of 252 miles, the John Day is the longest such reach of river in the Northwest. The river is also the nation's longest Wild and Scenic River and State Scenic Waterway, flowing 148 miles from Service Creek to the backwaters of the Columbia River. This protected river corridor winds through scenic country proposed for wilderness designation and is able to support abundant wildlife and fish populations.

The main stem of the John Day River winds through deep desert canyons interspersed with semi-arid ranchlands. The river flows through the John Day Fossil Beds National Monument, a site of unique geologic and paleontologic value. Bald eagles, peregrine falcons, bighorn sheep, cougars, bobcats and other wildlife thrive in the basin. The main stem of the John Day River contains about 44% public land including three wilderness study areas administered by the BLM.

Diversions for ranchland have affected the river along most of its length as well as grazing throughout most of the basin, timber harvest through most of the headwaters, gold dredging, and Columbia River dams. However, with only two dams downstream, salmon and steelhead have relatively few obstacles to overcome, and are surviving. Likewise, though grazing exists throughout the basin, the steep topography and remoteness of the canyons have protected much larger areas of native grasslands than are found elsewhere in the Columbia Basin.

Significant riparian and floodplain areas occur along the John Day River, which is the third largest undammed river in the contiguous United States. Natural seasonal flooding and fluctuations in hydrology affect the soil and vegetation.

Vegetation

Cottonwood Canyon State Park harbors extensive and continuous native habitats. Here the main stem of the John Day River curves through a 65-mile-long desert canyon, 1,000 feet deep, interspersed with semiarid rangelands. The steep, remote topography protects much larger areas of native grasslands and sagebrush shrub-steppe habitat than are found elsewhere in the Columbia Plateau.

Balsamroot and other forbs dominate the John Day River Canyon grasslands. Hosts of native species rely on the remnant native plant communities protected in the Cottonwood Canyon area since their habitat has been largely replaced or degraded in more accessible areas.

The bottom of the John Day River canyon is filled with fine to coarse textured alluvial deposits. Dry shrubsteppe, grassland, pastureland and wheat fields characterize the majority of the landscape within the study area. Because of the arid conditions, grazing pressure, and possibly

Photo 3.3 John Day River near Esau Canyon looking north, OPRD 2010

other past land use practices there are no natural forests within the park (although there are scattered, small areas of woodland remnants too small to be considered forests).

Overall, developed sites account for a very small proportion of the study area, with roads and power line corridors making up the bulk of development. However, much of the study area is currently used for livestock grazing and agriculture. Agricultural uses (for hay or crops) have produced large acreages of weedy and exotic vegetation and are mostly in the deeper alluvial soils of the John Day River bottomland, or the deeper loamy soils of relatively flat areas above the rimrock. Cattle and sheep have grazed the canyon slopes and flat areas here for the last 100 years, and signs of domestic livestock are obvious wherever soils are not rocky. Most of the hillsides, and especially those of sparser vegetation on slopes facing directions other than north, show pronounced "terracing" due to cattle and sheep grazing along the slopes' contours. Cattle fences are strung throughout the study area, not just on property lines.

Conserving and restoring the habitat of Cottonwood Canyon State Park will benefit the river system and the riparian, grassland and sagebrush shrub-steppe habitats. Salmon and steelhead's greatest problem is high water temperatures due to water withdrawals and lack of stream shading. The riparian edge and bottomlands can be restored to floodplain forest with tall alder and cottonwoods shading the river and willow thickets providing key riparian wildlife habitat. The water rights not used for restoration purposes can be returned in-stream, providing more water to the river, which will be especially important to summer steelhead and spring Chinook during the summer's low flow. The summer steelhead spawning and rearing habitat in Hay Creek will benefit from habitat restoration to increase its production.

The John Day Formation sequesters a nearly continuous history of the plants and animals that occupied this landscape.

The center of Cottonwood Canyon State Park, at Cottonwood Bridge, is on the down river border of a state-designated Columbia Plateau Ecoregion Conservation Opportunity Area. The property also includes a designated section of the Oregon Department of Fish and Wildlife's John Day River Refuge.

Historic Vegetation

General assumptions regarding probable historic and prehistoric vegetation conditions can be inferred from a variety of sources. These include a wide-scale interpretation of early surveyors' notes produced by the Oregon Natural Heritage Information Center (ONHIC, 2002), the LANDFIRE biophysical settings database produced by the United States Forest Service (USFS, 2006), federal potential natural vegetation datasets, and Natural Resource Conservation Service soil surveys. Historic vegetation models are a good starting point for analysis of the change in vegetation composition and condition over time. Vegetative changes and ecological pressures can be deduced by comparing present vegetation to the presumed past vegetation, and especially by considering known and presumed land management events and practices. Generally speaking, the mid-1800s vegetation present in the study area is assumed to have been:

Bottomland flats - big sagebrush, bunchgrasses, and some creeping native grasses with forbs such as lupine, scurfpea, buckwheat, and various composites.

Canyon slopes (with areas of relatively deep soils) - big sagebrush mixing with the ubiquitous bunchgrasses and forbs of the area (bluebunch wheatgrass, sandberg bluegrass, Idaho fescue) as well as a suite of native wildflowers and forbs. Where canyon slopes with deeper soils had no significant big sagebrush there would have been areas of bunchgrass and forb/ wildflower dominance.

Areas with skeletal soils (but not outright rock outcroppings or talus slopes) - characterized by rigid sagebrush, Sandberg's bluegrass, phlox, lomatium, buckwheat, and bluebunch wheatgrass.

Rock outcroppings - sparsely vegetated with a suite of species able to persist in cracks and small pockets of soil. Some typical species include Columbian goldenbush, cutleaf thelypody, and Sandberg's bluegrass.

Seeps in hillsides - colonized by forbs such as monkeyflowers, as well as grasses like basin wildrye. Cottonwoods, hackberry, and juniper would be found in some of these seeps as well, as fire would be less likely to affect them in these locations. Mockorange, sumac, and rose might also have been present.

Riparian areas - woody shrubs would have dominated, but perhaps these areas would have contained areas of larger deciduous trees. Shrub species would have included coyote willow, hackberry, rose, sumac, and chokecherry. Trees would have included cottonwoods, white alder, hackberry, and pacific willow.

Vegetation has changed dramatically in some areas of the study area, whereas other areas are relatively similar to 1850s conditions. Bottomlands and flat ground have changed the most dramatically, and in fact, many of these environments have very little in common with the vegetation that was present 150 years ago. Biotic soil crusts in the flats, bottomlands and deeper soil deposits that support lusher vegetation have been altered. However, many of the ridge tops and harsher sites that

Major sources of vegetation change (1850s - 2010s)

Sources influencing vegetation change:	Notes:
Cattle grazing	Shifting grass and forb composition from palatable species to less palatable - destruction of biotic soil crusts, increased susceptibility to weed invasion, increased erosion – feedback loop leading to exponential increase in weed infested area and abundance.
Sagebrush removal	Rancher efforts to improve pasture
Agricultural production	Conversion of natural vegetation to agricultural fields for hay or crop production
Large predator control	Increased browsing of bottomlands riparian zones by deer and elk
Cutting of trees	For firewood and other human uses
Roads	
Weed invasions	
Stream stabilization efforts	Riprap groins. Decreased recruitment of flood plain
Grazing in riparian areas	Destabilization, down cutting, stream channelization, increased water velocity in channelized straight runs, disconnected side channels and off channel wetlands.
Livestock watering diversions/structures	Creation of artificially wet areas
Irrigation for fields	Diversions and wells - creation of artificially wet areas
Alteration of fire regimes	May or may not be significant here. Natural fires still burn throughout the study area, and according to the BLM, there is limited wildfire control. Fires tend to sweep up the canyon slopes in minutes to seconds due to the presence of bone-dry flashy fuels. BLM and other fire fighting entities tend to stop the fires at the tops of canyons or on ridgelines. Still, fire may have been more prominent in Native American times, perhaps by influence of prescribed burning to encourage particular habitat types to manage game species.

were unattractive to cattle have relatively rich and healthy soils crusts. The least impacted environments in the study area are in extremely rocky areas or in areas with soils that do not support lush vegetation. Because these sites are inaccessible to livestock or because they do not have forage that attracts and holds grazing animals, these sites are least affected by livestock trampling and weed invasions. Slopes with moderately deep soils look superficially similar to what would be seen in an 1850s environment, but effects of grazing and weed invasion are obvious upon closer inspection.

Plant Communities

The planning process included a study of the plant communities that now occur in the connected public lands of the park. OPRD's natural resource staff completed an inventory in 2010. Plant communities were mapped and described by their species composition and conditions. These maps, covering plant communities and conditions, and the companion report titled *Vegetation Inventory and Mapping, Cottonwood Canyon Study Area,* are included with the background documentation for the Comprehensive Plan.

The vegetation of the study area is deceptively complex. Minor deviations in soil, slope, aspect, or barriers to grazing can have huge effects on plant communities in an arid climate. In the space of one acre, there may be as many as 10 distinct plant communities, some with no resemblance to others within that acre – or even in some cases, with no shared species between communities. While a casual look at the landscape gives the impression of sparse and repetitive vegetation, detailed observation revealed a great diversity and complicated interaction of distinct facets, colors, and textures. This widely and quickly changing appearance reveals a diversity of plant communities due to the relative lack of the sheltering, buffering and smoothing effects of water. Plants here cling to life in a harsh environment, and minor changes in factors like slope, soil, or exposure to wind or sun can completely change the composition and abundance of species that colonize and persist in an area. Plant communities often sharply transition in the space of a foot, or a few inches, rather than blending into broad ecotones seen in environments that are more hospitable.

Due to the scale of the vegetation assessment and the size of the study area the assessment did not focus on mapping all discrete plant communities and the complex workings of micro scale vegetative ecology. Instead, this assessment uses broad vegetation patterns and cover types that encompass many finer scale plant communities. In some cases, finer scale plant communities or the variability of site-specific representative species within each broad cover type are discussed where highlighting these communities was deemed important to understanding the ecology of the region.

The ecological condition of the plant communities in the study area are affected by the abundance of exotic species, soil disturbance, alteration of native plant composition, alteration of hydrologic regimes, agricultural activities and natural conditions as well as other human developments.

The canyon bottomlands have a history of livestock grazing, agricultural use and other human impacts. The native plant communities in the bottomlands are highly altered and often impacted by non-native plant communities because of the long history of human use. These bottomland areas are in either developed or undesirable ecological condition.

Livestock grazing has also disturbed many of the upland areas, resulting in alteration of species composition and abundance within vegetation communities. Extensive soil disturbance is visible throughout the study area, and many cow trails are readily visible on the landscape.

Plant communities and habitat types may be categorized as: woodland, shrubland, herbaceous, developed, disturbed, and non-vegetated. These categories group discussion of similar vegetation types under a single heading. They correspond to commonly used broad landcover types.

Woodland: Woodland associations are not common in the study area. They have been mapped on less than three acres of the entire study area. They have a very high conservation value due to the unique habitat opportunities they provide.

This vegetation cover type occurs in the bottomlands in areas not closely associated with surface water or frequently flooded floodplain. The areas represented by this cover type are not wetland, but have enough moisture for trees to grow. Representative woodlands that occur in steeper riparian settings may be in better condition. Tree layer composition ranges from juniper to white alder, cottonwood, Pacific willow, and non-native shade trees. Hackberry trees occasionally are tall enough to be included in this cover class.

Shrubland: Shrubland vegetation communities are the dominant vegetation cover type within the study area, accounting for well over half of the total study area's acreage. Overall, shrubland conditions range from highly disturbed and weedy to nearly pristine. As is typical

in central Oregon, annual exotic grasses are highly prevalent throughout the dry shrubland communities, especially where grazing or topsoil disturbance has occurred. In some areas, biotic soil crusts are relatively intact and provide for relatively weed-free conditions. Of all the shrubland plant community types found within the study area, the Artemisia tridentata ssp. tridentata / Festuca idahoensis associations were mapped with the highest abundance. Types of shrubland habitats include Columbia Basin Canyon Shrublands, Columbia Basin Grasslands, Shrub-steppe, Dwarf Shrub-steppe, which are described below:

Columbia Basin Canyon Shrublands: This habitat occurs primarily on steep canyon slopes on the margins of the Columbia Basin. It develops in a hot dry climate where annual precipitation totals 12 – 20 inches and only 10% occurs in the hottest months of July through September. It is generally found in steep canyons surrounded by Columbia Basin grasslands habitat. It is generally a mix of tall to medium deciduous shrublands with bunchgrasses or annual grasslands. The fire return interval for this habitat type is 25 years.

Columbia Basin Grasslands: This habitat type is found primarily in the Columbia Basin at low to mid-elevations. Grassland types include river terrace grasslands, prairies, canyon slopes and rocky ridges. It develops in hot, dry climates where annual precipitation is 8 – 20 inches and only 10% falls during the hottest months of July through September. This habitat is dominated by short to medium tall grasses. In general, this habitat is an open and irregular arrangement of grass clumps rather than a continuous sod cover (Johnson, et al 2001). The fire return interval is 25 years however, fires burn less frequently because of fire suppression, roads, and conversions to crop land. Large expanses of this habitat type are currently used for cattle grazing. Those with shallower soils, steeper topography, or hotter, drier environments, were more intensively grazed for longer periods than were the deep-soil grasslands. It appears that the drier native bunchgrass grasslands have changed irreversibly to persistent annual grass and forb lands (Johnson, et al 2001).

Shrubland Associations

A diversity of shrubland vegetation communities were found within the study area. The following table lists a summary (not comprehensive) of some of the recognized Plant Associations mapped within the study area.

Shrubland Plant Associations:	ORNHIC Conservation Rank;
Artemisia rigida / Poa secunda	G4S4
Artemisia tridentata ssp. tridentata / Poa secunda - Pseudoroegneria spicata	G1S1
Artemisia tridentata ssp. tridentata / Leymus cinereus	G2S1
Artemisia tridentata ssp. tridentata / Festuca idahoensis	G3S1
Celtis laevigata var. reticulata - Philadelphus lewisii	GUS2
Eriogonum strictum-poa secunda	G4S4
Juniperus occidentalis / Pseudoroegneria spicata	G3S3

Herbaceous Associations

A diversity of herbaceous dominated vegetation communities were found within the study area. The following table lists a summary (not comprehensive) of some of the recognized Plant Associations mapped within the study area.

Herbaceous Plant Associations:	ORNHIC Conservation Rank;
Leymus cinereus	G1S1
Pseudoroegneria spicata - Balsamorhiza sagittata - Poa secunda	G3S3
Hesperostipa comata - Poa secunda	G1S1
Pseudoroegneria spicata - Festuca idahoensis canyon	G3S2
Pseudoroegneria spicata - Hesperostipa comata	G2S1
Pseudoroegneria spicata - Poa secunda lithosol	G3SU

G1 Critically imperiled throughout its range
G2 Imperiled throughout its range
G3 Rare, threatened or uncommon throughout its range
G4 Not rare, apparently secure throughout its range

There are precious few corridors of wild, intact habitat at this scale remaining in the entire Columbia River Basin.

At Risk Plants Gilliam County

Scientific Name:	Common Name:	Conservation Rank:	Federal Status:	State Rank:
Achnatherum hendersonii	Henderson ricegrass	G3S2	SOC	C
Allium robinsonii	Robinson's onion	G3SH	SOC	
Artemisia campestris var. wormskioldii	Northern wormwood	G5T1SX	C	LE
Astragalus collinus var. laurentii	Laurence's milk-vetch	G5T1S1	SOC	LT
Camissonia pygmaea	Dwarf evening-primrose	G3S1	SOC	C
Coryphantha vivipara var. vivipara	Cushion coryphantha	G5T4S1		
Cryptantha leucophaea	Gray cryptantha	G2G3SH		
Heliotropium curassavicum	Salt heliotrope	G5S2		
Lomatium watsonii	Watson's desert-parsley	G4S1		
Mimulus evanescens	Disappearing monkeyflower	G2S2	SOC	C
Mimulus jungermannioides	Hepatic monkeyflower	G3S3		C
Myosurus sessilis	Sessile mousetail	G2S1	SOC	C

Federal Status: SOC - Species of Concern
State Rank: LE - Listed as Endangered Species, LT - Listed as Threatened Species, C - Candidate for Listing as Threatened or Endangered
G1 Critically imperiled throughout its range
G2 Imperiled throughout its range
G3 Rare, threatened or uncommon throughout its range
G4 Not rare, apparently secure throughout its range
G5 Widespread, abundant, and secure throughout its range

At Risk Plants Sherman County

Scientific Name:	Common Name:	Habitat Analyzed in Study area:	Mapped in or near Study area:
Achnatherum hendersonii	Henderson ricegrass	yes	
Artemisia campestris var. wormskioldii	Northern wormwood	yes	
Astragalus collinus var. laurentii	Laurence's milk-vetch	yes	yes
Camissonia pygmaea	Dwarf evening-primrose	yes	
Mimulus evanescens	Disappearing monkeyflower	yes	yes
Mimulus jungermannioides	Hepatic monkeyflower	yes	yes

Shrub-steppe: This habitat type is common across the Columbia Plateau. Basin big sagebrush shrub-steppe occurs along stream channels, in valley bottoms and flats throughout central Oregon. Wyoming sagebrush shrub-steppe is the most widespread habitat in eastern and central Oregon, occurring throughout the Columbia Plateau. Generally this habitat type is associated with dry, hot summer environments. When this habitat is in good or better ecological condition a bunchgrass steppe layer is characteristic. The fire return interval is 25 years. As shrub density and annual cover increases, bunch grass density decreases with livestock use. Repeated or intense use, especially on drier sites, leads to cheatgrass dominance and replacement of native bunchgrasses.

The shrub-steppe habitat in the Columbia Basin is currently half its original size due mainly to conversion to agriculture. Alteration of the fire regimes, fragmentation, livestock grazing, and the introduction of over 800 exotic plant species have changed the character of the shrub-steppe community.

Dwarf Shrub-steppe: This habitat type and related shrubland habitats are located throughout the Columbia Plateau. This habitat appears on sites with little soil development that often have extensive areas of exposed rock, gravel or compacted soil. These are low shrub communities with an undergrowth of short grasses and forbs with extensive exposed rock and cryptogrammic crust. Scrubland habitats often do not have enough vegetation to feed wildfires. Bunchgrass sites with black or low sagebrush may burn enough to decrease shrub cover with repeat burns. Since this habitat provides little forage it is only used as a last resort by livestock. Heavy use by livestock or vehicles disrupts the moss/lichen layer and increases rock and bare ground, creating habitat for non-native plants, especially annual bromes (Johnson, et al 2001).

Herbaceous: Herbaceous plant communities account for nearly ten percent of the

acreage of the study area. The *Pseudoroegneria spicata - Festuca idahoensis canyon, Pseudoroegneria spicata - Poa secunda lithosol, and Pseudoroegneria spicata - Balsamorhiza sagittata - Poa secunda* plant associations are the dominant herbaceous types and are all dryland communities. Abundant weeds plague these grassland communities, including cheatgrass, hare barley, tall tumblemustard, red-stem filaree, diffuse and Russian knapweed, and Dalmatian toadflax. There are also limited areas of emergent marsh in wet areas on the edges of water features, which account for a minority of the herbaceous cover.

Developed Areas: Highly disturbed areas with non-natural vegetation characterize this land cover type. Non-natural vegetation includes emerging disturbed-site vegetation (mostly weeds) on former building or intensive use sites, as well as currently landscaped areas such as lawns.

Agriculture or development: This cover class includes active agriculture, recently fallow fields and pastures, farmyards, lawns, roads, parking lots, buildings, and other human-modified features on the landscape. Condition class is applied relative to natural vegetation that would occur on the site.

Road/trail prism: This cover class represents roads and trails buffered by a variable distance to capture the cut and fill slopes associated with these transportation routes. They are usually in poor condition and host an incredibly diverse array of weeds.

Disturbed Areas: Disturbed areas include wide roadsides, informal parking, and areas historically cleared of native vegetation that are dominated by pioneering weedy species.

Highly degraded, agricultural, and/or weedy areas: This cover type corresponds to areas that are either currently or formerly agricultural, developed in some way, highly disturbed by human modification, or are so infested with invasive species that they no longer contain significant remnants of natural native plant communities. None of the communities within this cover type has any conservation value. Condition class is not uniformly applicable to all phases of this cover class, in that agricultural fields or pasture may be in good condition from an agricultural perspective, while being composed of nothing but non-native species. Cases of disturbance or weed infestation are easier to rate as poor condition.

Non-vegetated: This cover type is found mostly in rock, but is also colonized by diverse plant species. Weeds are generally absent on the "soil-less" rock areas, but stonecrops, thelypody, wire lettuce, penstemon, monkeyflower, various mustards and pinks occur in cracks and crevices, as well as in lichen and bryophyte growth that forms mats on wetter rock faces. Some of the wetter rock faces host the rare *Mimulus jungermannioides*. Surprisingly, weeds are abundant wherever there are patches of soils amidst the rock on the lower canyon slopes. Rigid sage and Sandberg's bluegrass are usually present at the tops of rock outcrops and cliff faces, where rock transitions to soil.

State listed noxious weeds found in the study area

Common Name:	Scientific Name:	ODA List(s):
Dalmatian toadflax	Linaria dalmatica	B
Diffuse knapweed	Centaurea diffusa	B & T
Himalaya blackberry	Rubus armeniacus	B
Kochia	Bassia scoparia	B
Leafy spurge	Euphorbia esula	B & T
Medusahead	Taeniatherum caput-medusae	B
Morning glory	Convolvulus arvensis	B & T
Perennial pepperweed	Lepidium latifolium	B & T
Poison hemlock	Conium maculatum	B
Puncturevine	Tribulus terrestris	B
Rush skeletonweed	Chondrilla juncea	B & T
Russian knapweed	Acroptilon repens	B
Scotch thistle	Onopordum acanthium	B
Tamarisk	Tamarix ramosissima	B & T
Whitetop	Cardaria spp.	B
Yellow starthistle	Centaurea solstitialis	B & T

"B" Designated Weed _ a weed of economic importance which is regionally abundant, but which may have limited distribution in some counties

"T" Designated Weed – a priority noxious weed

At Risk Plants

A number of at-risk vascular plant species occur within or near the Cottonwood Canyon study area. The table opposite contains the species that are listed under the Federal or State Endangered Species Acts, are Candidates for listing under those acts, or are Federal "Species of Concern".

Invasive Plants

Plants introduced in the past 160 years are prevalent throughout Cottonwood Canyon State Park. Areas that have been used intensively for agriculture, settlement, or

pasture have the highest degree of colonization. The areas in the best condition are those that are inaccessible, have not been tilled or hayed, and are on the steepest or rockiest ground.

Of 160 plant species found in the course of this assessment, 53 were non-native (33%). Of the 53 non-native species found, the Oregon Department of Agriculture lists 16 as noxious weeds. These species are generally widespread and cover the whole study area. These species and other non-native species are listed in the study area plant list in the appendix.

Aquatic Habitats

The aquatic environment at Cottonwood Canyon State Park includes the John Day River, Hay Creek, intermittent creeks and isolated wetlands. Issues of concern include the water quality of the river and Hay Creek; fish passage on Hay Creek, protection of suitable fish habitat on the John Day River; the lack of larger woody riparian vegetation on all water bodies; and wetland degradation or loss.

Photo 3.4 Cluster Lily *Brodiaea*, OPRD 2010

Although there is an acknowledged general lack of data, it is reasonable to assume that elevated water temperatures result from solarization due to the lack of taller riparian vegetation along the John Day River and Hay Creek. Oregon Department of Environmental Quality (ODEQ) is currently drafting Total Maximum Daily Loads (TMDLs) allocations that are expected to include temperature as a critical water quality-limiting factor. Water quality in the John Day River and Hay Creek should improve with restoration tree and shrub planting along waterways, which can provide much needed shade and reduce the temperature of the water.

Fish habitat quality is closely linked to water temperature; it is defined by the character of the vegetation along fish-bearing waterways and their tributaries. Currently, fish habitat is degraded by the lack of sufficient tall shrubs and trees, limited large wood debris, and highly reduced stream complexity. Lack of woody plants reduces potential shading, wood debris recruitment and structure for macro-invertebrates (fish food source). The John Day River and Hay Creek have areas of steeply eroded banks due to the denuded vegetation, which can increase water flow speed which increases erosion. The result is increasingly steep banks, with sometimes simplified channels disconnected from their historical floodplains, straight runs with higher velocities, and simplified stream bed shape.

Riverine Aquatic Environment and Channel Morphology

The John Day River: The banks of this water feature could benefit from regrading or recontouring in some places for greater habitat. Topographic diversity and reduced river channelization would create more habitat niches for plant species and communities, resulting in better overall species diversity and habitat value for both terrestrial and aquatic areas. Overly steep stream banks will be difficult to effectively plant, and plantings are not as effective in their stabilization. Recontouring some critical areas of steeply banked and downcut streams might be considered to establish of effective riparian plantings.

Hay Creek: This area already has some backwater and braiding, as well as predominantly gently sloping to flat banks. There is a lack of woody debris and other forms of instream structure that would be valuable to improving water quality and fish habitat.

Riparian Habitat

The severe lack of riparian vegetation along water bodies contributes to compromised water quality (elevated water temperatures) and fish habitat (bank stability, woody debris recruitment), reduces the potential value to a wide range of terrestrial wildlife. Riparian restoration should benefit the full range of fish and wildlife species that could potentially

use these environments. Decisions regarding the plants to be used in restoration should take the foraging and other needs of wildlife into consideration, in addition to providing shade, woody debris, and stream stabilization (where needed).

It will be important to allow ecosystem processes to continue modifying riparian areas. Management should be adaptive and should take into consideration the need for early seral habitats and periodic disturbances. Forces such as flood events, fires, beavers, erosion, and accretion will continue to act on the riparian landscape and provide for the full range of potential natural habitats.

Black cottonwood should get special consideration in the discussion of riparian vegetation. Cottonwood stands have declined here. Streamside black cottonwoods as well as white alder contribute to favorable aquatic habitat by providing stream bank stability and reduced siltation. Their shade maintains low water temperatures, increases woody debris, and provides nutrient-rich litter for aquatic food webs. Black cottonwood is an important source of cover for wildlife and livestock. Examples of species that are closely associated with this habitat type are willow flycatcher, pallid bat, western toad and common garter snake.

Riparian-wetland: Riparian-wetland areas are healthy when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows. This reduces erosion, improves water quality, filters sediment, captures bed load, and aids floodplain development. It also improves flood-water retention and ground-water recharge, develops root masses that stabilize stream banks against cutting action, develops diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses, and supports greater biodiversity.

While a casual look at the landscape gives the impression of sparse and repetitive vegetation, detailed observation reveals a great diversity and complicated interaction of distinct facets, colors, and textures.

At-Risk Wildlife Species Associated with Cottonwood Canyon

Name	Conservation Status	Occurrence in Park
Bulb juga Juga bulbosa	CS	Potential
Columbia Gorge hesperian Vespericola depressus	CS	Potential
Columbia Gorge Oregonian Cryptomastix hendersoni	CS	Potential
Dalles mountainsnail Oreohelix variabilis variabilis	CS	Potential
Oregon snail (Dalles sideband) Monadenia fidelis minor	CS	Potential
Purple-lipped juga (Deschutes juga) Juga hemphilli hemphilli	CS	Potential
Shortface lanx (giant Columbia River limpet) Fisherola nuttalli	CS	Potential
Bull trout (Columbia Distinct Population Segment) Salvelinus confluentus	FT, SC, CS	Rare
Chinook salmon, spring (Middle Columbia River ESU) Oncorhynchus tshawytsha	SV	Present
Chinook salmon, fall (Snake River ESU) Oncorhynchus tshawytsha	FT, ST, CS	Present
Coho salmon (Lower Columbia/Southwest Washington Coast ESU) Oncorhynchus kisutch	FT, SE, CS	Rare
Inland Columbia Basin redband trout Oncorhynchus mykiss gairdneri	SOC, SV, CS	Present
Margined sculpin Cottus marginata	SOC, CS	Not present
Pacific lamprey Petromyzon tridentata	CS	Present
Steelhead, summer (Middle Columbia River ESU) Oncorhynchus mykiss	FT, SC, CS	Present
Westslope Cutthroat Oncorhynchus clarki lewisi	SOC, SC	Rare
Western toad Anaxyrus boreas	SV	Present
Northern sagebrush lizard Sceloporus graciosus graciosus	SV, CS	Present
Western painted turtle Chrysemys picta	SC, CS	Potential

Name	Conservation Status	Occurrence in Park
Western rattlesnake Crotalus viridis	SC	Present
Bald eagle Haliaeetus leucocephalus	ST	Present
Bobolink Dolichonyx oryzivorous	SV	Potential
Brewer's sparrow Spizella breweri	CS	Present
Columbian sharp-tailed grouse Tympanuchus phasianellus columbianus	SOC, SC	Extirpated
Common nighthawk Chordeiles minor	SC	Present
Ferruginous hawk Buteo regalis	SOC, SC, CS	Present
Grasshopper sparrow Ammodramus savannarum	SV	Present
Greater sage grouse Centrocercus urophasianus	FC, SV	Extirpated
Lewis' woodpecker Melanerpes lewis	SOC, SC, CS	Present
Loggerhead shrike Lanius ludovicianus	SV, CS	Present
Long-billed curlew Numenius americanus	SV, CS	Present
Sage sparrow Amphispiza belli	SC, CS	Potential
Swainson's hawk Buteo swainsoni	SV, CS	Present
Tri-colored blackbird Agelaius tricolor	SOC	Potential
Western burrowing owl Athene cunicularia hypugaea	SOC, SC, CS	Present
Willow flycatcher Empidonax traillii adastus	SOC, SV	Potential
Yellow-billed cuckoo Coccyzus americanus	FC, SC	Not present
Yellow-breasted chat Icteria virens	SOC	Potential
California myotis Myotis californicus	SV	Potential
Gray wolf Canis lupus	FE, SE	Extirpated
Long-legged myotis Myotis volans	SOC, SV	Potential
Pallid bat Antrozous pallidus	SOC, SV, CS	Potential
Pygmy rabbit Brachylagus idahoensis	SOC, SV	Potential
Spotted bat Euderma maculatum	SOC, SV	Present
Townsend's big-eared bat Corynorhinus townsendii	SOC, SV, CS	Potential
Washington ground squirrel Spermophilus washingtoni	FC, SE, CS	Present
Western small-footed myotis Myotis ciliolabrum	SOC	Potential
White-tailed jackrabbit Lepus townsendii	SV	Potential
Yuma myotis Myotis yumanensis	SOC	Potential

FE= Federally endangered
FT= Federally threatened
FC= Federal candidate
SOC= Federal species of concern
SE= State endangered
ST= State threatened
SC= State Critical
SV= State Vulnerable
CS= Conservation Strategy

Photo 3.6 Cliff Swallow Nest near Murtha Homestead, OPRD 2010

Game species within Cottonwood Canyon

Species	Scientific Name	Status
Beaver	Castor canadensis	Native
California bighorn sheep	Ovis canadensis californicus	Native, introduced
California quail	Callipepla californica	Native
Channel catfish	Ictalurus punctatus	Hatchery
Chuckar	Alectoris chukar	Non-native
Common snipe	Callinago gallinago delicate	Native
Gray Partridge	Perdix perdix	Non-native
Mountain goat	Oreamnos americanus	Native
Mourning dove	Zenaida macroura	Native
Mule deer	Odocoileus hemionus hemionus	Native
Pronghorn	Antilocapra americana	Native
Ring-necked pheasant	Phasianus colchicus	Non-native
Rocky Mountain elk	Cervus elaphus	Native
Smallmouth bass	Micropterus dolomieu	Hatchery

Focal species for Cottonwood Canyon State Park.

Species	Habitat	Management Zone
“Steelhead Oncorhynchus mykiss”	Aquatic	Bull Canyon, West Entrance, Esau, Mile 33, Hay Creek
“Lazuli bunting Passerina amoena”	Riparian Shrub	Bull Canyon, West Entrance, Esau, Mile 33, Hay Creek
“Tri-colored blackbird Agelaius tricolor”	Riparian Shrub	Bull Canyon, West Entrance, Esau, Mile 33, Hay Creek
“Bullock’s oriole Icterus bullockii”	Riparian Woodland	Bull Canyon, West Entrance, Esau, Mile 33, Hay Creek
“Yellow warbler Dendroica petechia”	Riparian Woodland	Bull Canyon, West Entrance, Esau, Mile 33, Hay Creek
“Yellow-breasted chat Icteria virens”	Riparian Woodland	Bull Canyon, West Entrance, Esau, Mile 33, Hay Creek
“Black-throated sparrow Amphispiza bilineata”	Shrublands	Uplands
“Golden eagle Aquila chrysaetos canadensis”	Cliffs and Steppe	West Entrance, Esau, Gooseneck, Rattlesnake Canyon, Hay Creek, Mile 33, Canyon Overlook, Uplands
“Loggerhead shrike Lanius ludovicianus”	Steppe	West Entrance, Esau, Gooseneck, Rattlesnake Canyon, Hay Creek, Canyon Overlook, Uplands
“Swainson’s hawk Buteo swainsoni”	Steppe	West Entrance, Esau, Gooseneck, Rattlesnake Canyon, Hay Creek, Canyon Overlook, Uplands

Potential and documented invasive and non-native species in Cottonwood Canyon

Species	Threat level
“Fishhook Waterflea Cercopagis pengoi”	Potential
“Quagga mussel Dreissena rostriformis”	Potential
“Rusty Crayfish Orconectes rusticus”	Potential
"Zebra mussel Dreissena polymorpha"	Potential
“Bullfrog Lithobates catesbeianus”	Documented
“Asian Carp (bighead, Silver) Hypophthalmichthys nobilis, H. molitrix”	Potential
“Black Carp Mylopharyngodon piceus”	Potential
“Bluegill Lepomis macrochirus”	Documented
“Brook Trout Salvelinus fontinalis”	Documented
“Brown Bullhead Ameiurus nebulosus”	Documented
“Carp Cyprinus carpio”	Documented
“Crappie Pomoxis spp.”	Documented
"Grass Pickerel Esox americanus vermiculatus"	Potential
“Largemouth Bass Micropterus salmoides”	Documented
“Muskelluge and Northen Pike Esox spp.”	Potential
“Round Goby Neogobius melanostomas”	Potential
“Ruffe Gymocephalus cernuus”	Potential
“Snakehead Channa spp.”	Potential
“Threadfin Shad Dorosoma petenense”	Documented
“Western Mosquito Fish Gambusia affinis”	Documented
“European Starling Sturnus vulgarus”	Documented
“House Sparrow Passer domesticus”	Documented
“Yellow Perch Perca flavescens”	Documented
“Feral Swine Sus scrofa”	Potential
“Norway Rat Rattus norvegicus”	Documented
“Nutria Myocastor coypus”	Documented
“Virginia Opossum Didelphis virginiana”	Documented

Fish and Wildlife Habitat

The previously described plant communities provide a basis for determining typically associated fish and wildlife along with ground surveys and previous inventories associated with the study area. Habitat types are primarily defined based on the wildlife-habitat relationships in Oregon and Washington (Johnson et al. 2001). The nine distinct habitat types found within the park all have associated wildlife or fish species including: cliffs and talus; developed, agricultural, or disturbed; dwarf shrub-steppe; eastside canyon shrubland; eastside grassland; eastside riparian-wetlands; shrub-steppe; springs and moist areas; and aquatic habitats.

Cliffs and Talus Wildlife: Cliffs and talus are rock formations largely devoid of vegetation. They provide critical nesting sites for many bird species, including falcons and eagles. Talus is comprised of broken rocks generally found at the base of cliffs, mountains, and other tall rock formations and the associated wildlife includes American peregrine falcon, golden eagle, salamanders, invertebrates, reptiles and other species.

Developed, Agricultural, Disturbed Wildlife: Developed, agricultural, and disturbed areas are generally comprised of non-native vegetation, crops, and/or infrastructure remnants such as foundations. These areas are heavily modified by humans and provide very little quality habitat for wildlife species.

Shrub-steppe Wildlife: Shrub-steppe is common across the Columbia Plateau and is generally associated with hot, dry summer environments. Shrubland and herbaceous plant communities make up shrub-steppe, and are characteristically open shrubs with a moderately open to closed bunchgrass layer. Since the shrub-steppe habitat in the Columbia Basin is currently half its original size, preserving and enhancing the existing shrub-steppe at Cottonwood Canyon can provide valuable habitat to the many bird and small mammals that use it including the Merriam's Shrew, Western Pipistrelle, Say's Phoebe and Loggerhead Shrike.

Dwarf Shrub-steppe Wildlife: Dwarf shrub-steppe is comprised of low, sparse shrublands with an undergrowth of short grasses and forbs and an extensive rock and cryptogrammic crust. It appears on sites with little soil development and areas of exposed rock, gravel or compacted soil. Vegetation is sparse enough that wildfire is not common, and regeneration after fire is slow. Other habitats are preferred for livestock grazing; however, disturbance by livestock or vehicles disrupts the moss and lichen layer, creating habitat for non-native plants, especially annual bromes. Big game species such as elk utilize dwarf shrub-steppe for foraging (Johnson, et al 2001). Wildlife typically associated with this habitat include Sage Thrasher, Western Meadowlark, Ord's Kangaroo Rat and Northern Grasshopper Mouse.

Eastside Canyon Shrubland Wildlife: The eastside canyon shrubland is generally a mix of tall to medium deciduous closed-canopy shrublands interspersed with bunchgrasses or annual grasses. The shrub overstory forms a thick canopy with shade-tolerant herbaceous species below. Examples of species that are closely associated with this habitat type are; Mountain Cottontail, California Bighorn Sheep, Long-eared Owl and Lazuli Bunting.

Eastside Grassland Wildlife: Eastside grassland occurs at low to mid-elevations and includes river terrace grasslands, prairies, canyon slopes, and rocky ridges. Formed by herbaceous plant communities, eastside grassland is dominated by short to medium tall grasses and can vary from sparse to closed herbaceous cover. Eastside grassland provides forage for cattle, and grazing currently is the predominant land use. Typical wildlife associated with this habitat include Ferruginous Hawk, Long-billed Curlew, White-tailed Jackrabbit and American Badger.

Eastside Riparian-Wetland Wildlife: The eastside riparian-wetland habitats contain a variety of plant communities, including shrublands, woodlands, and forests. Cottonwood Canyon currently contains small areas of riparian woodland

Photo 3.5 Phlox *Polemoniaceae*, OPRD 2010

Wildlife populations are at risk of losing this connectivity because of increasing development pressure and barriers on the landscape.

and coyote willow scrub. Healthy riparian-wetland areas are necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity.

Aquatic Habitats: The aquatic environment at Cottonwood Canyon State Park includes the John Day River, Hay Creek, intermittent creeks and isolated wetlands. Water quality is the one of the most significant attributes in aquatic habitats at Cottonwood Canyon, and is affected by the water temperature, amount of debris, the speed of water flow, and the morphology of the river. Issues of concern include the water quality of the river and Hay Creek, fish passage on Hay Creek, protection of suitable fish habitat on the John Day River, lack of large woody riparian vegetation on all water bodies, and wetland degradation and loss.

Wildlife Species

In generating this plan, potential wildlife species were determined using habitat assessments, historic wildlife data, and field surveys. Historic wildlife data was retrieved from the Oregon Biodiversity Information Center (ORBIC, 2011), planning documents for the John Day River Basin (BLM, 2008), and the Conservation Strategy (ODWF, 2006). Additional data was gathered through preliminary wildlife assessments by OPRD and consultations with ODFW and BLM. The data provides a framework to determine wildlife management strategies; however, development of specific wildlife management actions will require additional surveys. Survey needs will be determined based on adaptive management strategies, focal wildlife species, and consultation with BLM, ODFW, and other local groups. Volume 2 of the Comprehensive Plan, which will follow Volume 1, will contain more detailed information on wildlife management actions.

Photo 3.7 sagebrush lizard on a rock, OPRD 2011

At-Risk Wildlife

At-risk wildlife species include State Critical, State Vulnerable, and Conservation Strategy species. Currently, there are 5 species listed under Federal and/or State Endangered Species Acts, 2 candidates for federal listing, 36 federal and/or state sensitive species, and 26 Conservation Strategy species have the potential to occur or are present at Cottonwood Canyon State Park, (see at-risk wildlife species table). Inventory of the property did not identify the presence of any federal or state threatened and endangered species. However, a number of other at-risk species were identified.

Fisheries

Fisheries in the John Day River and Hay Creek will be an important component of the fish and wildlife management plan for Cottonwood Canyon State Park. Three of the native species known to occur within Cottonwood Canyon are "special status species" including: summer steelhead (Oncorhynchus mykiss), interior redband trout (Oncorhynchus mykiss gairdneri), and Pacific lamprey (Entosphenus tridentatus). Two additional special status species, bull trout (Salvelinus confluentus) and westslope cutthroat trout (Oncorhynchus clarkii lewisi) occur in the John Day River basin but are rare or incidental within Cottonwood Canyon. The John Day Basin's populations of summer steelhead and spring Chinook (Oncorhynchus tshawytscha) are two of the last remaining intact wild populations of anadromous fish in the area.

Cottonwood Canyon State Park provides important spawning and migration habitat for adult and juvenile summer steelhead, fall Chinook, and a resident population of interior redband trout. Spring Chinook, Pacific lamprey, and white sturgeon (Acipenser transmontanus), also migrate through the area. Potential migration habitat for remnant fluvial bull trout has been identified, and portions of Hay Creek have been designated as USFWS critical habitat for summer steelhead. In addition, the spring and fall runs of Chinook salmon are important native game (BLM, 2008). Fish populations are monitored and managed by ODFW and cooperating agencies.

Within the park boundary, along the John Day River and Hay Creek, there is a lack of sufficient tall shrubs and trees in the riparian area, limited large wood debris, and highly-reduced stream complexity, all of which contribute to poor fish habitat in the water bodies. Lack of woody plants in the riparian area reduces potential shading benefits, wood debris recruitment and structure for macro-invertebrates (fish food source). The John Day River and Hay Creek

have areas of steeply eroded banks due to the denuded vegetation, which can increase river speed and further increase erosion. The result is increasingly-steep banks, simplified channels disconnected from their historical floodplains, straight runs with higher velocities, and simplified streambed shape.

Game Species
Recreational activities planned for Cottonwood Canyon State Park include both hunting and fishing opportunities. There are potentially 12 game species and 2 harvest fisheries within the park (See game species table).

Focal Species
With the high diversity of wildlife species in Cottonwood Canyon OPRD will select focal species to serve as management targets for native species and ecological processes. The list of focal species will include representatives from a broad range of wildlife species. Important types of focal species include:

- Habitat specialists: species that need large areas of continuous habitat to maintain population viability.
- Ecologically important species: species that represent important ecological processes.
- Indicator species: single species whose populations can tend to reflect the populations of a set of species.
- Highly mobile species: species that tend to disperse across the landscape. Monitoring these species will help determine if connectivity to other habitats is being maintained.

Potential focal species for Cottonwood Canyon were selected based on their life histories, conservation status, recreation value, and detectable (See focal species table). Focal species may change based on a variety of factors including adaptive management strategies and changes in conservation status.

Invasive Wildlife
Next to habitat loss, invasive wildlife species are considered one of the primary causes of native species becoming threatened and endangered. Non-native and invasive wildlife pose a threat to native species by predation and outcompeting for valuable resources. In the Columbia Plateau Ecoregion there are 17 documented invasive, non-native species and 11 non-native, potentially invasive species that have not yet been observed, but have the potential to pose a serious threat to native species should they establish populations (see potential and documented invasive and non-native table).

Wildlife Habitat Connectivity

The loss and alteration of vegetation communities over the last 160 years has impacted habitats of many species and resulted in range reductions, population declines, as well as local and regional extirpations. Cottonwood Canyon is known for the natural beauty of its landscapes and open spaces, and habitats that support a remarkable variety of fish and wildlife species. The survival of these species depends in part on their ability to move safely throughout the environment to find food, water, reproduce, migrate and disperse throughout the landscape - this is often termed "habitat connectivity."

Wildlife populations are at risk of losing this connectivity because of increasing development pressure and barriers on the landscape. The emerging threat of climate change will make the need for habitat connectivity even more critical, as many species will need to adapt to a changing landscape. It helps to envision a connected landscape as an assemblage of habitat islands, which are the result of fragmentation that are surrounded by less preferred habitat, referred to as matrix land cover. Typical matrix land cover at Cottonwood Canyon includes agricultural land and roads. But because species vary in their willingness to pass through less preferable habitats, conservation planning and management projects will evaluate connectivity from the perspective of the individual target species.

Habitat Corridors
Habitat corridors are components of the landscape that facilitate the movement of organisms and processes between areas of intact habitat, maintaining habitat connectivity. Implicit in this definition are two ideas: (1) corridors support the movement of both biotic processes (e.g. animal movement, plant propagation, genetic exchange) and abiotic processes (water, energy, materials); and (2) corridors are process- or species-specific. To help clarify the terminology on corridors that support biotic processes, Jongman and Pungetti (2004) distinguish between three different types:

- Migration corridors are used by wildlife for annual migratory movements between source areas (e.g. winter and summer habitat).
- Dispersal corridors are used for one-way movements of individuals or populations from one resource area to another. Dispersal is critical to maintaining genetic diversity within populations of species and to the fragmented populations which may require regular immigration to avoid local extinction.
- Commuting corridors link resource elements of species' home ranges to support daily movements including breeding, resting and foraging. As such, commuting

corridors facilitate localized movements throughout the landscape important to daily survival and reproduction.

Corridor Connections
Connectivity between habitat types is important for both daily and seasonal movements. Daily movements are generally localized as individuals move between foraging, water and resting areas. Seasonal movements are at a landscape level, where individuals move between breeding and birthing areas, from winter and summer ranges, or dispersal to unoccupied territories. Cottonwood Canyon State Park will provide large sections of continuous habitat for the daily movements of many species. OPRD will work with other land managers in the region to ensure wildlife habitat connectivity through the park is maintained.

Waters

The aquatic environment at Cottonwood Canyon State Park includes the John Day River, Hay Creek, intermittent creeks and isolated wetlands. Water quality in the John Day River and Hay Creek should improve with riparian vegetation restoration efforts being planned along waterways. These plantings will provide much needed shade and reduce the temperature of the water. Although there is an acknowledged general lack of data, it is reasonable to assume that elevated water temperatures result from solarization due to the lack of taller riparian vegetation along the John Day River and Hay Creek.

Oregon Department of Environmental Quality (ODEQ) has issued a draft Total Maximum Daily Loads (TMDLs) allocations that include temperature as a critical water quality-limiting factor. Fish habitat quality is closely linked to water temperature; it is defined by the character of the vegetation along fish-bearing waterways and their tributaries. Currently, fish habitat is degraded by the lack of sufficient tall shrubs and trees, limited large wood debris, and highly reduced stream complexity. Lack of woody plants reduces potential shading, wood debris recruitment and structure for macro-invertebrates (fish food source).

Riverine Aquatic Environment and Channel Morphology

The John Day River: The banks of the river could benefit from regrading or recontouring in some places for habitat improvement. Topographic diversity and reduced river channelization would create more habitat niches for plant species and communities, resulting in better overall wildlife species diversity and habitat value for both terrestrial and aquatic areas. Overly steep stream banks are very difficult to effectively plant, and plantings are not as effective in their stabilization. Recontouring some critical areas of steeply banked and downcut river reaches might be considered to establish effective riparian plantings and improve habitat conditions.

Hay Creek: This creek includes backwater and braiding features, as well as predominantly gently sloping to flat banks. By increasing woody debris and other forms of in-stream structure the habitat for fish species can be improved, as would continued tree planting restoration projects.

Composite Natural Resource Value Assessment

The department's natural resource staff rated the value of certain natural resource aspects of the park landscape (plant community, at-risk plant species and water features), mapped their presence in the park and overlaid the mapping to obtain a Composite Natural Resource Value Map to guide planning decisions for the park. Weed infestations were only included if they were extensive enough to affect the native plant community value ratings.

The values rating system has four levels ranging from highly valued (1) to very low value as functioning ecosystem elements (4). Each of the four value ratings (1-4) indicates an appropriate level of resource management and the level of recreation that can occur for corresponding mapped areas of the park. Areas of the highest recorded resource value (1) also have the highest level of protection and conservation value. The "Composite Natural Resource Value" map is included at the end of this chapter.

Plant Communities and Conditions for the Composite

Plant communities were mapped and described for the park by species composition and the conditions of the native natural plant community. A condition rating between 1 and 4 was assigned to each plant polygon to represent the relative condition of the existing native plant community based on the extent of weed infestations and other disturbance, and the rareness of the community in Oregon and the region.

Surface Water Features for the Composite

Surface water features identified in the resource assessment process are assigned a value rating of "1," as indicated in the table below. These features include identified active stream channels, ponds, and wetland native plant communities identified by OPRD in the vegetation mapping process.

At-risk Species for the Composite

Available information on at-risk plant, fish and wildlife species that occur in and near the parks was compiled in the resource assessment process. Some of the available information is spatially explicit and some is not. Where actual species occurrences were identified spatially in the study area, these sites were assigned a value rating of "1" as indicated in the table below.

Composite Natural Resource Value Rating and Map

The table below summarizes the factors used to determine the areas of the park with different natural resource values, based on the comparison of ratings for polygons from each of the mapping layers (plant community, water features, at-risk plants, fish and wildlife).

Excellent condition: Almost exclusively consisting of native species.
Good condition: Largely consisting of native species.
Marginal or poor condition: Non-native species begin to predominate, or predominate.

Feature	Rank
At-risk species present	1
Water Features:	
Rivers, streams, lakes	1
Wetland plant community	1
Plant Communities:	
-Excellent condition, and / or rare and having a special designation	1
-Excellent condition, and / or rare	2
-Good condition, and / or very common / or rare but in poor condition	2
-Marginal to poor condition or Developed or unvegetated / or rare but in poor condition	3
Invasive Plants	4

Photo 3.8 Bird nest made with natural and man-made materials, OPRD 2010.

Hazards

OPRD staff identified natural hazards and considered them in combination with the composite natural values mapping, as hazards can often be mitigated through appropriate design of facilities. The main hazard for Cottonwood Canyon State Park is the 100-year flood plain. Detailed modeling has begun for this area as the FEMA mapping is based on distance from assumed creek alignments based on old air photo interpretation.

Cultural Resources

The project area is within the ceded lands of the Confederated Tribes of the Warm Springs Indian Reservation, and is also considered to be within the traditional use area of the Confederated Tribes of the Umatilla Indian Reservation. At the time of contact with Euroamericans, the area was most closely associated with the Warm Springs Sahaptin people, also known as Tenino (Murdock 1980). The Tenino was comprised of four sub-groups, one of which maintained permanent winter villages near the mouth of the John Day River.

Like other peoples throughout the Columbia Plateau, the Tenino followed a seasonal round scheduled to take advantage of the spatial and temporal variation in the availability of resources. Murdock (1958:300-301) reports that in spring, about half the community moved to summer houses on the Columbia or John Day Rivers from which they caught and dried fish, and the other half moved upriver to hunting and root-digging grounds. Families might revisit the home village in mid-summer, but returned to the interior in fall for hunting, and collecting nuts and berries. Murdock (1980:133, 135) provided a map showing the Cottonwood Canyon area as a repeatedly reoccupied resource camp "visited... in the spring for roots and in the autumn for hunting and the gathering of chokecherries and late-ripening roots." This locality was also on a regularly used trail that continued upriver to other seasonal resource areas.

Lewis and Clark, fur brigades, and American settlers following the Oregon Trail during the first half of the nineteenth century visited the Tenino settlements concentrated along the Columbia River corridor. By 1852, up to 12,000 settlers were crossing Warm Springs territories each year, leading in 1855 to negotiation of a treaty between the United States and the Tribes of Middle Oregon. By terms of the treaty, the Warm Springs and Wasco tribes ceded some ten million acres of land, but reserved the Warm Springs Reservation for their exclusive use, and retained rights to harvest fish, game, and other foods off the reservation on their traditional lands.

Like much of semi-arid eastern Oregon, settlement of the John Day River Basin by Euroamericans was following the discovery of gold in the Blue Mountains in the early 1860s. Among the first Americans to settle the John Day River Canyon was Andrew Clarno, who started his ranching operation in 1866 (Brogan 1964). The first post office at Wasco (Spanish Hollow) opened in 1870; the Condon post office was established in 1884. The earliest settlers focused mainly on raising livestock (sheep and cattle), but dryland farming (especially wheat and barley) became increasingly important by the 1880s. The region's agricultural economy was slow to develop until completion of a rail line from Arlington to Condon by the Oregon Railway and Navigation Company in 1905. The raising of livestock initially surged, but declined during the 1920s and '30s because of serious overgrazing and deterioration of rangelands (BLM 1999). Most of the project area has been operated as part of the Murtha Ranch during most of the twentieth century. Farming on the alluvial terraces bordering the river has been important throughout the historic period (Polk 1976); this is the case with the bottomlands examined during the present project.

According to Chambers, hay crops were grown in bottomland areas, and grain crops were grown in upland areas. In fact, it had been named Hay Creek because wild grass grew well along its banks, and early pioneers had cut the grass for fodder for their livestock.

Archaeological Assessment:
An inventory of the park and a review of report findings were conducted in consultation with the State Historic Preservation Office (SHPO). To date, sites have been found at the park and are recorded in the park's archaeological database. Prior to any activities that would disturb these sites state law requires further investigations following SHPO protocol.

Historic Overview:
The historic context of Cottonwood Canyon State Park Region relates primarily to two families who developed separate ranches that were later combined to create the Murtha Ranch. The families were the Burres family and the Murtha family, and their livelihoods are typical of the general way of life for the ranchers and farmers in the region.

By examining each of these family histories, it is possible to better understand the overall history of this area. The Murtha family lived at the Hay Creek Ranch, while the Burres lived at the Cottonwood Creek Ranch until they sold the property to the Murthas in 1966.

The area that comprises Sherman and Gilliam Counties was first explored during the Lewis and Clark expedition, when the Corps of Discovery traveled down the Columbia River in 1810. From the time of the expedition until the 1860s, the area was not settled and rarely visited, as there was little hunting that could be done in the area. Fur trappers also ignored the region for its lack of large animals. Native American tribes dwelled along the Columbia River and relied primarily on fishing for sustenance; they had few interactions with the interior of the country.

The first settlers to the Oregon Territory passed through the region in the 1840s on their way to the Willamette Valley. The Willamette Valley was considered the best part of Oregon to settle in and few stopped or settled permanently in Sherman and Gilliam Counties. Americans living in the eastern United States had heard tales of the fertility of the soil and easy availability of land in the Willamette Valley. Settlers passed through Sherman County, sometimes purchasing supplies from traders who camped at the John Day River. Gilliam and Sherman Counties primarily functioned as stopping points for the journey to the Willamette Valley, but settlement was limited to merchants selling supplies to other settlers passing through.

In the 1860s, the first few settlers began to arrive in Gilliam and Sherman Counties. Most of the ideal farmland in the Willamette Valley had been claimed by this time, meaning that secondary areas began to be sought for farmland. Later groups would start looking to other areas of the state, and Gilliam and Sherman Counties were considered ideal for raising livestock. 1862 marks the year when cattle herders first came to the area, with a few arrivals in both counties. These early settlers were not interested in living permanently in the area. Many simply built cabins and resided until all of the grass had been eaten, and then moved on to another area. Early cattle raising was done mostly for the value of the hides, as there were too few people to sell beef to. Horse raising was done to sell horses to settlers in the Willamette Valley, along with sheep-raising for wool.

Photo 3.9 Sheep shearing near the Columbia River, Gilliam County (Gilliam County Historical Society 1983).

Photo 3.10 Sid Seale's ranch in the 1920's; adjacent land owner to Cottonwood Canyon State Park (Gilliam County Historical Society 1983).

Photo 3.11 An 1880's walking plow for breaking sod in lighter soils (Gilliam County Historical Society 1983).

By the late 1870s, another wave of immigration and settlement was headed to Oregon. These settlers began to gather in what became Sherman and Gilliam Counties. Gilliam County was established in 1885, while Sherman County was divided from Wasco County in 1889. The area was found to be suitable for wheat agriculture by the 1870s, and soon the region was home to a number of farmers. Furthermore, railroads made it possible for the goods to be transported and sold elsewhere. Wheat was the chief crop grown in the area, and the work was difficult, owing to the sod that was resistant to most plows. Most farmers hired a few teamsters to work their ranches from spring until fall. Because the money from wheat was often not enough to sustain a farm, these men turned to other pursuits for extra income; very often, this involved the raising of livestock.

The Murthas first arrived in Gilliam County in approximately 1918, when the site at Hay Creek was first purchased (original owner is unknown). The entirety of the family moved to the Hay Creek site in 1932 and resided there until 1983; since then, the residence has been unoccupied, but the ranch buildings have been used. According to an oral interview with Mary Murtha Chambers, the Hay Creek Ranch was primarily used for grazing sheep and cattle and growing alfalfa, which had been done since the turn of the century. According to Chambers, hay crops were grown in bottomland areas, and grain crops were grown in upland areas. In fact, it had been named Hay Creek because wild grass grew well along its banks, and early pioneers had cut the grass for fodder for their livestock. By 1932, the Hay Creek site included a residence, barn, school building, and several related outbuildings. The family kept pigs, chickens, and horses at the site for use. Horsepower was used exclusively in labor around the ranch until the 1940s, when one tractor was purchased.

James Murtha was the head of the family and had married Kathleen Cantwell in Ireland in 1910, bringing her to Gilliam County soon after. Nine children were born to the family, seven of whom survived into adulthood: John, Helen Kate, Robert, Michael, Patrick, James and Mary. Michael Murtha worked at the Hay Creek Ranch with his father and maintained the property after his father's death until 1983. John Murtha also ranched in the area until his death in 1983. Patrick, James, and Mary Murtha were still living a few years ago and were joint owners of the properties.

A school was established at Hay Creek in 1923 by neighbors of the Murtha Family, after it was moved from a previous location in Sherman County near the John Day River. According to local informants, the schoolhouse at the mouth of Hay Creek was moved from a location on the Sherman County side of the John Day River, to about a mile upstream by Earl Slack, Clarence Gray, Gene Blessington, and R.L. Furguson. Blanche Strode was the first teacher, and her first seven students included Jimmy Slack, Laverel Slack, Lloyd Gray, Carol Gray, and Ray, Charley, and Francis Furguson. Presumably, the Slack, Gray, and Furguson families were residing in the general vicinity of Hay Creek and moved the school for better access for their children. At least one member of the Murtha family attended the school; Michael Murtha matriculated at Hay Creek for grade school. It is unknown when the school ceased operation.

John Murtha acquired the Cottonwood Bridge Ranch in 1966, expanding the family's presence to Sherman County. Prior to the Murtha family's arrival, the property was owned by JS Burres, who had purchased the ranch in 1944 and maintained it until his death, when it was purchased by the Murtha family. The site had been continuously worked since 1903, when a man named Arthur Philips had purchased it from the state. No additional information about Arthur Phillips was found in the course of this research.

JS Burres, or Shelt Burres, was born in 1875 in Albany, Oregon, and in 1880, the Burres family had initially moved to Eastern Oregon as part of the later wave of immigration to the region. The family eventually settled down in Sherman County, near Fulton Canyon.

The Burres family had suffered a tragedy in 1935, when spoiled home-canned salmon consumed at a family gathering caused numerous members of the family to contract salmonella. Shelt Burres survived the food poisoning, but his wife was not so fortunate and passed away a few days later according to newspaper reports. The newspaper article indicated, Mrs. Burres was 48 years of age and born in Cascada, Iowa. No children were listed as survivors, so it appears the Burres' never had children. There is little additional information on other members of the Burres family, but one of Shelt's nephews, Kenny Burres, still resides in Condon, Oregon and may have additional family information.

The Cottonwood Bridge Ranch residence was constructed sometime during the 1940s, after a previous residence had burned down. An interview with Rick Jaunken (caretaker at the ranch in 2008) indicated that in recent years the Cottonwood Creek Ranch had been primarily used for cattle ranching, supporting between 150 and 200 head of cattle. Like the Hay Creek property, the site had been used for alfalfa cultivation, as its bottomland location made it ideal for grass crops. The Cottonwood Bridge Ranch was occupied and operated by Michael Murtha after 1983 until his death in 2005.

Historic Significance:
The Cottonwood Bridge Ranch contains buildings that date from ca.1910s to 1980s, and in general retains its layout as a small cattle ranch where some alfalfa farming occurred. The story of this ranch appears to be a small subsistence operation where owners raised cattle and alfalfa. The buildings at this location are not unique or particularly good examples of early-to-mid-century ranching buildings. The buildings found here are not associated with significant events in history, significant persons, or are of architectural merit, and therefore do not represent resources that would be eligible for inclusion in the National Register of Historic Places. Most of the buildings present are in good to poor condition. There is widespread community support to retain the buildings and structures at the ranch as they highlight the local cultural associations with the area. The red barn in particular is a widely known landmark, visible to all drivers as they pass over the John Day River via cottonwood Bridge. If the park has a use for any of the buildings, they could certainly be rehabilitated for future use.
The Hay Creek Ranch with its partial residence and a few associated features, only represents part of a ranching complex once present and does not convey its original ranching function. This ranch contained a few buildings that dated from ca. 1910s to 1980s, and is part of a small subsistence operation where the Murtha family raised cattle, sheep, and alfalfa. There are no buildings remaining at this location. The ranch is not associated with significant events in history, or significant persons, nor is it of architectural merit, and therefore does not represent resources that would be eligible for inclusion in the National Register of Historic Places.

The Hay Creek School no longer remains standing and is only represented by a burned pile of building materials. There may remain important buried materials associated with the school, so this site should be protected until it can be evaluated for significance by a qualified archaeologist.

The over 7000-acre study area represents a beautiful modified natural landscape that has been home to ranchers for generations. The impacts of homesteading and ranching on this landscape have been extensive from a cultural resource perspective and is concentrated where

farming was possible in the bottomlands, as well as where cattle and sheep could be grazed. Initial analysis suggests the impact of historic settlement on this environment has left a locally important cultural landscape from the perspective of ranching and homesteading. The ranching and settlement features at Esau possibly offer the richest resource and should be further investigated to fully understand the significance of the historic resources and their integrity.

In summary, the park has no known significant cultural resources eligible for the National Register. However, cultural associations with the site and the scenic setting indicate that preserving remaining structures at the Murtha Homestead, including the red barn, add to the character of the area and regain community ties with this section of the John Day River.

Scenic Resource Values

OPRD staff conducted a general assessment of the setting for the park, and potential views and viewpoints. The setting for the park is currently Class III, Rural. The general setting for the whole park describes the former ranch and homestead that makes up the majority of the acreage at Cottonwood. When broken down into smaller areas a range of settings emerge that include not only the Rural setting (Class III), but also Natural (Class II) and some Primitive Areas with Trails (Class I).

When conducting the scenic assessment for Cottonwood Canyon, the setting is considered along with views and viewpoints as well as federal and state scenic designations. The combination of these describes and protects the landscape character of the park.

Scenic Landscape Assessment

A scenic landscape assessment supports the needs of the park by collecting and organizing information about the landscape that will aid in the creation of site-specific guidelines. The assessment looks at character-based landscape settings that can act as a beginning step towards understanding the aesthetic, cultural and natural values of the area and how to manage those values through design guidelines. This type of landscape assessment provide a systematic means for identifying, describing and classifying the quantitative and qualitative features of a place, and includes information about the scale and form of those features. The information aids in establishing design guidelines by identifying the elements that are crucial to understanding the innate character, and specifies a visual vocabulary for the unique patterns in the landscape. Additionally, the assessment and classification of a landscape helps to monitor and deepen understanding of a place's sensitivity to change, and informs planning strategies to make better decisions about altering or removing valued characteristics in the landscape. The scenic assessment for Cottonwood Canyon fed into the development of Opportunities Areas (see chapter 8) that represent the unique character of areas within the park. These areas together form what we perceive as the park and, by breaking them down, we can assign values to them and create guidelines to protect and manage that character. For Cottonwood, the scenic landscape assessment led to the creation of 10 specific character areas; five of which cover the bottomlands, four cover the uplands and slopes and a final area describes the John Day River itself.

Character Areas:	ROS Setting	Description
John Day River	I	Primitive with Trails
Buffer	I	Primitive with Trails
West Entrance	III	Rural
Esau	II	Natural with Roads
Narrows	I	Primitive with Trails
Hay Creek	II	Natural with Roads
Canyon Overlook	II	Natural
Gooseneck Overlook	II	Natural
Rattlesnake Canyon	I	Primitive with Trails
Uplands and Steep Slopes	I	Primitive with Trails

The division of the bottomland areas related primarily to the level of ranching that has occurred in these areas. They are generally similar from a natural perspective; but it is the recent settlement that distinguishes them today. The West Entrance, Hay Creek and Esau character areas all show signs of ranching activity ranging from pasture fields and corrals to a major homestead (Murtha Homestead at the West Entrance). The Narrows and Buffer character areas have a strong natural character. In the uplands and along the steep slopes of the canyon three character areas stand out. Rattlesnake Canyon, compared to the low-lying bottomlands of Hay Creek Canyon, rises steeply into the uplands. The Gooseneck and Canyon Overlook area provide vantage points that provide the best locations in the park to enjoy the outstanding beauty of the park.

The John Day River including the riparian edge is a character area in its own right. The river is the major focal point for the region. The designated fish species; recreation

opportunities the river provides for and its cultural associations to Native Americans and local communities means that the river itself can be viewed as the primary character area, from which all other character areas act as a backdrop.

The landscape assessment therefore defines the scenic character of the park and will inform design development concepts described in the management zones chapter and design guidelines found in the management section of this plan. The goal is to preserve and enhance the scenic character of Cottonwood Canyon

State Scenic Designation

The greater John Day River including the North, Middle and South Forks is the longest Oregon State Scenic Waterway. Development along the river is considered relative to the guidelines for that portion of river. Plan proposals will be in keeping with these restrictions. Portions of the river are also designated Federal Wild and Scenic Rivers and is administered by the BLM.

OPRD administers the Oregon State Scenic Waterways Program that includes segments of the John Day River. The people of Oregon established the Oregon Scenic Waterways Program in 1970, recognizing that wise individual and public use of these special rivers and adjacent lands is necessary. It strives to achieve a balance between protecting the rivers' natural resources and the equally valuable lives and plans of the people who live along them.

The river is the major focal point for the region; it can be viewed as the primary character area, from which all other character areas act as a backdrop.

The development of the park will require written notification that will go through the State Scenic Waterways review process for approval. OPRD will determine whether the project will comply with the scenic waterway regulations. If the proposal is in compliance, OPRD will issue a written approval for the project. As required in the statute and rule, this process concludes within one year of receipt of a complete notification. Upon receipt of the written approval, it will be filed with Gilliam and Sherman Counties as part of the County land use process.

Under Administrative Rule ORS 39 specific provisions describe how OPRD will manage the scenic character of John Day River and ensure the proposals in this plan stay in compliance with those rules. Listed below are the rules that will be applied as guidelines to ensure the park plan stays within the Class III, Rural setting threshold. In realty, many areas of the park, through the management zones, will be managed for scenic character to a Class II threshold, Natural setting, and one or two management zones can qualify as Classification I, Primitive with Trails:

1. That segment of scenic waterway beginning at the intersection of the John Day River with the southern section line of Section 30, Township 1 South, Range 19 East, Willamette Meridian, (Section 30, T 1S, R 19E, W.M.) at about river mile 43.3 and extending approximately 33.3 miles downstream to Tumwater Falls, at about river mile 10, is classified as a Scenic River Area.

2. These Scenic River Areas shall be administered consistent with the standards set by OAR 736-040-0035 and OAR 736-040-0040(1)(b)(B). In addition to these standards, all new development in resource zones shall comply with Sherman County, Gilliam County, Wasco County, Wheeler County, or Jefferson County land use regulations, whichever applies.

3. New structures and associated improvements shall be substantially screened by topography and/or native vegetation, except as provided under OAR 736-040-0030(5), and except for those minimal facilities needed for public outdoor recreation or resource protection. If inadequate topographic or vegetative screening exists on a site, the structure or improvement may be permitted if native vegetation can be established to provide substantial screening of the proposed structure or improvement within a reasonable time (4–5 years). The condition of "substantial screening," as used in Section (2) of this rule, shall consist of adequate topography and/or density and mixture of native, evergreen and deciduous vegetation to substantially obscure (at least 75%) the viewed structure or improvement.

4. Commercial public service facilities, including resorts and motels, lodges and trailer parks which are visible from the river, shall not be permitted.

5. New roads may be permitted only when totally screened from view from the river by topography and/or vegetation. If inadequate topographic or vegetative screening exists to totally screen the proposed road, the road may be permitted if acceptable topography can be created or road design techniques used to totally screen the road at the time of construction or native vegetation can be established to provide total screening of the proposed road within a reasonable time (4–5 years).

6. Where existing roads are visible from the river, extensions, realignments, upgrades, or other improvements, shall only be permitted when substantially screened from view from the river. If inadequate topography or vegetation exists to provide substantial screening, the road improvement may be permitted if acceptable topography can be created or road design techniques used to substantially screen the road at the time of construction or native vegetation can be established to provide substantial screening of the subject improvement within a reasonable time (4–5 years). When an existing road is improved or regraded, no side cast into or visible from the river shall be permitted. Excess material shall be hauled to locations out of view from the river.

7. Visible vegetation management may be allowed provided that:

- The operation complies with the relevant Forest Practices Act rules, and
- Harvest and management methods with low visual impact are used.

8. Proposed utility facilities shall share existing utility corridors, minimize any ground and vegetation disturbance, and employ non-visible alternatives when reasonably possible.

Photo 3.12 Weathered fencing, Walker Macy 2010

Whenever the standards of OAR 736-040-0035 and section (2), subsections (a) through (k) of this rule are more restrictive than the applicable County Land Use Development Ordinances, the above Oregon Administrative rules shall apply.

Special Designations

The John Day River is designated as a scenic resource under the National Wild and Scenic Rivers System Act, created by Congress in 1968 to preserve certain rivers with outstanding natural, cultural, and recreation values. The act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. OPRD, in partnership with BLM, the Confederated Tribes of the Warm Springs and other agencies, have responsibility for managing the John Day Wild and Scenic River. The classifications for the John Day range from rural to primitive and the river system is protected under two distinct programs: the Oregon Scenic Waterways Act (State) and the National Wild and Scenic Rivers Act (Federal). When designating the John Day River system in 1988 as a Wild and Scenic River, Congress noted in the Federal Register the river's "outstandingly remarkable" scenic qualities.

Important views for public enjoyment, trail development and vegetation management are identified in the Chapter 10, Management Zones. Management actions to create and retain selected views from targeted viewpoints are outlined in this chapter.

Viewpoints, Viewsheds and Screening Assessment

There are many viewpoints into viewsheds to be found within the park, the purpose of identifying the major viewpoints is to ensure the scenic beauty of the canyon can continue to be viewed by the public and is accessible to all. The scenic landscape assessment identified the major scenic viewpoints, which can then be managed to ensure they retain their prospects and best efforts are made to make these vantage points accessible for all. The views from the bottomlands are very accessible due to the flat grade along the canyon floor; here most efforts will be put into managing vegetation to ensure the selected views are not blocked. On the uplands, it is much more difficult to provide accessibility, but easier to manage protection of the viewshed. Universal Access to the Canyon and Gooseneck Overlooks will require long-term planning to enable road access to these viewpoints. In the short-term they can be accessed by trails that will require fairly steep grades. In other areas, screening will be required to blend new development in with the surrounding landscape or hide it from the river. The major viewpoints and screening areas are described opposite.

Gooseneck Overlook
Canyon Overlook
Cottonwood Bridge Vantage Points
Murtha Homestead Vantage Points
Esau Vantage Point
Hay Creek Vantage Points
Screening at Murtha Homestead
Screening at JS Burres
Screening at Esau
Screening at Hay Creek

Park Natural, Historic, Cultural and Recreational Features for Interpretation

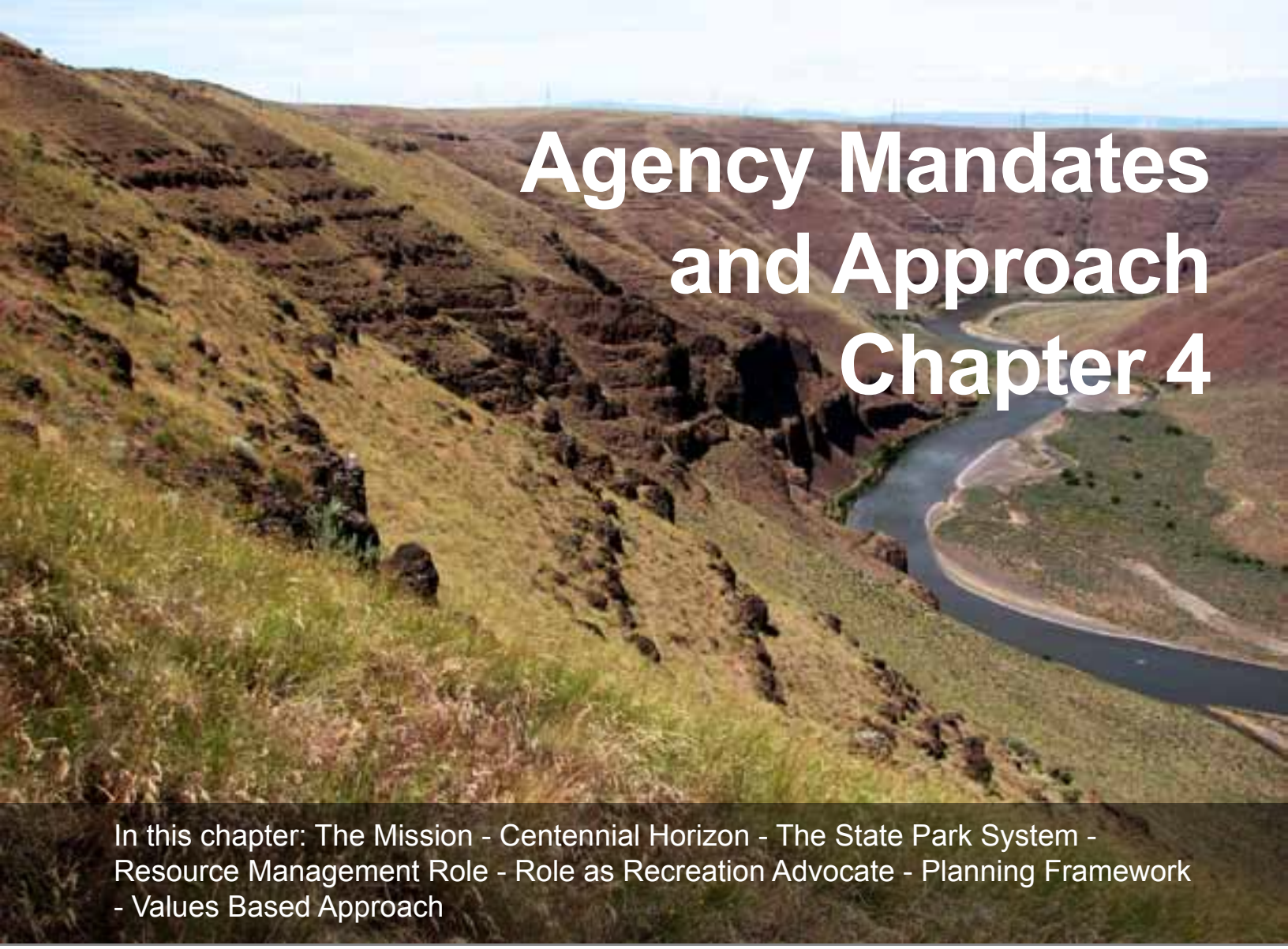
Natural

- Geologic features of interest include the longest basalt flows on the planet that connect this site with other state parks, basalt pinnacles, rock layers visible from two major lava flows, wind-blown loess deposits, and the carving of the canyon by the John Day River.
- One of the largest big-horn sheep herds in Oregon.
- Other large mammals include elk, mule deer, bobcat, badger, and cougar.
- Golden eagles as well as various hawks and falcons have been recorded in the canyon.
- The spring and fall migration of neo-tropical migratory birds is significant in riparian areas.
- Reptiles include the western rattlesnake, various non-venomous snakes, as well as at least six species of lizards.
- Amphibians recorded include the Pacific chorus frog, western toad and northern leopard frog.
- Spring and early summer are the best times to view native wildflowers. Many can be observed at the base of the cliffs. Sagebrush blooms in October.
- A variety of lichens can be observed on the cliffs.
- There are a variety of invasive plants that need control measures to help in the restoration of native plant communities.
- Desert crusts are hard soils that act as an armor on the ground limiting the establishment of weeds with native plants adapted to this micro-habitat.
- The John Day River is the longest dam-free, free flowing stretch of river in the Northwest, supporting spring and fall Chinook runs and summer steelhead.

Historic and cultural

- Native Americans lived on this land for countless generations.
- Euro-Americans first settled in the area around 1850.
- Ranching operations and methods in the area have changed and adapted to new methods and products.

Photo 3.13 Panoramic view of John Day River Canyon from Gooseneck Overlook, OPRD 2010



Agency Mandates and Approach Chapter 4

In this chapter: The Mission - Centennial Horizon - The State Park System - Resource Management Role - Role as Recreation Advocate - Planning Framework - Values Based Approach

Photo 4.1 State Park Interpreter delivering program to school children, OPRD 2009

The Mission

The mission of the Oregon Parks and Recreation Department is to provide and protect outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations. This gives the agency a dual mandate: serve people by operating the state park system and protect park resources so future generations may also understand and enjoy them.

Each of our parks is an individual place where people play, picnic, camp, rest, hike, renew and everything in between. They are an everyday reminder of the things that make Oregon great, and their very existence is a testament to what Oregonians collectively value.

Oregon's outdoor recreation and cultural heritage values are explained in state law; Oregon Revised Statute Chapter 390 opens by stating the well-being of Oregonians is in large part dependent upon access to the state's outdoor recreation resources for their physical, spiritual, cultural and scientific benefits.

The Oregon Parks and Recreation Department is empowered by state law to provide outdoor recreation and heritage programs and plans. The Oregon State Parks and Recreation Commission (the department's citizen oversight body), positions the agency to function at a high level by aligning programs to the powers and duties granted by state law, and by observing and planning for emerging trends. Those laws direct the department to focus on four areas:

1. State Park System: Create and run a state system of parks that protects and manages resources in order to provide recreation opportunities.
2. Natural resources: Exercise forward-thinking, sustainable

land stewardship in state parks and along ocean shores and state scenic waterways. Protect state park soils, waters, plants and animals.

3. Statewide recreation advocate: The agency is Oregon's lead advocate for outdoor recreation. Through research, financial and technical assistance, OPRD provides an Oregon context for federal, state and local governments to collectively fulfill their outdoor recreation-oriented missions.

4. Heritage Programs: Work to preserve and protect Oregon's heritage and historic resources.

The Centennial Horizon

The Centennial Horizon—a vision document that looks ahead to 2022 and the 100th anniversary of the state park system—is a series of principles developed to guide the work and priorities of the Oregon Parks and Recreation Department in fulfillment of its mission. Eight principles compose the Centennial Horizon:

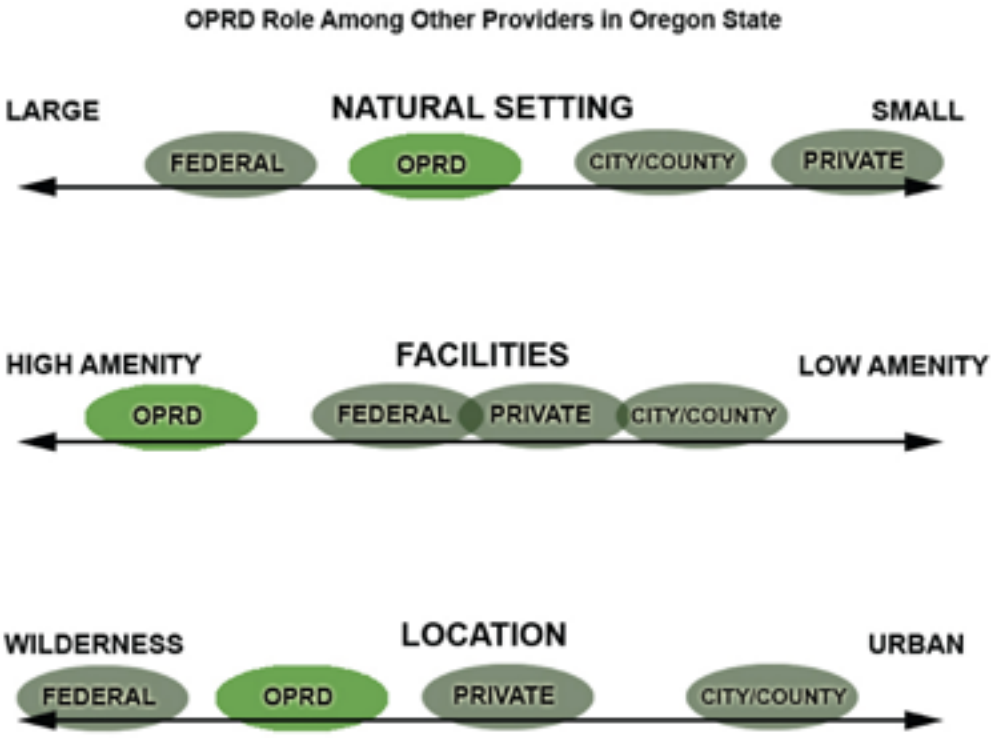
- Principle One – Save Oregon's Special Places
- Principle Two – Connect People to Meaningful Outdoor Experiences
- Principle Three – Taking the Long View
- Principle Four – Engage People Through Education and Outreach
- Principle Five – Build the State Park System with Purpose and Vision
- Principle Six – Attract and Inspire Partners
- Principle Seven – Prioritize Based on the Vision
- Principle Eight – Oregon's Parks will be Tended by People Who Love Their Work

The first three principles play a substantial role in park acquisition, planning and development. The remaining five principles support the first three by offering more specific direction for park operations and programs. Each principle is more fully defined by a series of strategies and actions that change over time as opportunities arise. The full document is available at the department web site (http://www.oregon.gov/OPRD/).

The State Park System

Parks managed by OPRD are different than those managed by federal agencies and the county/city parks. Federal agencies often either focus on multiple uses—extracting economic value from resources at the same time they attempt to provide recreation, for instance—or on a single, overriding use, such as natural resources in a wilderness area or cultural resources at a historic site. County and city parks generally focus on local recreation for their communities, with smaller-scale natural resource protection. State parks are positioned to provide natural and cultural resource-based recreation for local, state and national visitors. The agency has an important mandate to manage resources, often in the context of the recreational use—hiking, biking, picnicking, camping, and so on. Development is designed to be appropriate to the intent and capacity within each park, but facilities for major state parks tend to more extensive than those found in many county and city parks. This unique mixture—resource-based recreation usually in rural areas—guides acquisition, development, planning and programming behind the visitor experience.

Photo 4.2 Native lichen on rocks at the Gooseneck Overlook, OPRD 2010



Three criteria define different kinds of state parks: the natural setting, facilities and primary purpose. These criteria help OPRD plan the management and visitor experiences at each park, and combine to create nine types of state park system properties: parks, recreation areas/sites, scenic corridors/viewpoints, greenways, heritage areas/sites, natural areas, trails, and waysides. State scenic waterways are a special category; the state doesn't own scenic waterways, but works cooperatively with the property owner to preserve each waterway's scenic and recreational qualities.

The Oregon state park system contains more than 100,000 acres, nearly all of it natural resource-based. There are more than 300 properties in the system, including 174 developed for day-use, 50 campgrounds, and 110 undeveloped parcels along the Willamette River Greenway.

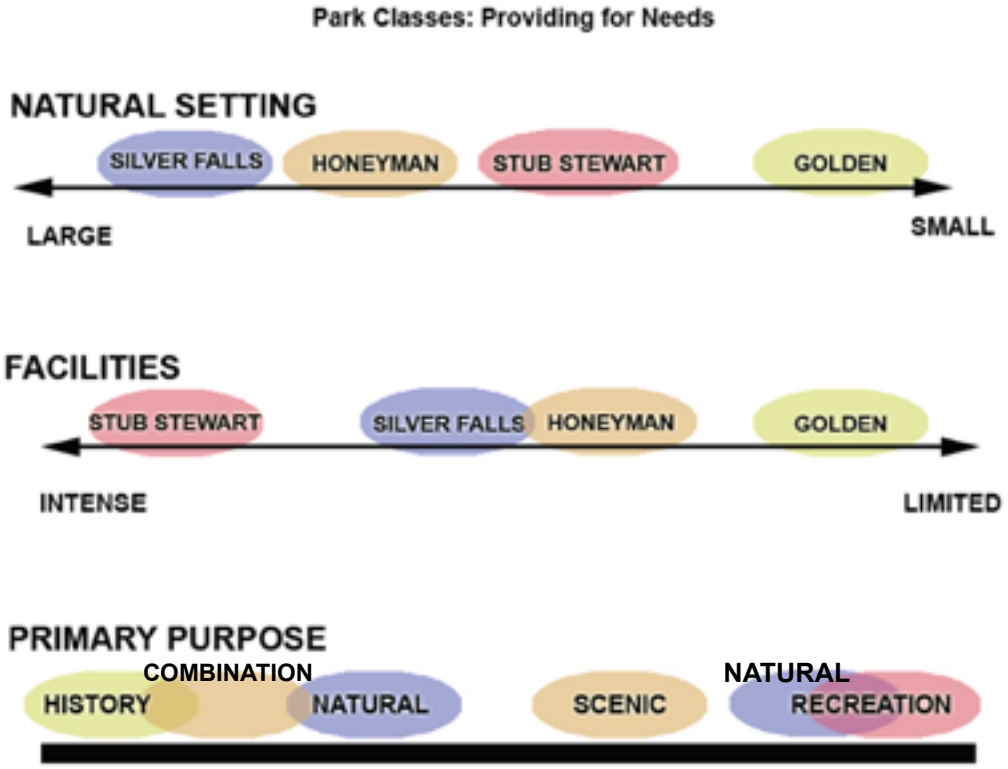
Resource Management Role

The natural resources staff of the Oregon Parks and Recreation Department is responsible for land stewardship, marine conservation and the rocky intertidal shores, several permit programs, department-wide resource policies, and park plants and animals. We strive to provide a safe environment while maintaining the natural beauty and historic importance of our parks.

OPRD is committed to managing the natural, scenic and cultural resources within the Oregon State Park system. The agency writes plans and conducts management to balance resource protection with recreation use; resources are the essential foundation for nearly all forms of recreation.

The following categories best sum up OPRDs approach to resource stewardship:

- Forest Health
- Fish & Wildlife
- Ecosystems
- Invasive Species
- Protected Species
- Natural Heritage Sites
- National Register of Historic Places, Sites and Districts
- Historic Buildings
- Cultural Landscapes
- Iconic Oregon Views and Scenic Corridors



Role as Recreation Advocate

OPRD connects people to meaningful outdoor experiences by protecting Oregon's special natural and historic places. This inherent tension between recreation and preservation, between the needs of today and tomorrow, has always defined the mission of Oregon State Parks. ORS 390.010 declares the state's broad policy toward outdoor recreation. In summary:

1. Present and future generations shall be assured adequate outdoor recreation resources coordinated across all levels of government and private interests.
2. The economy and well-being of the people are dependent on outdoor recreation.
3. Outdoor recreation opportunities should be increased commensurate with growth in need in the following:

- Oregon's scenic landscape
- Outdoor recreation
- Oregon history, archaeology and natural science
- Scenic roads to enhance recreational travel and sightseeing
- Outdoor festivals, fairs, sporting events and outdoor art events
- Camping, picnicking and lodging
- Tourist hospitality centers near major highway entrances to Oregon
- Trails for hiking, horseback riding, bicycling and motorized recreation
- Waterways and facilities for boating, fishing and hunting
- Developing recreation in major river basins
- Access to public lands and waters having recreation value
- Development of winter sports facilities
- Recreational enjoyment of mineral resources.

Planning Framework

In a critical first step for a park-specific plan, OPRD staff compile data from department and other statewide or regional plans. This background information is used as a lens through which the park plan, like this one for Cottonwood Canyon, is first shaped. This data is used to inform and develop a framework for the park plan, then taken to the public for comment and discussion. Public advice and goals of the statewide system are then synthesized to produce the values, goals, strategies, and management actions to become the comprehensive, long-term plan for a park like Cottonwood Canyon.

A park-specific plan therefore includes information on:

- Mission and mandates that define the role of OPRD (Oregon Constitution, Oregon Revised Statutes, and Oregon Administrative Rules.)

- OPRD goals and objectives (Centennial Horizon, Commission Investment Strategy, Legislative Performance Measures, and Oregon Benchmarks.)

- Existing OPRD organizational structure and roles of visitors, volunteers, staff, external parkland managers, and other partners.

- Statewide Comprehensive Outdoor Recreation Plan, State Trails Plans, Regional Interpretive Frameworks

This background information defines the context for a state park comprehensive plan.

Commission Interest in Cottonwood Canyon
It was within this context that department staff approached the Oregon State Parks and Recreation Commission with the question of acquiring the former Murtha Ranch to create a new state park in 2009. A white paper, included in the Appendices presented to the Commission addressed the potential of the property to fulfill the agency mandates, mission and principles.

The report also defined the general intent for the property as a state park, highlighting the opportunities for rugged, secluded recreation and natural resource restoration. This original intent was further shaped and developed during the planning process. Resource inventories and public comment form the foundation for an analysis (Chapter 3) and reviewed along with the recreation analysis, lead to an opportunities and constraints section (Chapter 7). The opportunities and constraints section identifies valuable, degraded and vulnerable resources, the gaps where additional or on-going research is needed, and the basis by which planning concepts, strategies and actions can be developed (Chapters 9 and 10).

Values Based Approach

A critical component to that process is the interest of the public, and the stakeholders and partners that have interest in the property. As a state agency accountable to the public, OPRD seeks to engage the community in a discussion to develop a sense of public interest, concern, and desired experience. During the Cottonwood Canyon process, the community was asked to develop a value hierarchy, to help guide and define proposed management actions. The agency looks to the community to help identify potential opportunities, conflicts, and desired outcomes for the property. The values developed in the public process help relate a sense of place to potential outcomes for management actions. These values help to develop an analysis framework to view the resource inventories and recreation assessments, so that a better sense of future condition or experience can be defined that is relevant to the landscape.

The values statements that were identified by the public were:

- Value 1 – We value Cottonwood Canyon as a natural and rugged place
- Value 2 – We value Cottonwood Canyon's landscape, its natural character, and the enjoyment it brings to the lives of those who experience it.
- Value 3 – We value outdoor recreation at Cottonwood Canyon and the contribution it provides to a happy, healthy, stress-reducing lifestyle
- Value 4 – We value the traditional activities that have been enjoyed at Cottonwood Canyon for generations
- Value 5 – We value Cottonwood's history and experiences, forces that have shaped the landscape and our understanding
- Value 6 – We value the stories, traditions, and experiences that have been a part of Cottonwood Canyon's unique landscape for thousands of years
- Value 7 – We value how Cottonwood Canyon can strengthen local communities and benefit their economies.

These values have close ties to the elements of the OPRD mission that relate to natural, cultural, scenic and recreational resources. The values, explored further in Chapter 8, provide another layer of analysis to interpret the existing conditions and future potential of the property.

Managing the setting to preserve its natural, uncrowded experience while providing for some increased and improved public access to the river and trails should be an appropriate approach to this place.

Summary

The Oregon Parks and Recreation Department staff is continually involved in the long-range review of state park system properties. A Comprehensive Plan is an assessment of resource and recreation opportunities, and management recommendations. The plans include management guidelines for each park's natural, cultural, scenic, and recreation resource values, goals, strategies, and actions.

In the following sections the layers of analysis will be developed and discussed in greater detail, so peoples' values and park goals as well as management strategies and actions can be understood in terms of the Agency mission, landscape condition, and public needs and values.

Cues for the intended landscape character can be taken from the State Scenic Waterway and Federal Wild and Scenic River management levels for this stretch of the river, the BLM Wilderness Study Area south of Highway 206 and the State Wildlife Refuge along the river.

Photo 4.3 Fence with branding imprint from former Murtha Ranching Operation, Walker Macy 2010

Regional Recreation and the Park Chapter 5

In this chapter: Visitor Experience - Columbia Plateau Region - Regional Recreation Participation Estimates - Regional Recreation Needs Assessment - Regional Trail Assessment - John Day River Boater Recreation Needs - Park Recreation Needs Summary - Interpretive Assessment

Photo 5.1 Mount Hood from Sherman County, OPRD 2010

Regional Recreation

To help park providers know what kinds of new facilities and parks might be needed in a region, studies are undertaken to understand recreation trends and demands. These include assessment of the future recreational demand for different types of activities, how that demand changes over time, and surveys of public opinion about participating in future recreational activities. This section outlines regional recreational use estimates, trends and needs for the planning region that includes Sherman, and Gilliam Counties, and for the larger northeast quarter of the state. Understanding regional needs provides a broad picture among all parks, public lands and park providers of the type of activities that will meet public demand in the region. The regional demand for Sherman and Gilliam Counties indicates the wish for a higher amenity level tied to regional tourism opportunities and landscape setting. Oregon State Parks is well placed to provide for this type of demand, which can include camping and well-cared-for day-use areas with a mixture of short and long trail opportunities as well as boating access to the John Day River.

Cottonwood Canyon State Park has been assessed relative to its location along travel routes and in relation to other parks. The potential for meeting recreational needs that may be appropriate at Cottonwood Canyon were assessed against the known resource values, and physical and infrastructure constraints at the site. Final recommendations about what will be provided at Cottonwood Canyon State Park are outlined in Chapter 9, Park Strategies and Operations and are described in detail in Chapter 10, Park Management Zones of this plan.

Columbia Plateau Region

Cottonwood Canyon State Park is part of the Columbia Plateau Region, which encompasses part of Oregon and a portion of eastern Washington. The Oregon portion of the region extends from the eastern slopes of the Cascades Mountains, south and east from the Columbia River, to the Blue Mountains. The region is able to produce the majority of Oregon's grain, and grain production is the heart of the agricultural economy. The Columbia Plateau produces the second-highest agricultural sales per year for any region in Oregon. More than 80% of the region's population and employment is located in the Umatilla County portion, which includes Pendleton and Hermiston. Other population centers include The Dalles, Condon, and Heppner.

Land cover in the region is mostly set aside for agriculture, especially range and pasture land. Settlement only makes up a fractional percentage of the land cover. Table 5.1 shows a summary of land use in the region as a percentage:

Table 5.1: Land Use (% of region)	Type
Agriculture	36.6%
Forest and Woodland	0.7%
Other (lakes, wetlands, cliffs)	4.7%
Range, Pasture, and grassland	57.4%
Towns and rural residences	0.3%
Urban and Suburban	0.4

Land ownership is predominately private with some federal ownership and smaller percentages for state, local and Native American. Table 5.2 shows a summary of land ownership in the region as a percentage:

Table 5.2: Land Ownership (% of region)	Type
Private	85%
Public, Federal	11%
Public, state and local	2%
Native American	2%

The region has an estimated population of 103,000, which makes up 3.1% of Oregon total population for the area south of the Columbia. There are six counties in this area including Gilliam and Sherman Counties, with 21 cities, 17 watershed councils, and approximately 8,700 miles of road. The major industries in the region include agriculture, mobile home production, cattle, retail and services, construction, and more recently wind energy. The major crops from agriculture are grain, barley, potatoes, onions and fruit.

Popular activities to consider for Cottonwood Canyon State Park include:

- **Running/Walking for exercise (1,166,713 annual user occasions)**
- **Walking for pleasure (956,266 annual user occasions)**
- **Sightseeing/driving for pleasure (740,572 annual user occasions)**
- **Hunting for exercise (690,962 annual user occasions)**
- **Bird watching (571,243 annual user occasions)**
- **Wildlife observation (543,557 annual user occasions)**
- **Fishing from a boat for exercise (1,166,713 annual user occasions)**
- **RV/trailer camping (381,350 annual user occasions)**
- **Fishing from a bank or shore for exercise (310,308 annual user occasions)**

Regional Recreation Participation Estimates

The Oregon Outdoor Recreation Survey was conducted to estimate annual participation levels with recreation participation estimates were measured in "User Occasions." A user occasion is defined as each time an individual participates in a single outdoor recreation activity. The boundaries for SCORP Planning Region 6 include Sherman and Gilliam where Cottonwood Canyon State Park is located. Table 5.3 below lists those outdoor recreation activities that had the top annual participation estimates. The most popular activities occurring in this region include running/walking for exercise, walking for pleasure, sightseeing/driving for pleasure, hunting, bird watching, nature/wildlife observation, fishing from a boat, RV/trailer camping, fishing from a bank and golfing.

Table 5.3: Outdoor Recreation Activity	Region 6 2002 User Occasions
Running/walking for exercise	1,166,713
Walking for pleasure	956,266
Sightseeing/driving for pleasure	740,572
Hunting	690,962
Bird watching	571,243
Nature / wildlife observation	543,557
Fishing from a boat	393,467
RV / trailer camping	381,350
Fishing – bank or shore	310,308
Golf	267,651

Regarding sightseeing/driving for pleasure, Highway 206 bisects the park. It stretches from I84 through Sherman and Gilliam Counties to connect with other roads leading to the Fossil Beds National Monument and the upper reaches of the John Day. Many of the people traveling on this route may stop for a visit at Cottonwood Canyon State Park to use the public restroom facilities, camp, picnic, walk on a trail or learn about the history of the John Day River.

The state parks in the region and along the John Day River vary greatly in size, intent and recreation opportunities for the visitor. The visitors per annum for these parks therefore do not reflect potential for annual visitation estimates at Cottonwood Canyon. However, they provide an understanding of numbers regarding general visitation to the region and the John Day River. Deschutes River State Recreation Area is possibly the nearest equivalent to Cottonwood Canyon State Park, but the intent of this park, as stated in its name, is to focus on recreation. Cottonwood Canyon has a focus on preserving the natural resources and intends to leave a light recreation footprint. Therefore, visitation levels at Cottonwood Canyon will be much lower than at Deschutes, possibly lower than Clyde Holliday levels. Clyde Holliday has an annual visitation of approximately 170,000 in 2009. When these numbers are broken down this represents 100 vehicles a day passing through the park on average. Currently, the JS Burres Wayside has on average approximately 50 vehicles in the parking lot on a peak weekend. The two tables below highlight visitor numbers at Oregon State Parks in the region and along the John Day River for annual visitation by total and overnight use respectively (Table 5.4 And 5.5):

Table 5.4: Total Yearly Oregon State Parks Visitors for the Eastern Region and Along the John Day River

		Calendar Year							
Region Name	Location	2002	2003	2004	2005	2006	2007	2008	2009
Eastern	DESCHUTES RIVER STATE RECREATION AREA	233,260	241,098	299,244	237,774	229,336	259,538	242,556	272,290
Eastern	THE COVE PALISADES STATE PARK	637,906	668,872	554,878	571,486	409,912	567,202	462,294	508,708
Eastern	UKIAH-DALE FOREST STATE SCENIC CORRIDOR	30,108	29,246	28,742	25,956	20,036	25,216	15,654	22,566
Eastern	CLYDE HOLLIDAY STATE RECREATION SITE	159,436	194,152	159,804	163,204	150,464	111,380	159,448	169,036
Eastern	WHITE RIVER FALLS STATE PARK	52,722	31,048	45,162	32,632	32,724	41,702	36,276	31,778

Table 5.5: Total Yearly Oregon State Parks Overnight Use for the Eastern Region and Along the John Day River

			Overnight Statistics (Camper nights)							
Region Number	Region Name	Location	2002	2003	2004	2005	2006	2007	2008	2009
3	Eastern	CLYDE HOLLIDAY STATE RECREATION SITE	15,185	15,187	14,588	12,988	13,757	15,647	13,415	15,919
3	Eastern	DESCHUTES RIVER STATE RECREATION AREA	27,846	29,190	29,782	28,138	27,039	29,627	31,930	33,584
3	Eastern	UKIAH-DALE FOREST STATE SCENIC CORRIDOR	3,897	3,023	3,524	3,531	3,006	3,026	2,515	2,670
3	Eastern	THE COVE PALISADES STATE PARK	88,610	86,874	81,370	83,301	81,005	81,507	77,028	84,611

Regional Recreation Trends

Another method of identifying recreational demands is to look at how participation for a comparable set of activities changes over time to determine which activities are growing and which are becoming less popular. For the SCORP analysis, recreation participation estimates from the 2002 Oregon Outdoor Recreation Survey were compared to participation estimates from the 1986-1987 Pacific Northwest Outdoor Recreation Survey.

The list below includes the five outdoor recreational activities with the largest increase over time in participation (growth activities) and the largest loss in participation over time in the same area (loss activities).

Participation growth activities in SCORP Planning Regions 6, 7, & 10 related to the Cottonwood Canyon State Park site include:

- Nature/Wildlife observation (+161%)
- RV/Trailer camping (+96%)
- Fishing from a boat (+190%)
- Big game hunting – rifle (+93%)
- Sightseeing/Driving for pleasure (+34%)

Participation loss activities in SCORP Planning Regions 6, 7, & 10 related to the Cottonwood Canyon State Park site include:

- Day hiking (-48%)
- Horseback riding (-66%)

Four of the five growth activities could be considered as opportunities for Cottonwood Canyon State Park, including nature/wildlife observation, fishing from a boat, sightseeing for pleasure and hunting. Other opportunities will consider that many hunters may be looking for a campground that can offer showers, and despite a decrease in participation, horseback riding is still popular in the region. Boat fishing is also popular along with shore bank fishing, and day hiking could still be considered as the most popular use of a trail system with a mixture of day and overnight hikes. SCORP follow-up research has shown there is a large demand for these kinds of hiking and walking opportunities.

Peace and solitude, scenery, wildlife, and getting together with family and friends were extremely important to more than 94% of survey respondents.

Regional Recreation Needs Assessment

The 2008-2012 Oregon SCORP planning effort used additional methods to understand recreational needs. This included a county-level analysis to identify priority projects for grant funding, and an assessment of the needs of Oregon's aging population.

County-Level Priority Needs

Priority projects were identified through a stakeholder discussion approach for both "close-to-home areas" (located within an urban growth boundary or unincorporated community boundary) and for dispersed areas located outside of these boundaries. Data was collected and analyzed to identify need in each of Oregon's 36 counties and statewide.

Statewide dispersed-area priorities include:

- Non-motorized trails;
- Group campgrounds and facilities;
- Nature study/wildlife watching sites;
- Overnight camping facilities; and
- Interpretive displays.

County-level dispersed area priorities for Grant County include:

- Group day-use facilities;
- Group campgrounds and facilities; and
- Overnight camping facilities.

Cottonwood Canyon State Park could be considered for any of these activities listed above.

A Rapidly Aging Population

Within the next decade, 15 percent of Oregon's total population will be over the age of 65 and by 2030 that number will grow to nearly 20 percent. An enhanced focus on promoting and preserving the health of older adults is essential if we are to effectively address the health and economic challenges of an aging society. This is assumed

to generally be true for Sherman and Gilliam Counties as well as the state overall. Some of Oregon's rural counties have even higher percentages of older residents than the statewide figure. The 2008-2012 Oregon SCORP included a relocation analysis study for residents between 40 and 70 years of age. The Tri-Cities, Redmond and Prineville were identified as high growth relocation destinations for Baby Boomers. As a result, Gilliam and Sherman Counties could become a destination for additional retired travelers taking short trips out of these urban areas. The 2008-2012 Oregon SCORP included a statewide mail survey designed to identify current outdoor recreation participation by activity among Oregon's "Boomer" and "Pre-Boomer" (Oregon residents born between 1926 and 1945) populations and how they expect to recreate in the coming years. A comparison across age categories for the activities with the five highest participation numbers (days of participation in a year) led to the following conclusions:

Photo 5.2 Watercraft on John Day River

- Walking was the top activity across all age categories (40-79);
- Jogging was a top activity between the ages of 40-59, but is also popular for those in their 70s;
- Bicycling was a top activity between the ages of 40-64;
- Sightseeing was a top activity between the ages of 45-74;
- Bird watching was a top activity between the ages of 55-79.

Respondents also forecasted how many days they would participate in each activity ten years from now. According to the respondents, walking will be the most popular activity in terms of average days spent, and those days (83.1) will represent an increase of 17.7 days (25%) over current average days. The survey findings indicate that providing additional non-motorized trails (walking, jogging, hiking, bicycling), and sightseeing opportunities, if provided at Cottonwood Canyon State Park, can best serve the needs of an aging Oregon population.

Regional Trail Assessment

During April and May of 2003, OPRD staff completed a series of nine regional trail issues workshops across the state, as part of the Oregon Trails 2005-2014 Statewide Action Plan. Trail issues were defined as any high-impact issue related to providing recreational trail opportunities within the region. At each regional workshop, participants voted to identify top priority issues. An emphasis on the provision of non-motorized trail systems and water trails, statewide and in the north central region where Cottonwood Canyon State Park is located, emerged as the top priority for trail users. Trails and water trails require interagency partnerships to ensure good experiences for visitors and effective management of the sites and lands along the trails and watercourses. Adequate trailheads and water trail put in/take out sites are needed to support peak use and the desired amenity level. In addition, demand for more car camping with a trailer or camper, and boat in camping have increased in the last ten years.

Non-motorized Trails:

- Need for connectivity between community trail systems, greenways, outlying state park and federal trails within the region;
- Need for regional bikeway to connect tour route towns and recreations sites or natural and historic places; and
- Need for greater cooperation between state and federal agencies in providing trail opportunities within the region.

At the statewide level, top non-motorized trail issues include:

- Need for trail connectivity; and
- Need for trail maintenance.

The John Day River is used for recreational boating and improved public access category will attract more rafters, drift boaters, kayakers and canoeists. Additional facility needs at Cottonwood Canyon State Park include overnight parking and primitive camping facilities for multi-day paddlers. This work fits with the emerging interest by the BLM and Western Rivers to work with OPRD to create water trail connections to and from Cottonwood State Park.

John Day River Boater Recreation Needs

Boating the John Day River is popular by raft, kayak, canoe, driftboat, or jetboat. The river is free flowing and so water levels fluctuate more than most rivers with peak flows occurring March through May and the boating season able to extend into early July. During low flow years, the season can end early, by mid-June. Trip length can vary from half a day to multi-day floats. For half to one-day float trips the section between Spray and Burnt Ranch offers several boating access points. The most popular multi-day float trips include the 48 miles section from Service Creek to Clarno and the 70-mile trip from Clarno to Cottonwood. With the announcement of the park opening, there has been a small increase in visitors taking a one day trip from Cottonwood to Starvation Lane. The main boat launch and take-out locations are listed below (Table 5.6).

Table 5.6: Main boat launch and take-out locations

Location	River Mile	Facilities
Spray	170	Toilet, campground, launch fee
Wooden Bridge	162	No toilet, no camping
Muleshoe	159.2	Toilet campground
Service Creek	157.4	Toilet, walk-in campground
Twickenham	144.1	Toilet, no camping
Priest Hole	137.5	Toilet primitive camping
Lower Burnt Ranch	131.7	Toilet, primitive camping
Clarno East	112.5	No toilet, no camping
Clarno	109.2	Toilet, no camping
Cottonwood	39.6	Toilet, no camping
Rock Creek	22.8	No toilet, primitive camping
McDonald Crossing	21.7	No toilet, last takeout before Tumwater Falls

Shuttle services provided paddlers with a means to return to their vehicles, the table below highlights the main shuttle service for the major launch areas (Table 5.7).

Table 5.7: Approximate One Way Shuttle Distance and Drive Time	Miles	Time
Service Creek to Clarno	42	1 Hr
Service Creek to Cottonwood Bridge	76	1.5 Hr
Clarno to Cottonwood Bridge	74	1.5 Hr

In 2001-2002, the Prineville BLM office conducted the first social study of John Day River boaters on Segments II and III of the John Day River. At this time Segment I (from Cottonwood Bridge to the Columbia River), was not studied as public access was limited. Therefore, Segment I of the John Day River has not been studied in the way Segments II and III have. However it is possible to use the study of segments II and III as a guide for understanding the preferences and management issues relating to boaters on this segment of the river. The study assessed existing social conditions to quantify boater preferences and opinions about potential management actions. The study was conducted on the John Day Mainstem, from Service Creek to Cottonwood Bridge. On these segments of river, one member of each boating group was already required to obtain a free, unlimited, mandatory river permit at the launch or takeout point. Personal information contained in the permit was used to mail each permit holder a survey and two follow-up postcards. The response rate was approximately 42%, resulting in 571 usable surveys constituting the primary sample.

Overall, preliminary study results indicate John Day boaters enjoyed a high quality recreation experience; boaters also indicated support for a limited-entry permit system. Boaters valued their experiences both on the river, and in camp. Peace and solitude, scenery, wildlife, and getting together with family and friends were extremely important to more than 94% of respondents. A majority of boaters reported the number of groups they saw was about what they expected and about what they prefer; however, responses also indicated a shift to the "more than I prefer" direction. Few John Day boaters indicated they were crowded. Campsite availability was reported as the greatest problem on the John Day River, however only 1/3 of boaters favored designated campsites, and only 1 in 10 boaters favored a campsite reservation system. Almost 70% of boaters disagreed that there was a need to lower the level of visitation, while 60% of boaters supported controlling visitation if use increased in the future. Overall 50% of John Day boaters supported a limited-entry permit on peak use days; greater support was indicated if the permit system resulted in fewer encounters on the river, or resulted in less degradation of campsites and riparian areas.

Boater Characteristics

1) Which segment(s) did you boat? (n=566)

33% Segment 2
64% Segment 3
3% Segment 2 and 3

2) Location of Put-in?

Overall (n=567)	Segment 2 (n=188)	Segment 3 (n=364)
46% Service Creek	95% Clarno	68% Service Creek
32% Clarno	2% Butte Creek	22% Twickenham
15% Twickenham	2% Thirtymile Creek	4% Priest Hole
3% Priest Hole	1% Other	3% Muleshoe
4% Other		2% Other
		1% Clarno

3) Location of Take-out?

Overall (n=569)	Segment 2 (n=188)	Segment 3 (n=364)
40% Clarno	99% Cottonwood	62% Clarno
36% Cottonwood	1% Other	32% Twickenham
21% Twickenham		4% Priest Hole
2% Priest Hole		2% Other
1% Other		

4) How many people were in your group?

	Overall (n=571)	Segment 2 (n=188)	Segment 3 (n=364)
Average	4.7	5.1	4.6

	Overall % (n=571)
Solo	5
2 boaters	28
3-4 boaters	31
5-8 boaters	24
9-12 boaters	7
13-40 boaters	5

5) Type of Boat?

	Overall % (n=571)
Rafts	61
Driftboat	28
Canoe	24
Kayak/IK	18

6) How would you describe yourself? (n=568)

Boater type	Overall %
Non-commercial, family and friends	88.0
Solo, self only	5.2
Organized Group: Scouts, church, school, park&rec	3.2
Commercial guide or outfitter	3.2
Passenger on a commercially-guided trip	0.4

7) How far in advance did you determine your launch date?

	Overall % (n=557)	Segment 2% (n=185)	Segment 3% (n=354)
Less than 1 day	3	1	4
From 2 to 7 days	19	12	23
From 8 to 30 days	28	24	30
From 1 to 3 months	28	36	25
From 3 to 6 months	12	17	8
Over 6 months	10	10	10

8) Approximately how many times have you boated the John Day in the past 12 months?

	Overall % (n=558)	Segment 2% (n=184)	Segment 3% (n=354)
Once	63	71	58
Twice	19	17	20
3 times	8	6	10
4-5 times	5	4	5
6-150 times	5	2	7

9) What was the first year you boated the John Day?

	Overall % (n=537)	Segment 2% (n=173)	Segment 3% (n=347)
2001-2002	30	24	32
1999-2000	13	14	14
1996-1998	14	11	16
1991-1995	11	16	9
1986-1990	11	13	9
1981-1985	8	7	8
1958-1980	13	15	12

Percentages are greater than 100% because a single group may be comprised of multiple types of boats.
Segment 2 boaters reported visiting more often in a group with 3-8 rafts than Segment 3 boaters.

10) List other rivers you have boated in the past 2 years. (n=1575)

	Overall %
Deschutes	16
Rogue	9
McKenzie	6
Grand Rhonde	6
Willamette	5

11) Counting this year, how many years have you been boating rivers? (If this was your first year, mark 1)

	Overall % (n=558)	Segment 2% (n=184)	Segment 3% (n=355)
Average	18.5	20.0	17.5

	Overall % (n=558)	Segment 2% (n=184)	Segment 3% (n=355)
1-5 years	16	13	18
6-10 years	15	15	16
11-15 years	14	11	16
16-20 years	14	12	15
21-30 years	27	32	24
31-60 years	13	17	11

Boater Importance

1) Please have a variety of reasons for boating the John Day. Please indicate how important each of the following is to you personally:

Reason	Overall % rating Moderately to Extremely Important	Segment 2% rating Moderately to Extremely Important	Segment 3% rating Moderately to Extremely Important
Peace and solitude (n=556/184/354)	98	99	97
Viewing scenery and wildlife (n=554/183/353)	98	98	97
Getting together with friends and family (n=554/182/354)	94	96	94
Riverside camping (n=549/182/350)	94	97	92
Good weather (n=552/184/351)	81	79	82
No river permit required (n=547/180/349)	71	75	70
Quality of bass fishing (n=558/183/357)	69	62	74
This river is close to home (n=544/183/346)	55	63	51
Photography (n=546/180/348)	53	54	51
Running rapids (n=556/183/355)	44	48	41
Quality of steelhead or salmon fishing (n=559176/335)	38	31	43
Couldn't get a permit on another river (n=507/167/324)	14	20	11

All Boater Responses

1) About how much of the time were you in sight of another boat, not in your party? (n=539)

59%	Almost never
30%	About ¼ of the time
8%	About ½ of the time
2%	About ¾ of the time
1%	Almost all of the time
0%	I don't know

2) Do you think the section(s) you boated was (were) crowded? (circle the number) (n=563)

	not at all crowded		slightly crowded		moderately crowded				extremely crowded
Overall	1	2	3	4	5	6	7	8	9
	46%	17%	16%	7%	4%	5%	4%	1%	0%

Camper Responses

1) Camper Observations on Night 1 of their trip.

Question	Number of Groups	Overall (%)	Segment 2 (%)	Segment 3 (%)
Number of groups you saw that day (while boating and camping) , (n=426/151/262)	0 1-4 5-10 +10	17 54 22 7	24 53 22 1	12 56 22 10
Number of groups that camped within sight & sound of your campsite (n=424/151/260)	0 1-4 5-10 +10	72 27 1 0	78 22 0 0	70 29 1 0

2 and 3) Camper Expectations and Preferences

	Response categories	Question 2: How did your boating experience compare with what you expected to see?	Question 3: How did your boating experience compare with what you prefer to see?
The number of groups you saw during the trip.	Fewer than I expected/ prefer	26%	4%
	About what I expected/ prefer	53%	60%
	More than I expected/ prefer	17%	28%
	Had No expectation	4%	8%
The number of groups that camped within sight & sound of your campsite	Fewer than I expected/ prefer	31%	5%
	About what I expected/ prefer	53%	67%
	More than I expected/ prefer	10%	18%
	Had No expectation	6%	10%

4) How important was each of the following factors when looking for a campsite on this trip?

Reason	Overall % rating Moderately to Extremely Important	Segment 2 % rating Moderately to Extremely Important	Segment 3 % rating Moderately to Extremely Important
Absence of human waste (n=494/184/293)	92	96	91
Away from roads and vehicle access (n=491/182/292)	91	92	91
Out of sound of other camps (n=496/184/295)	85	91	81
Out of sight of other camps (n=495/185/293)	78	84	74
Out of sound of irrigation pumps (n=494/182/295)	78	85	74
Absence of cattle, cowpies (n=494/184/294)	69	77	70
Out of sight of agricultural fields (n=495/184/294)	53	61	48
Out of sight of fences (n=495/184/294)	51	57	47
Campsites without weeds (n=494/184/293)	51	51	51
Good fishing water (n=495/158/293)	45	38	51
Being next to other camps (n=488/180/291)	31	28	32
Availability of wood for a campfire (n=476/178/281)	16	18	13

5) This section identifies problems you may have run into during your visit to the John Day River. Please indicate how much of a problem each item was for you.

Potential Problems	Overall % rating Moderate to Serious Problem
Lack of campsites on public land (n=493)	21
Campsite location poorly marked (n=494)	20
Difficulty finding an available campsite due to overcrowding (n=496)	17
Campsites too close to each other (n=495)	10
Groups sending someone ahead to secure a campsite (n=494)	9
Size of groups too large (n=493)	9
People staying at campsites too long (n=495)	0

6 and 7) To reduce competition and increase privacy in campsites, and reduce resource impacts, how supportive are you of the following management actions?

	Question 6: Require boaters camp only in designated campsites (n=487)	Question 7: Assign campsites to boaters with a reservation system (n=488)
Strongly Favor	11%	3%
Moderately Favor	22%	7%
Moderately Oppose	24%	20%
Strongly Oppose	40%	68%
Don't know	3%	2%

8) How often did you have to pass up a good-quality campsite and settle for a poor-quality site because the first was occupied? (n=492)

67%	Rarely or never
24%	About ¼ of the time
7%	About ½ of the time
1%	About ¾ of the time
1%	Almost always

9) How often did you send a boat ahead to be sure of getting a good campsite? (n=495)

94%	Rarely or never
3%	About ¼ of the time
1%	About ½ of the time
1%	About ¾ of the time
1%	Almost always

10) Did you carry an approved portable toilet system on this trip?

	Overall % (n=498)	Segment 2% (n=183)	Segment 3% (n=298)
Yes	95	96	94
No	5	4	6

11) Did you use an approved portable toilet system on this trip?

	Overall % (n=494)	Segment 2% (n=182)	Segment 3% (n=296)
Yes	84	89	80
No	16	11	20

Day User Responses

1) How many groups did you see during your day on the John Day River? (n=56)

Number of Groups	Overall (%)
0	11
1-4	39
5-10	38
+10	12

2 and 3) Day User Expectations and Preferences

	Response categories	Question 2: How did your boating experience compare with what you expected to see? (n=58)	Question 3: How did your boating experience compare with what you prefer to see? (n=55)
The number of groups you saw during the trip.	Fewer than I expected/ prefer	17%	0%
	About what I expected/ prefer	53%	56%
	More than I expected/ prefer	21%	24%
	Had No expectation	9%	20%

Table 6: Management Issues

1) Do you feel that controls are needed to manage the number of people boating the John Day River?

	Strongly Agree	Moderately Agree	Moderately Disagree	Strongly Disagree	Don't know
Controls are needed to lower the current level of use (n=544)	2%	14%	28%	41%	15%
Controls are needed to hold use at the current level (n=543)	6%	29%	22%	30%	13%
Controls are not needed now, but should be imposed in the future, if and when use levels increase (n=549)	18%	42%	15%	17%	8%
Controls should not be imposed now, or in the future (n=536)	18%	17%	27%	24%	14%

2) A limited-entry permit system is a tool that could be used to manage boating use on the John Day River by limiting the number of launches on peak use days. Please check how you feel about each of the follow questions.

	Strongly Favor	Moderately Favor	Moderately Oppose	Strongly Oppose	Don't know
Overall, would you support a limited-entry permit system on peak use days? (n=552)	13%	37%	19%	26%	5%
Would you support a limited-entry permit system on peak use days if it resulted in fewer encounters on the river or in camp? (n=548)	15%	38%	18%	24%	5%
Would you support a limited-entry permit system on peak use days if it resulted in less degradation of campsites and the surrounding riparian areas? (n=548)	20%	40%	14%	22%	4%

3) How often did you have to pass up good fishing water because another angler was already there? (n=546)

70%	Almost never
10%	About ¼ of the time
2%	About ½ of the time
0%	About ¾ of the time
0%	Almost always
18%	Not fishing

4) How long did you have to wait for people to get out of the way before you could use the launch area to the put-ins and take-outs?

	Minutes	Overall % (n=543)	Segment 2% (n=174)	Segment 3% (n=352/350)
At the Put-in	0 minutes	75	65	80
	1-10 minutes	13	14	12
	11-90 minutes	12	21	8
At the Take-out	0 minutes	72	76	70
	1-10 minutes	16	15	17
	11-90 minutes	12	9	13

5) If you have visited the John Day river before, would you say the overall quality of the area is: (n=511)

15%	Getting better?
57%	About the same?
8%	Getting worse?
20%	First Trip?

In early 2011 the BLM implemented a limited access permit on the John Day River above Cottonwood Bridge, limiting single day river entries to nine boats.

The main recreation activities that have emerged to best fit the park

- Camping, RV
- Camping, Tent
- Camping, Cabin
- Camping, Group
- Camping, Hiker-Biker
- Overnight Hiking
- Overnight Wilderness Hiking
- Overnight Equestrian
- Overnight Rafter
- Day Trip Rafter
- Short Trip Hiker
- Wilderness Hiker
- Mountain Biker
- Equestrian
- Wildlife and Bird Watching
- Bird Hunting
- Big Game Hunting
- Fishing
- School Groups
- Sightseeing by Vehicle

Park Recreation Needs Summary

Based on the various reviews of local, regional and county needs and trends a series of potential activities have emerged for consideration at Cottonwood Canyon State Park and have been further reviewed in the planning process and chapters that follow. Ultimately, the plan goals, strategies and actions determine which activities will be pursued at the park. The main recreation activities that have emerged to best fit the park are listed on the left.

It is always difficult to predict all visitor activities at a new park. Some activities will only emerge once the park opens. Other activities might be predicted, but the numbers are so small it is hard to describe the trend due to insufficient data. Therefore, the activities described in the table opposite represent the major known visitor activities typical for the region that match the landscape setting at Cottonwood Canyon State Park and the appropriate level of recreation, often referred to as the intent for the park. The table on the next pages takes the major activities for the park and breaks them down in order to highlight the intensity of use for a particular recreation activity (Table 5.9). The intensity of use is based on an assessment of the Recreation Opportunity Spectrum (ROS) for the park setting. These intensity ratings can be matched to the intended ROS class for each park management zone (see chapter 10). They range from a rural setting (Class III), to Natural (Class II), and Primitive with Trails (Class I). The activities have also been tied to a park value that best represents the activity, be it natural, cultural or recreation. The public identified these values during the process of developing the plan and the activities express the fulfillment of what they valued as important for the park from a recreation perspective.

Photo 5.3 Flyfisher on John Day River

Table 5.9: Recreation Activity Table

Resource Value	Activity	Typical Experience	Park Wide Median	ROS Class III	ROS Class II	ROS Class I
Recreation	Valley Day Trip	Single vehicle, occupancy 3 - 5 starting from regional outlying area, arriving at park between 10 am - 2 pm.	LOW	HIGH	LOW	LOW
Recreation	Regional Tourist	Single vehicle, occupancy 3 -5. Trip is part of multiple day, multiple stop trip that may include other regional spots like Fossil, Condon, Arlington, Maupin, Grass Valley. Visitors will stay at motel in local community.	MEDIUM	HIGH	HIGH	LOW
Recreation	RV Camper	RV or 5th wheel trailer, generally experienced campers, may be part of a larger group of RV campers, Trip has been planned will stay for 3 - 7 days. Trip may have plan for additional days outside the park.	MEDIUM	HIGH	N/A	LOW
Recreation	Overnight tent	Visitors will be in small group 2 - 6, generally experienced tent campers.	MEDIUM	HIGH	HIGH	LOW
Recreation with Natural Focus	Wilderness Hiker	Visitors will be in small group of 2 - 6 will need to be experienced with backpacking and landscape.	HIGH	MEDIUM	HIGH	LOW
Recreation	Scenic Biker	Visitors will be in small - medium group of bicycle/motorcycle riders. Park will be a waypoint for larger ride through the region.	LOW	HIGH	MEDIUM	N/A
Recreation	Mountain Biker	Visitors will be in small groups of 2 - 6. Visitors will come for trail ride opportunities and will come from outside local area. Visitors will be of varied skill and knowledge levels.	MEDIUM	HIGH	HIGH	N/A
Recreation	Multiday Rafter	Visitors will be in small to medium groups one to three rafts 6 - 8 people per raft. Visitors have put into John Day River at Clarno. Cottonwood will be the end of a 5 -6 six day raft trip.	HIGH	HIGH	HIGH	LOW
Recreation	Day Trip Rafter	Visitors will be in small to medium groups one to three rafts 6 - 8 people per raft. Visitors will put in near Cottonwood Bridge and take out at Hay Creek.	HIGH	HIGH	HIGH	N/A
Recreation	Equestrian Day Trip	Visitors will be in small groups 2 - 6 with equestrian trailers. Visitors are most likely local and are familiar with park resources.	LOW	LOW	MEDIUM	N/A
Recreation	Equestrian Overnight	Visitors will be in small groups 2 -6 with equestrian trailers. Visitors will utilize parking area and then ride into camping area.	MEDIUM	MEDIUM	HIGH	N/A
Recreation with Natural Focus	Birder	Single vehicle, occupancy 3- 5 starting from Portland Metro Area, arriving at park between 6 am - 10 am.	MEDIUM	LOW	MEDIUM	LOW
Recreation with Natural Focus	Natural History Tourist	Single vehicle, occupancy 3- 5 starting from regional outlying area, arriving at park between 6 am - 10 am.	MEDIUM	HIGH	LOW	LOW

Recreation with Cultural Focus	Hunter	Visitors will be in small groups 2 - 6. Most will be from regional area with specific knowledge of the resource and landscape.	MEDIUM	N/A	LOW	N/A
Recreation with Cultural Focus	Overnight Hunter	Visitors will be in small to medium groups 4 - 10. Most will be from outside local area. Trip will be planned at least a month in advance.	MEDIUM	LOW	HIGH	N/A
Recreation with Cultural Focus	Fisher	Visitors will be in small groups 1 - 4, from local area arriving at park between 4am - 6 am	MEDIUM	HIGH	HIGH	MEDIUM
Recreation with Cultural Focus	Overnight Fisher	Visitors will be in small groups 2 - 6. Most will be from outside local area, trip is planned several months in advance.	MEDIUM	HIGH	HIGH	LOW
Recreation with Cultural Focus	Local Resident	Visitors will be in various sized groups. May be individual exertion oriented visitors or small to medium groups for family gatherings or local even (picnic, river access, shade)	HIGH	HIGH	LOW	LOW
Recreation	Local Rafter	Visitors will be within a 1 - 1.5 hour drive from park. Visitor groups will be medium sized one to two rafts of 6-8 each.	HIGH	HIGH	HIGH	LOW
Recreation with Cultural Focus	School Groups	Focus on archaeology and cultural history (Native American presence, working landscapes, fishing, hunting).	HIGH	HIGH	HIGH	LOW
Recreation with Cultural Focus	School Groups	Focus on restoration projects, master naturalist, geology, fish, etc.	HIGH	HIGH	HIGH	LOW
Recreation	School Groups	Focus on learn basic skills (camping, biking, rafting, wilderness hiking, etc.)	HIGH	HIGH	HIGH	LOW
Recreation with Natural and Cultural Focus	School Groups	Focus on John Day River timeline - the big picture / the whole story, 15 million years to 100 years from now.	HIGH	HIGH	HIGH	LOW
Recreation with Cultural Focus	Visitor	Focus on archaeology and cultural history (Native Americans presence, working landscapes, fishing, hunting).	HIGH	HIGH	HIGH	LOW
Recreation with Natural Focus	Visitor	Focus on restoration projects, master naturalist, geology, fish, etc.	HIGH	HIGH	HIGH	LOW
Recreation	Visitor	Focus on learn basic skills (camping, biking, rafting, wilderness hiking, etc.)	HIGH	HIGH	HIGH	LOW
Recreation with Natural and Cultural Focus.	Visitor	Focus on John Day River timeline - the big picture / the whole story, 15 million years to 100 years from now.	HIGH	HIGH	HIGH	LOW

Interpretation Assessment

The main purpose of interpretation is to connect visitors emotionally and intellectually with the park resources so they will be inspired to become lifelong stewards of the natural, cultural, and historic places found in Oregon State Parks. Interpretation is communication that goes beyond information. It reveals what things mean and why they matter. Beyond ownership, visitors can become stewards of our park resources. That can translate into a stronger belief that Oregon State Parks are important to Oregonians.

Interpretive themes are the key messages to be communicated to visitors. The media are the delivery strategies for communicating the interpretive themes as well as orientation and wayfinding information. Media can include personal presentations by rangers as well as brochures, wayside exhibits, audio or video presentations, smart phone applications, self-guided trails, and even facility or landscape design.

Typical Recreation Activities Associated with Identified Interpretive Needs

- Educational raft, kayak, or canoe trips.
- Interpretation along hiking/ backpacking trails of varying lengths.
- Programs for birding/ wildlife watching.
- Programs for starwatching in a significant dark-sky setting.
- The combination of scenic vistas and wildlife provide program opportunities for photography, painting, and other visual art forms.

Overview of Visitor Marketing and Audience Identification

Visitor Demographics

Visitors come to this region to get away. Many enjoy not running into people, not having cell phone service, and not feeling rushed by pressing crowds. They come because they enjoy the solitude and the beauty. Some come for the wildlife, some come for the wildflowers, some come to see fossils, and some are passing though on their grand tour of Oregon. But many come to the region simply to escape from the stress of life in the cities and experience the wilderness feel of the John Day area. Many also come for the fishing and hunting in the area. Visitors stay for different lengths of time, depending on why they are there.

There are a significant number of drive-by drop-ins at many of the museums and roadside sites, although places like the John Day Fossil Beds do attract some intentional visitors. Additionally, outfitters and organizations including the Hancock Field Station book groups in advance. Seasons bring different crowds. Some of the museums interviewed mentioned heavy family traffic in the summer, followed by retiree traffic in September. The Sherman County Historical Museum expressed that their crowds tended to be older and were attracted by the history museum. The US Fish and Wildlife Service Mid-Columbia River National Wildlife Refuge Complex described different specific groups of people coming to the Cold Springs National Wildlife Refuge different times of the year: Birders come to see the fall and spring migrations and hunters come use the refuges in early winter. Summer visitation is low because there is no hunting and only local birds are seen on the refuge. In the winter, there is not much snow on the refuges, and if the water freezes over, there are no birds to attract birders.

The John Day Fossil Beds National Monument gets phone calls from photographers around the world asking if the wildflowers are in bloom yet and will give special hikes into the backcountry specifically for professional photographers.

Oregonians are not the only visitors to this region. Quite a few come from Washington, as well. Several of the more known visitor spots—the Columbia Gorge Discovery Center and the John Day Fossil Beds National Monument—mentioned a significant number of international visitors from many different countries. Travelers from other parts of the US are stopping through on their trek to the Oregon Coast.

Anglers that use the river are often either locals or commercial business that have a special regulations permit (issued by the BLM to control availability through the River Management Plan). Commercial river trips are either day or overnight trips (they stay on BLM land) where all equipment, boats, guide experience, instructions on how and where to fish, assistance catching and releasing fish are provided by an experienced guide. In addition, the guides

often interpret the river. Food and equipment provided are high quality. Participants come from Seattle, Portland, and all of the Willamette Valley and often stay in Condon. All river trips in the area are fishing-oriented people are there to catch fish, specifically small-mouth bass and steelhead.

Boaters that use the river are often there for solitude. Canoers will float downriver, camp, and then canoe back up stream. Often, people who book raft trips are looking for a slow, relaxing river for a raft trip—avoiding the rapids of some of the other rivers in Oregon. One of the outfitters mentioned that the river was not a well known river—most people looking for a raft trip request other rivers. That is also part of the reason some wish to paddle the John Day, because it is not as heavily trafficked. Many of the outfitters put in at Clarno and take out at Cottonwood Bridge.

Chukar hunters are there to hunt this small game bird. They also have the opportunity to spend the day hiking and viewing amazing country. Hunting season is from around October 15th to January. (ODFW "Upland Game Birds" has the official yearly dates).

Local families use the sandy bank revealed near Cottonwood Bridge when the water is low in July and August as a beach and will hang out for the whole day with blankets, radios, etc, to cool off. The river is not as dangerous in the summer, as the water levels drop.

Existing Programs

Interpretive programs in this region include museums with exhibits and interpretive panels, guided hikes, bicycle tours, rafting or fishing trips with various commercial outfitters, outreach opportunities in schools and at community events, and self-guided hikes, and trails. Many groups offer guided hikes. Oregon Paleo-Lands Institute (OPLI) offers bike tours, and will accompany raft excursions as interpreters, as well as lead hikes that focus on artistic renderings of the landscape. The John Day Fossil Beds National Monument gets phone calls from photographers around the world asking if the wildflowers are in bloom yet and will give special hikes into the backcountry specifically for professional photographers. The raft guides tend to talk about the geology and botany of the area with a little wildlife and cultural history sprinkled in here and there. Some outfitters (like Mah-Hah outfitters) are fishing-specific and focus on fishing in the John Day.

Many of the interpretive opportunities offered by the various surrounding organizations—especially those like rafting/fishing/hunting outfitters—require advance planning. Aside from the interpretive trails and centers, there are not many recreational interpretive opportunities offered for last-minute groups. A family visiting the area will not necessarily have access to raft or bike tours if they haven't planned ahead for them.

School attendance at some of the area museums has dropped in recent years. However, the Sherman County Historical Museum mentioned that they will get private school groups stopping by on their way to the Hancock Field Center. In addition, the John Day Fossil Beds National Monument said they draw field trips from schools within a 2 hour radius. The McNary Dam draws from schools in Hermiston and Umatilla, which are quite close to the dam. A few of the groups do programs in the schools—although those tend to be more focused on local history and not as much on natural history. The Columbia Gorge Discovery Center attracts student volunteers from local schools—sometimes to do service-learning style volunteer programs.

This park ranks among the best compared to other Oregon State Parks for astronomy. On clear nights, great views of the Milky Way Galaxy and other night sky objects can be seen.

Outreach in the area seems to be more event-based. The Sherman County Museum, the Museum at Warm Springs, and the McNary Dam all send people to community events from time to time. In addition to their other hikes and tours, the Oregon Paleo-Lands Institute takes groups to visit the High School in Wheeler.

History and Culture topics interpreted in the area cover a broad range of topics: Oregon Trail, Native American history and culture, and regional settlement. Many museums offer historical buildings in addition to the traditional museum exhibits. Most of the interpretive opportunities within 50 miles of Cottonwood Canyon tend to focus on the region's pioneer and agricultural history and Native American culture.

Biology is covered by many different groups, but is not the main focus of their interpretation. Raft trips, fishing

trips, and interpretive hikes lend themselves to discuss the wildlife and botany of the region, in addition to the other topics covered. The John Day Fossil Beds National Monument has a publication for identifying wildflowers in the region. Birders are attracted to the region seasonally to see what birds are migrating through. USFWS has an event in conjunction with the non-profit group Ducks Unlimited called "Greenling Day" where kids get to hold and band wild ducks. Hunting and fishing outfitters discuss wildlife and the environment as it relates to their sport. Another common theme heard repeated was the importance of invasive or non-native species removal in this area. **Earth science** is a main focus of interpretation within the region, due to the fossil beds. The geology of the region attracts specific interest groups: rock hounds, paleontologists, and visitors interested in fossils.

Potential Partners

The following groups are potentially interested in participating in the interpretation of Cottonwood Canyon:

- Sherman County Historical Museum
- Mah-Hah Outfitters
- Oregon Paleo-Lands Institute
- Museum at Warm Springs
- Depot Museum Complex
- Pine Mountain Observatory
- Lower John Day Conservation Workgroup

Physical Interpretive Limitations

Sensitive Interpretive Areas
The Oregon Parks and Recreation Department will work with the Confederated Tribes of Warm Springs as well as the State Archeologist in the interpretation of the Native American history of the park. Rare species of plants or animals documented in the park will be interpreted to help the public understand their significance while avoiding disturbance that would be detrimental to sensitive species.

ADA Issues
Interpretive media will be designed with regard to ADA perspectives. Where possible, alternate methods of communicating interpretive messages will be provided. The interpretive trail will be designed to be universally accessible when possible.

Site Specific Issues
Some visitors will likely not be able to travel all trails. There will be benefits to interpretation that help all visitors to experience the more remote portions of the park. This may include communication methods such as smartphone applications, video clips on the web, or other media.

Photo 5.4 Wildflowers at Cottonwood Canyon State Park OPRD 2010

Photo 5.5 Milkyway Starscape, OPRD 2010

Comments and Issues Scoping Chapter 6

In this chapter: Opportunities for Feedback - Comments Summary

Photo 6.1 Site survey to determine landscape suitability at Murtha Homestead, OPRD 2010

Opportunities for Feedback

The issues summarized in this chapter were compiled with input from an advisory committee, OPRD staff and consultants, local officials, affected agencies and interest groups, tribal representatives and members of the public. Understanding the community needs and public expectations of a new park is an essential element of creating a comprehensive plan. During the process for the Cottonwood Canyon State Park plan, OPRD has implemented approaches to maximize the opportunity for comment and issue identification. The opportunities to comment and efforts to raise awareness have included:

- Extensive public meetings scheduled to increase awareness and gather comments (eight local public meetings in Sherman and Gilliam Counties and four regional meetings in Portland and Bend)
- Creation of an extensive mailing list
- Press releases
- Written-comment periods
- A web site with interactive comment capability
- Special meetings with relevant stakeholders
- Formation of a neighbors group to comment on park proposals
- Issues raised and captured in the resource assessment process
- Advisory Committee made up of locals, agency partners, resource professionals, community leaders to provide guidance and comment
- OPRD Commission input
- Meetings with OPRD staff for guidance and comment
- Media releases to increase awareness of the planning process
- Newsletter to mailing list

Many of these opportunities yielded excellent feedback and comments that are reflected in the overall planning document. This section addresses the issues that were

identified during the outreach process and summarizes responses to these issues.

Comments Summary

During the planning process, OPRD reviewed hundreds of public comments that came in from public meetings, an advisory committee, an official web site, correspondence, phone calls, partner agencies, ORPD staff, and informal external sources (such as online responses to news stories). The public discussion is summarized below and informs the values, goals and management strategies contained in the following chapters of the plan. Six major categories emerged from the public discussion; general comments, recreation needs, natural resource concerns, community values, and management issues.

General
The comments most frequently relate to the operation of the agency and the state park system, such as funding for park development, how the parkland would be acquired, how the planning process works or general thoughts about how the park should be developed.

Some samples of these comments include:

Well done !!!!! It is nice to see some new State Parks being built. Our State Parks put all other States Parks to shame. Once it is built, they will come, and what a good opportunity to show off our beautiful state and educate everyone on the importance of good land stewardship. I look forward to visiting the site and to see it develop over the years for the generations to follow. Have fun with the learning process, but enjoy seeing it take shape and grow.

Mike C.

I am always glad to see a new park, this one looks like it will be beautiful. But I don't understand why we are buying new land when we have land in the park system that just needs development, like Bowers Rock State Park? Wouldn't the money be better used to develop land that the state park system already owns?

Gary

Its really a beautiful part of the state and one I haven't visited for a number of years now. Kudos to Governor Kulongoski for the forward thinking. Looking forward to a summer road trip or two.

Repo503

OPRD strives to provide answers to these questions during the process by directing people to information about the agency available on the agency web site www.oregonstateparks.org, or the site set up specifically to answer questions about the Cottonwood Canyon project www.cottonwoodcanyon.wordpress.com.

Specific answers for frequent questions in these comments have included:

During the planning process, OPRD reviewed hundreds of public comments

Why is it going to be a park?
Part of being Oregonian is a strong need to enjoy the outdoors and the human stories that go along with them. We regularly look at how well the state park system serves different regions of the state, and match that up against the need to protect different kinds of natural and historical landscapes. Our community networking and surveys show Oregonians are interested in more land and water trails, light camping and beautiful, rugged landscapes. Cottonwood provides these things in an area where few state parks exist.

Strong recreation potential, fascinating human stories—from the Native American presence through to today's vibrant ranchland heritage—coupled with the rich John Day River canyon setting all led us to turn this place into a state park.

How did you acquire the property?
The Oregon Parks and Recreation Department acquires new state parks from willing sellers. Sometimes the sellers are private landowners who have decided to put their land on the market. After researching the property, and sometimes discussing the issue with other partners and local officials, our citizen oversight commission gives us permission to make a deal. We do appraisals and negotiate terms much like anyone else who buys real estate.

Cottonwood Canyon State Park was formerly owned by the Murtha Family. They farmed and ranched the area for several generations. The family decided to put the ranch up for sale several years ago, but OPRD was not in a position to buy it even though it clearly was the kind of rugged, beautiful land that would make a great park.

The land was eventually sold to the Western Rivers Conservancy, a private non-profit that specializes in river

restoration projects. We negotiated with them, and in 2009 agreed to purchase the property, one piece at a time, from Western Rivers over several years:

1. 2,400 acres adjacent to JS Burres Wayside on 206 for 2.2 million dollars, completed 2009
2. 2,200 acres comprising the Murtha Ranch homestead and surrounding property for 2 million – anticipated completion 2011
3. 2,111 acres surrounding Hay Creek for 2.2 million – anticipated completion 2011
4. 1,300 acres south of hwy 206 for 1.5 million

The total state park property owned by OPRD should total 8,015 acres at a final price of $7.9 million dollars, which is what the Western Rivers Conservancy paid for the property.

Where does OPRD get the money for this?
The Oregon Parks and Recreation Department invests dedicated lottery funds to improve the state park system. Oregon voters dedicated 7.5% of Oregon Lottery profits to state parks in 1999. State parks are not funded by tax dollars.

Park visitors and recreational vehicle owners provide most of the funding to run 100,000+ acres of state parks, though Oregon Lottery money is used for daily operations, too.
We use these funds to provide recreation and protect resources on more than 100,000 acres across the state. Even though our 2009-2011 budget is lower than it was in 2007-2009, cost-effective management has allowed Oregonians to enjoy well-maintained, open parks during the economic downturn.

Why is it called Cottonwood Canyon?
We try to honor local landmarks when choosing the name for a new state park. Cottonwood Canyon Creek and Bridge will be major access points for the park. You can expect to see other names inside the park—trails and trailheads, parking areas, camping spots—that echo local traditions.

How are you going to fund the development and day-to-day operations?
Oregonians decided to dedicate lottery funds to state parks in 1998, and that money will be used to fund development of Cottonwood Canyon. Most of the lottery funds are used to repair and improve existing state parks, but a portion is set aside for new parks like this.

We don't receive any tax dollars, but most of our day-to-day park funding comes from three places:

- Visitor fees from campgrounds and day-use areas
- A portion of RV license fees
- 7.5% of the lottery funds are dedicated by voter passage of Measure 66 in 1998 and reconfirmed in Measure 76 in 2010.

This park is one of the most important in a generation, and OPRD is committed to assign the needed staff and funding to operate the park. It's important OPRD create the park to use methods and materials that can be maintained affordably over the long haul.

Recreation
Often one of the most frequent comments revolves around the types of recreational opportunities that will be available at the park. The planning process is an excellent time to identify community needs or expectations for specific types

Photo 6.2 Sherman County Residents Review Property Maps, OPRD 2010

of recreation or experiences. The result of these comments can be seen in the General Plan map, where recreational opportunities are identified, and come largely from the expressed needs of those who participate in this process. Some of these comments include:

Outdoor play is great, but where do we rest at the end of the day? I would love to see this park mirror the features of some of Oregon's greatest state parks by featuring a variety of lodging options (cabins, yurts, remote tent sites.)

Matthew G.

I don't think those traits are exclusive to Oregonians by any means, however it sounds like you are on the right track for the park's recreational pursuits. I think most people that use the State Park system want a variety of activities to choose from.

Dyan K

I myself prefer backpacking and tent camping, and hope that the park has good access to remote campsites. I try to make 3-4 camping trips a year.

I'm also particularly interested in river access and the sorts of activities that will be encouraged on and nearby: canoeing, kayaking, fishing, etc. It would be especially nice if there was the possibility of multi-day river trips.

Sarah N

OPRD uses these comments to help identify the types of recreation that could be possible on the site, and then matches those with the landscape and resources. Comments in this section are also used to help identify potential challenges or user conflicts to help guide the management actions that are derived from this planning process. Not all recreation types are possible at Cottonwood Canyon State Park, however during the planning process we carefully evaluate what is possible.

In some cases advocates for specific types of recreation or facilities to support activities provide valuable information or input. For example:

We are excited about the new state park! I think an absolute is to plan for some deluxe cabins and rustic cabins. There are limited deluxe cabins in Oregon state parks and it would be nice to have a few more to choose from. A nice day use area

Photo 6.3 Introductory Planning Meeting April 2010 Sherman County Fairgrounds, OPRD 2010

that is kid friendly (swimming area) would be nice in the planning. We love LaPine State Park , but we are excited about a new park that would be closer to drive to and could offer some of the great things that LaPine does:) Deluxe Cabins !!!!!!

Tamera M.

I am very interested in equestrian access to this area. A horse camp would be great and trailheads and trails which are equestrian friendly are an important part in the planning process. Please let me know how to participate in the planning process.

Lydia H

OPRD planning staff works with resource experts, recreation advocates and local planning officials, and the OPRD commission to identify if these types of activities are consistent with the resource protection goals of the park, the county or state planning ordinances and technically feasible. In some cases recreational development may be considered but excluded from the plan due to constraints in one or more of these areas. In other cases the recreational opportunity is possible but will be developed over time. In all cases the issues of recreational access are considered very carefully to ensure that the recreational character of the park matches the landscape and the need.

The planning process is an excellent time to identify community needs or expectations for specific types of recreation or experiences.

Natural Resources

Many issues that were identified as a result of the Cottonwood Canyon planning process relate to the interaction of recreation and the natural landscape. Cottonwood Canyon State Park is a special place because of the rugged beauty of the landscape. OPRD will be working very hard to help restore those areas that have restoration potential, and protect those areas that offer outstanding natural or scenic qualities. That strategy is supported by many of the received comments:

My name is George..., and I live in Rogue River, OR. I have spent my entire life, 73 years, enjoying the more out of the way and rugged areas of the great outdoors. I have lived in northern California, Alaska and Idaho before returning to Oregon in 1990. Backpacking, traveling, fishing, hunting, birding, and photographing in remote areas is my number one interest.

During the week of July 25, 2010, I had the pleasure of spending a few days in the Cottonwood Canyon area. I was impressed with the raw beauty of the area as well as the potential for the area to be developed for the enjoyment of future generations.

I feel very strongly that all development must be done to protect the wildness of this area. Low impact camping, only four to eight campsites, is a major priority. Some trail access with parking is needed, but excess roads must be avoided. This area can't stand heavy traffic, foot or vehicle, and remain the jewel it is.

When making your long range plans for Cottonwood Canyon, please take these things into consideration.

The most desirable management objective in all categories is to enhance the state park's natural characteristics, i.e. restore historic habitat, maintain endemic species and diminish exotic / introduced species of flora and fauna. This could involve overriding other categories, if there is a conflict between natural and any other.

While public access is important (roads, trails, campgrounds, buildings), this is a lower priority to me. If I were making the decision, public access would be the last characteristic considered.

Cultural (archeological, historic) assets also are fairly high on my wish list, but not to override natural aspects of the park.

Oregon's state parks are wonderful. They make retiring here a joy. Friends and relatives from Arizona, where my wife and I recently moved from, are envious, when they see photos I email. Both of us want the funding for a Park A Year program to continue and support the initiative measure to amend our state's constitution, so we all can continue discussing management priorities for many new state parks for the rest of our lives.

Riccardo S.

The outstanding natural features of Cottonwood Canyon State Park are essential to the recreational experience. Oregon Parks and Recreation Department has the unique role of providing recreational opportunities that are enhanced by the surrounding natural and cultural resources. Many of the proposals in this plan are designed with the intent of preserving or enhancing those resources so that the recreation experience remains outstanding.

Community

Another large segment of comment relates to the place that Cottonwood Canyon State Park will hold in the local communities that surround it. While many visitors from outside the region are expected to visit the park, the residents of Gilliam, Sherman, and Wheeler Counties will have the opportunity to consider the park as a local or backyard resource. OPRD has sought to have this park reflect the character of these communities. This is reflected in OPRD's efforts to identify community partnerships, and work with regional tourism and resource groups. Members of the community have also provided comment and input on the ways that Cottonwood Canyon State Park could be integrated into the surrounding community.

Thanks to the Oregon State Parks for involving the Condon community in the planning process. You've done a great job in planning public meetings there, listening to the locals, meeting with the Chamber, providing resources to help local businesses. It's admirable and very much appreciated!

David C.

I'm very excited to see the changes that are being made. My grandma grew up on this land and talks fondly of it. I along with the rest of our family, are anxious to see what happens.

Jennifer L

As the planning process moves forward OPRD will be looking for ways that the agency can be a resource for local groups and interests. We hope that the park becomes a valuable resource for the region.

Management Issues

During the planning process issues, questions, or concerns are often raised about the management practices at the site. Answering these questions can often be difficult for a new park development. While agency staff have been working hard to understand and learn about the park and the surrounding area, management strategies and actions will not be fully developed until after the plan and initial facility development is completed. Some of the issues that were identified in this process related to visitor safety, impact of the park on local emergency management systems, and the danger of wild fire in this region.

You are unable to receive a cell phone signal on the property, unless you are up road on the plateau area. There should be landline service at some sort of entrance office in case of potential emergencies (i.e. falls or snakebites).

Christine M.

I hope Lifeflight is on standby for the rattlesnake bites that are highly likely to happen. This place is infested by them. You never know when your next step might be your last.

Jory

Emergency management and response to issues like wildfire, search and rescue, and trespass on neighboring property are a set of issues that OPRD staff are already working on to help develop future management options. These options will involve continuing discussions with local and regional emergency service providers to help identify ways that park staff can be prepared to handle such issues without impacting the community resources. OPRD will be evaluating the personnel needs for the park and what level of training and skill on-site personnel will need to effectively operate the park. Where gaps are identified OPRD will also be working with local and regional service providers and partners to help augment or offset the potential risk or impact from fire or search and rescue.

A critical piece of this issue will also be to provide visitors with the information and tools to use the park in a manner that does not exacerbate the risk. OPRD is working to develop education and outreach materials for visitors, so that they understand the unique recreation environment. Interpretive program goals and strategies, described in Chapter 9 and 10, are a first step toward visitor education. The issues raised by the comments in this group will be very important to help identify the best ways to manage the site over time. Not all of the issues can be addressed completely in the planning process. OPRD hopes to find the best way to continue to work through these issues, and continue to provide visitors and the community with the best service possible.

The summary of the comments presented here is not exhaustive, but is meant to provide context for the way that public input has shaped the plan. OPRD staff will continue to develop and manage the site based on public input.

Landscape Opportunities and Constraints Chapter 7

In this chapter: Understanding the Site - Primarily Natural Areas - Primarily Recreational Areas - Primarily Mixed Areas - Conclusion

Photo 7.1 Canyon Overlook Scenic Viewpoint, OPRD 2010

Understanding the Site

Strategies for a successful park arise from understanding the site's opportunities and constraints. This plan digests opportunities and constraints at Cottonwood Canyon, determines the importance of each, and shows how these two work together to both protect and provide access to the land. When reviewed comprehensively, the plan can address the dual mandate of the department in a balanced fashion: protecting and improving the park ecosystem while providing for recreational access. Ever mindful of these opportunities and constraints, this plan defines areas of the park that will be set aside for resource protection and restoration, and those that will focus on recreational uses and facility development. More often than not, these two basic needs mix on the ground, and in those cases, the plan's purpose is to create goals that demonstrate how recreation and resource management can coexist.

OPRD first determines the intent for the park based upon the importance of its resources and the potential for recreational access to those resources (or resources adjacent to the park). The park's classification (as a state park, state recreation area, state natural area, etc.) and preliminary management goals approved by the OPRD Commission reflect this general intent. OPRD refines this intent through detailed inventories of the park's resources and by evaluating appropriate recreation opportunities and feedback from the public.

From the inventories, a composite map of the natural resources shows the current condition of different areas around the park (from excellent to poor) as well as other factors such as soils, slopes, and hazards. Natural resource management is then prioritized based on the importance of conserving good habitat and restoring certain low-quality areas. Natural resource goals are the priority, and they dictate the kind of recreation that is possible in all areas of the park.

Scenic resources are mapped using the Recreation Opportunities Spectrum (ROS) to describe the setting, critical viewpoints as well as potential visual screening requirements. At Cottonwood Canyon, the ROS is a three-point scale, where Class I is a Primitive setting (trails, wild landscape), Class II is a Natural setting (fields, roads, trails, natural appearance predominates), and Class III is a Rural setting (occasional homestead, dirt roads, fields, natural features and appearance). These recreation settings have been applied to Cottonwood Canyon based on natural, cultural, and scenic surveys that describe the quality of the landscape. Cultural resources are also considered and mapped in terms of high to low probability, as well as examined for their eligibility for the National Register. Cultural and scenic areas are then considered in regard to appropriateness and ease-of-access for public recreation opportunities. The proposed park can then emerge as a set of planned experience areas and settings based on the character of the land (or potential character), which includes, but is not limited to waterways, habitat, topography, cultural associations, recreational activities, viewpoints, wildlife, geology, soils, architecture, and so forth.

Cottonwood Canyon is a "state park" class property on a federally-designated Wild and Scenic River and State Scenic Waterway, meaning that it is intended to have extensive, high quality habitats and scenery that can be accessed and supported by moderate to limited recreational activities and park facilities. Cottonwood Canyon needs to also serve as a gateway to the John Day River for the surrounding region. By providing moderate to limited recreation facilities at the park, visitors can explore the more remote areas of the canyon bottomlands and ridge tops through up to 50 miles of rugged trails. From the public meetings the protection and restoration of the park resources was viewed as a priority. Ranching practices along the bottomland has led to the degradation of ecosystems. Conservation and restoration projects for habitat, wildlife and fish were viewed as priority implementation projects to improve conditions at the park. Retaining some elements of the former ranching operation was also seen as a way to preserve traditional ways of life in the park. There was general consensus that this would work best in either Esau or Hay Creek. There was also very strong consensus that while recreational access to the canyon and John Day River has been a traditional pursuit for many decades now, it needs to be carefully managed and limited to protect the resources. The opportunity areas shown in this plan therefore reflect the first priority is to improve natural resource conditions, while allowing recreation opportunities is the second priority. Proposed developments have been located to avoid precluding long-term resource management decisions.

The opportunity areas shown in this plan reflect the first priority to improve natural resource conditions.

Opportunity areas in the park are based on information derived from:

- Composite natural resource values;
- Hazards, topography, soils;
- Cultural resources, if any;
- Landscape character;
- Important views and viewpoints;
- Roads, utilities and existing facilities;
- Recreation (and interpretive) opportunities at the park;
- Operational needs; and
- Opportunities/constraints outside the park boundary.

The Opportunity Area Map shows the most appropriate places in the park to provide for resource protection and different levels of recreation compatible with that goal. (See the Composite Natural Resource Values Map in Chapter 3, for locations of the low to high value resources.)

- Areas with high natural resource values are protected and need to be conserved through monitoring. Only trails and hike-in dispersed camping are likely to be considered. (Mostly Level 1 and 2 on the Composite Natural Resource Values Map.)

- Areas with moderate natural resource values can be considered for resource enhancement. This often combines a mix of conservation and restoration with priorities established for actions. These areas are sometimes considered for recreation activities if the location has favorable slopes and soils, and is convenient or interesting, but will be generally limited to trails, dispersed camping, and moderate recreational impacts such as small camping or minor day-use areas, and trailheads. (Mostly Level 3 on the Natural Resource Values Map.)

- Areas with poor natural resource values will require extensive restoration and intensive weed eradication. Priorities for weed eradication are combined with restoration projects to improve habitat condition.

If these areas have favorable slopes and soils, acceptable risk from hazards and cost-effective access to roads and utilities they can be considered for a wide variety of recreation activities (Mostly Level 3 or 4 on the Composite Natural Resource Value Map.)

- Parks are also assessed for important cultural resources (including historic and/or prehistoric and/or above or below ground). A cultural landscape assessment is completed to determine the significance of the cultural resources and compared to the Composite Natural Resource Value map. The resulting assessment leads to strategies for preserving cultural resources and likely areas for facility consideration to identify the opportunity areas for the park.

A total of nine opportunity areas were identified for Cottonwood Canyon. They are organized into three groups: primarily natural, primarily recreational and mixed.

Opportunity Area	Primarily Natural	Primarily Recreational	Mixed
1: Bull Canyon	■		
2: West Entrance		■	
3: Esau			■
4: Gooseneck Overlook	■		
5: Rattlesnake Canyon	■		
6: Mile 33	■		
7: Hay Creek			■
8: Canyon Overlook			■
9: Uplands	■		

1) Primarily Natural Areas,
2) Primarily Recreational Areas and
3) Mixed Natural/Recreational Areas.

Primarily Recreational Areas are identified with careful consideration for impairment of resources through proposed recreational uses and supporting facilities. Through the composite mapping process the recreation areas have been located in areas where the natural resources are degraded. Therefore, concepts for these areas will include native plantings and other treatments that improve the setting, habitat and experience of these areas and blend them with the surrounding ecosystem as fully as possible.

Primarily Natural Areas

Opportunity Area 1: Bull Canyon

This area includes the floodplain and terraces of the John Day River, the area upstream of Cottonwood Bridge and land adjacent to the Wilderness Study Area. Its natural landscape primarily consists of riparian fringe, big sagebrush steppe, grassland, off channel wetlands, and gravel bars, as well as severely degraded former agricultural or overgrazed land. The current overall condition is poor and contains potential for the highest area-wide restoration.

There is an outstanding view upriver from Cottonwood Bridge. This view is symbolic of the park as well as the Lower John Day River Basin. The John Day River can be seen snaking through lush bottomlands, which quickly give way to steep sided canyon walls with protruding layers of volcanic rock. The deep red, brown, and orange of the canyon walls are in stark contrast to the bright green of the vegetation below and the sky above. The colors and scale leave the biggest impression, highlighting the vast size of the canyon and the forces that work upon it.

Two existing trails lead upriver from the bridge on either side of the John Day River and support traditional river activities like fishing and hiking. Paddlers passing through are able to use designated BLM overnight camping spots. The strong sense of solitude and the minimum human impact in this area means that it can be described under the ROS category as a Class II (Natural Setting).

Access upriver from Cottonwood Bridge is limited; visitors can hike a few miles along the north side and south side of the river before they encounter the steep canyon walls that run straight down into the river. Only when the river is fordable is it possible to continue upstream. The best opportunities these two trails afford are for short hikes and wildlife viewing, or for access to fishing and hunting grounds. At the terminus of the trail on the north side of the river, there is an existing boat landing area.

Opportunity Area 6: Mile 33

This area includes much of the floodplain and terraces of the John Day River downstream of Esau and upstream of Hay Creek. It contains riparian fringe, big sagebrush

steppe, grassland, off channel wetlands, and gravel bars, as well as severely degraded formerly agricultural or overgrazed land. The major view in this area is from the river, looking downstream towards Hay Creek. The view is framed by the narrowness of the canyon and almost vertical rock walls. Passing through this three-mile stretch, the views turn upwards toward the geological rock features and the height of the canyon walls.

With no trail on the south side and a private in-holding on the north side, this area is very inaccessible. The in-holding is well-screened and this section is scenically the most primitive in the park. It can be described under the ROS categories as a Class I (Primitive Setting). Access to this area is very limited and there is no access from the south side of the river. The trail on the north side terminates shortly after leaving the Esau area. The river trail is the only way to pass through the Mile 33 Management Zone from Esau to Hay Creek when travelling along the canyon bottomlands.

Opportunity Area 4: Gooseneck Overlook

This area centers on the large ridge that makes a sharp curve in the John Day River Canyon. The area extends from the low-lying floodplain and terraces of the John Day to the ridgetop, and also includes a strip of sloping land that connects to the site of the Murtha Homestead. Its natural landscape consists primarily of grassland, rocky slopes and talus, cliffs, sagebrush shrub-steppe, rigid sagebrush, dwarf shrub-steppe, and weedy overgrazed areas. The current ecological condition is variable from poor near the bottomlands, to nearly pristine in the rigid sage dwarf shrubland, along the cliffs and the inaccessible rocky slopes.

The Gooseneck Overlook is named for the 270 degree view it provides of the canyon from a distinctive gooseneck bend in the river. The spectacular walk along the ridgeline to the overlook affords some of the park's best views of the canyon below and of the John Day River. The ridgeline is very exposed and the visitor is far removed from the canyon below. Beyond the park, the exposure enables views of the surrounding country including wind turbines and distant volcanic peaks. For these reasons, the area can be described under the ROS categories as a Class II (Natural Setting). Recreation in this zone is limited to hiking due to the fragile, relatively undisturbed habitat.

When reviewed comprehensively, the plan can address OPRD dual mandate in a balanced fashion: protecting and improving the park ecosystem while providing for recreational access.

Opportunity Area 5: Rattlesnake Canyon

This area includes Rattlesnake Canyon, Esau Canyon and a number of smaller side canyons that converge at the mouth of Esau Creek. The steep side-canyons and pasture in the Rattlesnake Canyon area afford varied habitat, including areas of weedy vegetation, sagebrush shrub-steppe, rocky slope, talus, cliffs, grassland, and rigid sagebrush dwarf shrub-steppe. The condition is largely poor due to past grazing pressures, but nearly pristine habitat associated with inaccessible areas and/or areas of rigid sagebrush do exist.

There is no dramatic overlook in this area, rather the canyons reveal close views of geological or natural features like a seasonal waterfall or interesting rock outcropping. The remoteness and ruggedness of this area with very few signs of human activity mean this area can be described under the ROS categories as a Class II (Natural Setting). The Rattlesnake Canyon area can only be accessed by trail from Esau bottomlands, which connects with JS Burres and Hay Creek. All the existing trails leading up the side canyons eventually return back to the river via Esau. Opportunities in this area will focus on hiking, biking and equestrian. There are also excellent opportunities for wildlife viewing and the terrain is popular with hunters.

Opportunity Area 9: Uplands

This is one of the largest and most remote areas of the park. It includes all the terrain above the floodplain and the terraces of Hay Creek and the John Day River except those that are within other areas such as the Gooseneck Overlook, Canyon Overlook, Rattlesnake Canyon, or the slopes surrounding lower Hay Creek. This area is made up of rocky slopes, cliffs, grassland, sagebrush shrub-steppe, and rigid sagebrush dwarf shrub-steppe, and small seeps, draws and intermittent streams. Conditions within the area vary according to location. Some areas are pristine or nearly pristine and constitute the highest priority for weed control and eradication. Wetland types are extremely important wildlife habitats within this area. Where degraded, these areas are also of highest relative priority. Overall, however, management within this area is lower in priority than many other areas within the park.

The steep side-canyons and uplands make up the major backdrop of the park. These areas are the most difficult to

access. There is no single viewpoint in this area, rather the steep canyons frame views of geological or natural features like a seasonal waterfall or interesting rock outcropping. From the uplands, there are many views from the canyon rim to the bottomlands below. The ruggedness of the landscape with few signs of human activity means this area can be described under the ROS categories as a Class II (Natural Setting).

The Uplands area can only be accessed by trail from the potential trailheads at the Murtha Homestead, JS Burres or Hay Creek. All the existing trails leading up the side canyons or along the rim of the canyon eventually return back to the river. Some of the existing trails dead end and visitors have to return using the same trail. Opportunities in this zone will focus on hiking, biking and equestrian use. There are also excellent opportunities for wildlife viewing, and the terrain is popular with hunters.

Primarily Recreational Areas

Opportunity Area 2: West Entrance

This area includes the floodplain and terraces of the John Day River that are downstream of Cottonwood Bridge. The primary former Murtha Ranch homestead is also within this area, which is the most developed and human-modified area of the park. These areas include multiple buildings and other man-made structures and landforms that have altered the natural landscape. The current overall condition of natural resources is poor, and contains some of the highest area-wide restoration priorities.

Views of up and down river can be seen from Cottonwood Bridge as it crosses the John Day River. The main opportunities for day use and overnight opportunities at Cottonwood Canyon are at the former Murtha homestead and existing JS Burres day use area. These areas can be accessed by roads on either side the bridge; the homestead and the pasture fields with fence lines are typical of the traditional ranching landscape along the John Day River.

The steep canyon walls with exposed rock faces encase the working landscape of the bottomlands to display not only a geological timeline that goes back 15 million years but the ranch vernacular of the region. From the Murtha homestead, the view downriver leads to a sharp bend framed against the rock canyon wall. This area can be describing under the ROS categories a Class III (Rural Setting). The former Murtha homestead has the potential to be the major gateway to the park. The existing JS Burres day use area is a major egress point for paddlers on the John Day River. Currently, up to 50 vehicles at peak periods use the parking lot that provides access to the river.

Primarily Mixed Areas

Opportunity Area 3: Esau

This area includes part of the John Day River floodplain and its terraces below the point of the Gooseneck Overlook's ridge; the mouth of the Esau Canyon and Rattlesnake Canyon complex; and convergent side canyons. The existing habitat types in this area include weedy fields, big sagebrush shrub-steppe, riparian fringe, off-channel wetlands, and gravel bars. The current overall condition is poor, and this area contains some of the highest park-wide restoration needs for natural resources.

The river, including numerous associated ox-bows and secondary channels, forms many small islands that offer excellent opportunities for wildlife viewing. The bottomlands open up to reveal sweeping panoramas of the canyon both up and downriver. The openness of the canyon at Esau and the few trails that pass through create a very natural setting where only the pasture fields indicate any signs of human settlement. There is no single viewpoint in this area, rather it is the openness that allows many panoramic views. Overall, there is a strong sense of quiet and solitude in this zone. Visitors would be far removed from the potential park gateway areas and there are few signs of human habitation. This area can be described under the ROS categories as a Class II (Natural Setting).

Esau can be accessed by trail from either the north or south side of the river. The existing trails to the west lead to JS Burres and the Murtha homestead; the trail leading east on the south side of the river leads up into Esau and Rattlesnake Canyons. It is only possible to cross the river during the fording season. Due to the remoteness of the location, only primitive overnight camps and trails should be considered at Esau.

Opportunity Area 7: Hay Creek

The Hay Creek area encompasses the floodplain and terrace of Hay Creek and adjacent reaches of the John Day River, in addition to portions of the adjacent canyon slopes. Restoration work on natural resource projects has already begun in several areas. Controlling weeds, reestablishing the riparian area and restoring big sagebrush in the bottomlands will improve the habitat in this area.

From the site of a former Murtha Ranch house there is an outstanding view up and downriver as it is one of the

few locations where the canyon opens out and a broad panoramic view of the bottomlands is possible. From this vantage point it is possible to see Hay Creek run down a side canyon before opening up at the confluence with the John Day River. A walk along the edge of the John Day River affords views upriver into the Mile 33 Management Zone, one of the most remote and rugged. The agricultural history, continued use for traditional recreation activities and road access mean this area can be described under the ROS categories as a Class III (Rural Setting).

Opportunity Area 8: Canyon Overlook

This area is mostly centered on a large ridge overlooking the John Day River Canyon upstream of Cottonwood Bridge. It contains grassland, rocky slopes and talus, cliffs, sagebrush shrub-steppe, rigid sagebrush dwarf shrub-steppe, and weedy overgrazed areas. Ecological condition is variable from poor at lower elevations on deeper soils and near agricultural fields, to nearly pristine in portions of the rigid sage dwarf shrubland on top of the ridge, as well as in the cliffs and inaccessible rocky slopes. Because of the pristine conditions on the ridgetop, which is easily accessible and currently threatened by encroaching weeds, this area contains some of the most important park-wide restoration priorities for natural resources.

The Canyon Overlook is named for the spectacular views it provides into the Wilderness Study Area. There are opportunities for walking along the top of the ridge, where there are several locations that allow views into deep segments of the canyon, highlighting interesting geology along the John Day River. The ridgeline is very exposed and the visitor is far removed from the canyon below. Beyond the park, the exposure enables views of the surrounding country including wind turbines and distant volcanic peaks. For this reason the area can be described under the ROS categories as a Class II (Natural Setting).

Conclusion

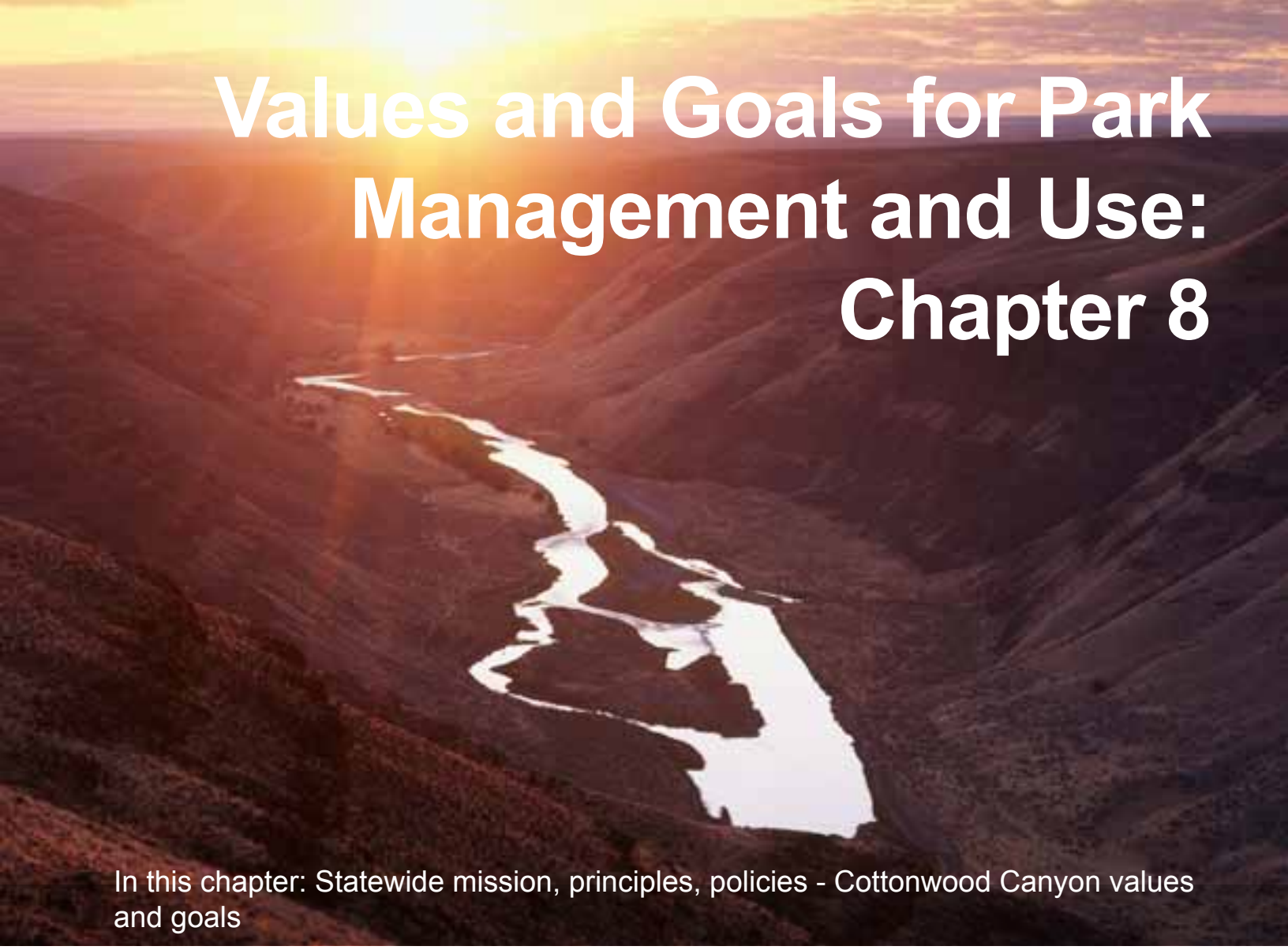
These nine opportunity areas spread across major classes create zones within the park that have different priorities for natural and recreational management. Recreation at Cottonwood Canyon is only possible and sustainable when the natural resource is in good enough condition to support it, so more areas inside the park name natural resource management as the top priority.

Recreation, especially hiking, hunting and other low-impact pursuits, reveal the park's grand vistas and natural resources. Some areas of the park are will not support all kinds of recreation, especially sensitive riparian areas and the steeper slopes with shallow soils. As more areas recover from their currently degraded state, recreation in the park will improve (particularly in the Mixed Opportunity Areas).

These three groups—Primarily Natural, Primarily Recreational, and Mixed—combine with the values and goals in Chapter 8 to produce park-wide strategies and operational requirements in Chapter 9, leading to more detailed park improvements and management actions in Chapter 10.

Photo 7.2 Red-tailed hawk, OPRD 2010

Values and Goals for Park Management and Use: Chapter 8



In this chapter: Statewide mission, principles, policies - Cottonwood Canyon values and goals

Photo 8.1 John Day River Canyon at Sunset, OPRD 2010

An Ideal Park

Before restoration crews plant one seedling, before designers sketch one trailhead or picnic area, and even before the Oregon State Parks and Recreation Commission votes to bring a new state park like Cottonwood into existence, the agency faces a more fundamental question: why? What is it about Cottonwood Canyon that compels the investment of time and money? Why this place?

Most Oregonians experience the outdoors as a utilitarian fact. The ground beneath their feet passes without notice as they walk from their front door to a car, from the car to work or school or grocery store. Nearly any outdoor space can fulfill these mundane functions by possessing very basic characteristics.

To become a state park, however, an outdoor space has to pass over a much higher bar—one set by the ideal qualities Oregonians collectively admire about their natural environment. In this plan, we refer to this collective regard for a particular ideal as a "value." By asking "Why a park here?" OPRD has an opportunity to create goals based on big ideas. Park values draw a line in the soft soil; they warn us when we are considering actions that could move us further away from the ideals that set state parks apart from other kinds of outdoor spaces.

Describing those ideals begins with the agency mission, filters down into principles contained in the Centennial Horizon vision document, and then to statewide policies for natural resources, recreation, and cultural resources. This background allows us to describe the values for Cottonwood Canyon, and turn those values into goals for the park.

If we accept natural, rugged areas are important to the identity of Oregon, OPRD can best fulfill its role as a steward by setting a goal to preserve and restore areas inside

the park that have fallen short of that ideal. It must design and locate recreation facilities in a way that supports that goal, and pursue strategies and actions that close the gap between where the park is now and the ideal condition particular to this region.

This chapter draws a connection between the Oregon Parks and Recreation Department mission, Centennial Horizon Principles, and policies—statewide guidance discussed in Chapter 4 that affects the entire state park system—and Cottonwood Canyon's specific values and goals (Figure 8.1). Chapter 9 takes these park values and goals a step further by converting them into park-wide strategies, services and programs. Chapter 10 divides the park into manageable zones, each with a slightly different mix of natural and recreation priorities. Each zone therefore, has a series of concepts, strategies, and management actions that are tied to the setting and resource needs for that location.

Oregon Parks and Recreation Department Mission

Provide and protect outstanding natural, scenic, cultural, historic and recreational sites for the enjoyment and education of present and future generations.

Statewide Principles from Centennial Horizon

1: Save Oregon's Special Places.
2: Connect People to Meaningful Outdoor Experiences.
3: Take the Long View and Make Parks Last Forever
4: Engage People Through Education and Outreach
5: Build a State Park System with Vision
6: Attract and Inspire Partners
7: Prioritize Based on the Vision
8: Tend the System with People who Love their Work

Statewide State Park Policies

Natural Resources
Preserve and protect Oregon's natural landscape. Manage park properties to enhance the natural ecological processes that sustain natural resources in balance with current and future outdoor recreation interests. Favor biodiversity, reduce ecological fragmentation, and promote native species.

Recreation
Foster appreciation and enjoyment of outdoor recreation resources by conserving, developing and maintaining waterways, scenic roads, highway corridors, trails, natural areas and parks.

Cultural Resources
Foster an understanding and appreciation of the cultural resources entrusted to the agency through research, treatment and interpretation. Consider cultural resource preservation as an intrinsic form of sustainable conservation.

Figure 9.1: Cottonwood Canyon Values

Park Values	Centennial Horizon Principles								Statewide Park Policies			Park Goals
	1	2	3	4	5	6	7	8	Natural	Recreational	Cultural	
1: Protecting a natural, rugged place.	•	•					•		•			Page 85
2: Accessing the natural landscape.	•	•	•						•	•		Page 85
3: Enjoying outdoor recreation.		•		•	•					•		Page 87
4: Honoring traditional use.	•	•	•							•	•	Page 88
5: Preserving the complete history.	•	•	•								•	Page 88
6: Integrating natural and historic perspectives.	•	•		•		•			•		•	Page 89
7: Strengthening ties to the community.	•	•		•		•	•	•			•	Page 89

Natural Resources

COTTONWOOD VALUE 1:
WE VALUE COTTONWOOD CANYON AS A NATURAL AND RUGGED PLACE.

Related Chapter 9 Strategies
- 9.1 Natural Resource Management
- 9.5 Operation

This is the predominant value for the park. All other values are balanced to be compatible with Value 1. Preservation of the park's outstanding natural and cultural resources is a top priority. To meet the needs of park visitors, places for recreation are carefully chosen to avoid obstructing park natural resource management and protection.

Four major goals supporting Value 1 are described below. Each goal details examples of actions that protect Cottonwood Canyon as a natural and rugged place. Actions are here for reference only, to illustrate the kinds of activities that qualify under each goal. Before any action is implemented, it must be evaluated to determine if it truly benefits either a park resource or the visitor experience, and then be supported with a scope, budget and schedule.

Goal 1.1. Protect and improve the canyons' natural systems using innovative measures.

- Implement new, large-scale weed control measures along roads, trails and in the bottomlands.
- Evaluate the effectiveness of weed-control measures and investigate ways of improving weed-control methods.
- Look to partner with other agencies to study and understand the effectiveness of different approaches.

Goal 1.2. Restore the land, rivers and creeks, and especially the fertile boundary where they meet, to prime health.

Major restoration projects are being undertaken in the canyon that will probably take at least 100 years to complete. However, visitors will begin to see the effects of the initial efforts when the park opens in 2013 since projects have already begun.

- Work with fellow agencies and other partners to restore riparian forest along the river and associated bottomlands to improve fish habitat along Hay Creek and the John Day River Pond.
- Restore the riparian forest along the river. The forest will be primarily willow and white alder, as well as cottonwood. Riparian shrubs along the water's edge will include hackberry, mock orange and chokecherry. Some areas of the bottomland will support a wider band of forest vegetation such as the woodland habitat patches at Hay Creek.
- Restore the canyon bottomlands, focusing on incremental restoration of the big sagebrush steppe and basin wildrye prairie flats. In addition, plant hackberry trees at sparse intervals along the bottomlands, which will support restoration and also provide shaded resting areas along trails.
- Reintroduce Threatened and Endangered (T&E) species for which suitable habitat exists, and enhance and restore wetlands that may have been filled or drained for pasture. As aquatic restoration projects progress, this will include reestablishing early seral and riparian marsh plant communities on gravel bars, gently sloping banks, backwaters, and islands.

Goal 1.3. Delineate the canyon's wildest and most sensitive habitats for exclusive environmental protection.

- Conservation zones within the park are identified to protect T&E species and important habitats. Only very limited recreation will occur in these areas.

Goal 1.4. Learn how to protect park wildlife, their habitats and migration paths wherever possible.
The current planning effort has developed a baseline for understanding resources in the park. After the park opens monitoring will begin, which will lead to the fine-tuning of existing plans and developing new plans for future restoration and conservation projects.

- Develop GIS base line information with temporal data.

Natural + Recreational Resources Overlap

COTTONWOOD VALUE 2:
WE VALUE COTTONWOOD CANYON'S LANDSCAPE, ITS NATURAL CHARACTER, AND THE ENJOYMENT IT BRINGS TO THE LIVES OF THOSE WHO EXPERIENCE IT.

Related Chapter 9 Strategies
- 9.3 Scenic Resource Management
- 9.4 Park Recreation Strategies
- 9.5 Operations

This value describes the importance of allowing access to Cottonwood Canyon in order to develop and sustain an appreciation of its remarkable beauty and wildness. This is balanced with protecting the natural and scenic resources that each visitor is there to experience.

Three major goals support Value 2. Each goal details examples of actions to take in order to allow people to enjoy Cottonwood Canyon's wild landscape while protecting its resources.

Goal 2.1. Create key opportunities for the canyon to teach us that we are all part of one natural system.
A multi-layered approach is required to ensure that the incredible beauty and rich natural history of the area is shared with a wide range of age groups and abilities.

- Create an interactive website, including mobile phone support, to describe the natural and cultural resources of the park. Help visitors learn about what makes Cottonwood Canyon a special place.
- For visitors who might not be comfortable with exploring the rugged setting on their own, concessionaires will offer guided rafting or pack trips down the river into remote hike-in camps to provide confidence-building experiences.
- Environmental education programs for school groups will be offered in the park by partners with OPRD. For example, wildlife viewing days will include watching and photographing bighorn sheep, owls and other wildlife from a wildlife blind.
- Organize work parties for volunteers interested in doing conservation work, or learning about protecting native plants in the area will support ongoing conservation efforts.
- Present interpretive programs. This can include local community members from Grass Valley, Hood River and Portland will team up with park staff and agency partners to reintroduce T&E species working and improve watershed management. The students will create a curriculum to teach other kids about their activities.
- Develop a Cottonwood Biodiversity Inventory program in the canyon flatlands , and include volunteer scientists, taxonomists, and interns. Provide outreach educational services to teachers and students through creative media and teaching materials as well as site visits to the canyon for personal discovery of the world around them.
- Develop on-site media including interpretive panels and brochures.
- Add interpretive trails at the Murtha Homestead day use and overnight area as well as at the Hay Creek day use.
- Offer Junior Ranger programs— such as learning fish names and identification—for youth ages six to twelve years of age.

Goal 2.2. Reveal the ongoing cycle of nature at Cottonwood Canyon by offering opportunities for experiencing its geology, plants, and wildlife.
There are cycles at Cottonwood Canyon that are not easily understood unless you live there. Revealing these cycles to the public will give them a greater understanding of how the John Day River functions and the benefits it brings.

- Build a significant photographic library across all seasons of the year and document what's there in a web-based nature survey of plants and wildlife for use by department staff and the public.
- Support collaboration with local schools, including creation of student videos to tell the stories of the park following environmental education programs.
- Install a canyon-bottom environment monitoring station at Hay Creek to document the impacts of climate on river activity, alpine plants, and animals.
- Use site planning to accentuate and preserve the canyons' natural beauty.
- Offer visitors easily-accessed landscape viewing opportunities so they can enjoy short hikes to designated photo opportunities. Since the park contains a variety of wildlife (including one of the largest herd of bighorn sheep in the state) and nesting raptors in the canyon, plan for opportunities to allow the public to view wildlife in the area.
- Present interpretive programs on park natural history.

Goal 2.3. Encourage understanding and appreciation of the canyon landscape's natural beauty.

- Hold workshops with guest speakers on outdoor skills, fly fishing, birding, geo-caching, and nature photography.
- Conduct elders/kids workshops in local communities during shoulder season to create educational products such as video casts, plays, and postcards to share with community members and town visitors.
- Conduct Audubon Christmas Bird Count to gain information on birds in the park that can be used in both interpretation and management.
- Offer interpretive astronomy programs.
- Provide interpretive programs presented by OPRD rangers that include guided walks.

Recreation

VALUE 3: WE VALUE OUTDOOR RECREATION AT COTTONWOOD CANYON AND THE CONTRIBUTION IT PROVIDES TO A HAPPY, HEALTHY, STRESS-REDUCING LIFESTYLE.

Related Chapter 9 Strategies
- 9.3 Scenic Resource Management
- 9.4 Park Recreation Strategies
- 9.5 Operations

This value is about our health as a community, both mentally and physically and the joy outdoor adventure brings. Recreation at Cottonwood Canyon will always be limited to only providing for opportunities that treat lightly on the land and respect the ruggedness of the canyon.

To support Value 3, four major goals are described below. Each goal details examples of actions to take in order to allow people to experience the highest level of recreation at Cottonwood Canyon.

Goal 3.1. Create a place where recreation easily coexists with the wild landscape.
The remoteness of Cottonwood Canyon affords an opportunity to provide experiences for the visitor that they would not typically have at other state parks. This remoteness leads to experiences that can be inspiring based upon the natural beauty of the canyon and everything it contains.
- Help visitors plan two-to-five day journeys by horse, raft, mountain bike or foot, including remote camping and night sky viewing .
- Provide wildlife viewing opportunities.
- Communicate safety messages through media.

Goal 3.2. Allow people to enjoy rich, novel, diverse outdoor play.
The John Day River can be explored in ways that tread lightly on the land. Many of these have already been established through previous planning efforts by the BLM and their partners. OPRD will continue these activities and look to use Cotton Canyon as a gateway to the John Day River for those who are interested in recreation opportunities that tread lightly on the land.
- Allow for a "wilderness" gateway on the edge of the park that safely introduces visitors to the park before they are immersed in the wild landscape
- Offer programs that promote outdoor recreation such as backpacking, birding, fly-fishing, cross-country skiing, and canoeing.
- Offer instructions in wilderness ethics and camping at the park entrance.
- Open the park for the possibility of alternative Discovery Season (October-April) uses - Cross Country Skiing, Hunting, etc.
- Offer concessions for guided boat or raft trips with nature or history experts on-board.
- Coordinate with scenic bikeways to send cyclists from Portland, through Cottonwood Canyon, to Condon or Wasco.
- Employ Cottonwood Canyon volunteers who can use the Junior Ranger and Young Scientist programs, to reach children within 100 miles of the park.
- Encourage new trail users by creating a geocache and/or earthcache trail.
- Use the official 'Let's Go Camping' model to attract new campers to recreation adventures.

Goal 3.3. Provide places where visitors can become part of the canyon in a wide variety ways.
Cottonwood Canyon affords a rare opportunity for visitors to escape from what is often referred to as the "pace" of modern living. Recreation opportunities will be provided for visitors that will allow them to slow down and appreciate a slower pace of life. Examples of actions resulting from this goal include:
- Provide remote-area hiking with a trailhead registration book where visitors can take a 1-2 person tent, find a remote site to enjoy night skies, a small campfire and solitude.

Goal 3.4. Welcome Oregonians with a passion for both traditional and newer outdoor pursuits.
There are traditional outdoor pursuits that Cottonwood Canyon has supported for two or three generations.
- Support a reasonable level of canoe, kayak, and raft trips on the John Day River.
- Support overnight group fly-fishing expeditions.
- Support day-hiking along the flatlands in solitude to allow visitors to enjoy the unbroken silence of the canyon.

Goal 3.5. Create a gateway to the park that supports the various types of recreation activities that will occur at Cottonwood Canyon.
The gateway to the park will enable visitors to get an overview of what the park is all about. It will also support the major day use, overnight and operational- needs
- Support major day use activities at the former Murtha Homstead, including a welcome center, gathering area for education programs, cabins, campground and a group use area.
- Offer small-scale equestrian camping at JS Burres, as well as boat-in and hike-in camping near Esau.

- Create minor day and overnight use areas near the confluence of Hay Creek

Cultural + Recreation Overlap

VALUE 4: WE VALUE THE TRADITIONAL ACTIVITIES THAT HAVE BEEN ENJOYED AT COTTONWOOD CANYON FOR GENERATIONS.

Related Chapter 9 Strategies
- 9.2 Cultural Resource Strategies
- 9.4 Park Recreation Strategies
- 9.5 Operations

The park will accommodate traditional activities that locals have spent generations enjoying. These pursuits including hunting, fishing and grazing cattle are tied to how people have lived in the canyon and will continue after the park is opened so visitors can also experience the resilience of the land.

To support Value 4, two major goals are described below. Each goal details examples of actions to take in order to allow people to discover and understand the valuable resources at Cottonwood Canyon.

Goal 4.1. Fit park areas into the existing working landscape so traditional farming practices can continue.
Local traditional farming practices can continue in the park through agreements with adjacent landowners who graze cattle and grow wheat.
- Set aside areas that showcase best grazing and weed management practices in the region to help visitors learn about local land stewardship.
- Manage a ranching concession with programs for volunteers who will learn about the working landscape.
- Help visitors find an authentic western experience through horseback or cattle herding instruction from a local community member.

Goal 4.2. Celebrate our reliance on the land and its ability to produce food, water and shelter.
Local traditional farming practices can continue in the park through agreements with adjacent landowners who graze cattle and grow wheat.
- Manage hunting for seasonal game/upland birds.
- Allow fishing for seasonal fish species.

Cultural

VALUE 5: WE VALUE COTTONWOOD'S HISTORY AND EXPERIENCES, FORCES THAT HAVE SHAPED THE LANDSCAPE AND OUR UNDERSTANDING.

In order to allow people to discover the valuable resources at Cottonwood Canyon we must understand the history of the place and the people it has shaped.

Related Chapter 9 Strategies
- 9.2 Cultural Resource Strategies
- 9.5 Operations

Goal 5.1 Support education and stewardship opportunities to look to the past and future of the site.
- Use the historic precedents for building on the land to develop new features so that they blend with the existing landscape.
- Incorporate history of the area into interpretive and recreational programs to showcase the park as a gateway to understanding the John Day River.
- Work with the Confederated Tribes of the Warm Springs to highlight traditional ways of seeing the John Day River.

Photo 8.2 Upland Habitat, OPRD 2010

Cultural + Natural Overlap

VALUE 6: WE VALUE THE STORIES, TRADITIONS AND EXPERIENCES THAT HAVE BEEN A PART OF COTTONWOOD CANYON'S LANDSCAPE FOR THOUSANDS OF YEARS.

Related Chapter 9 Strategies

- 9.5 Operations
- 9.4 Park Recreation Strategies

To support Value 6, a major goal is described below. The goal details examples of actions to take in order to honor the experiences that are a part of the park's landscape to encourage stewardship.

Benefits 6.1. Create opportunities for understanding special relationships with the park to encourage stewardship through the generations.

- Invite the Confederated Tribes of Warm Springs and Confederated Tribes of Umatilla to teach first foods to visitors, explain stories behind pictographs, and teach about the history of the area.
- Host a seasonal market in the park with local businesses selling value-added products to allow visitors to experience the region's lifestyle.
- Ask local artist volunteers to paint park landscapes from a vantage point along a trail and invite visitors to chat with artists to understand why a particular location, style, medium was chosen to represent the landscape.
- Incorporate local stories into interpretive programs, and display comments, stories and artwork sent from visitors about the park, to help visitors view the land through a different perspective.

Community Benefits

VALUE 7: WE VALUE HOW COTTONWOOD CANYON CAN STRENGTHEN LOCAL COMMUNITIES AND BENEFIT THEIR ECONOMIES.

Related Chapter 9 Strategies

- 9.5 Operations
- 9.6 Community Partnerships

To support Value 7, three major goals are described below. Each goal details examples of actions to take in order to create a park that will support the strength of the local community and economy.

Goal 7.1. Provide opportunities for local communities to keep a close relationship to the park.

- Cement the park's role as a local resource by providing easy-access day uses such as shaded picnic areas, defined play spaces and swimming.
- Offer group camping facilities for use by local Boy-scout groups, school groups, community groups, etc.
- Partner with other organizations towards a long-term vision to develop Cottonwood Canyon Education Programs that can include a classroom type space through adapting existing structures in the park.
- Research options for partnerships with universities for initial concepts for the Cottonwood Canyon Education Programs.
- Seek out local concessionaires for guided fishing tours, backcountry hiking guides, bird watching guides, etc.
-

Goal 7.2. Generate income for nearby communities through park-related visitor activities.

- Partner with Rural Development Initiatives, a non-profit, to assist nearby communities in preparing for increased visitation and to transition their economies to benefit from the tourism the park will bring.
- Showcase regional products and locally crafted goods at the park welcome center. Make those products available for sale.
- Seek out local concessionaires for guided fishing tours, backcountry hiking guides, bird watching guides, etc.

Goal 7.3. Take a long-term approach to reducing carbon footprint.

- Save money and energy by installing solar panels on maintenance buildings.
- Follow green-building practices when constructing new facilities.
- Connect the park with regional bicycling routes.

Conclusion

These values and goals represent inherent qualities of the park and the way people interact with it. They define its very character. If the park is managed or used in a way that reduces the strength of any of these characteristics, the park's value to the state and region would be diminished. Park design, management and operations must protect and improve on these qualities above other concerns.

In addition, OPRD will continue to work with BLM and Western Rivers towards the best fit for ownership within the boundary of the park. OPRD will also respond to requests from private landowners to consider purchasing their properties, to potentially include inholdings as well as

road and trail connections (including easements) outlined as gaps in this plan. Any acquisition consideration will be from willing sellers, will need to be approved by the OPRD Commission, and appropriate funding priorities identified to complete and acquisition.

The next chapter describes natural, cultural, recreational and social actions which protect and improve these values and goals.

Park Strategies and Operations: Chapter 9

In this chapter: Park Strategies - Strategies for Resource Management - Natural Resource Management Strategies - Cultural Resource Management Strategies - Scenic Resource Management - Park Recreation Strategies - Operations - Community Partnerships and Communication - Phasing Priorities

Photo 9.1 View of the former Murtha Homestead from the banks of the John Day River, OPRD 2010

Park Strategies

As covered in Chapter 8, OPRD's management of Cottonwood Canyon State Park is guided by a set of natural, cultural, recreational, and social values and goals. Protecting these values and goals helps avoid changing the park in an undesirable way. This chapter describes major strategies and guidelines. Natural, cultural and scenic resource management strategies are detailed first (since they are the priority), followed by recreation concepts.

The strategies that will shape Cottonwood Canyon State Park cover six main categories; Natural, Cultural and Scenic Resource Management, Recreation, Park Operations, and Community Outreach. Each of these is described below and provides a summary of intent for how the park will be managed over the coming decades. Based on these concepts and strategies, the following Chapter 10 describes the actions that will fulfill our goals and strategies for the park. Of the six categories, the public has often commented that protecting the natural resources is our most important priority. Without protection the plants and wildlife will not flourish and the opportunities to recreate in the park will consequently be diminished. The public also stated that recreation opportunities should be limited to a light footprint on the land that complements and does not impair the scenic beauty of the area.

These strategies are enacted throughout the park based on a series of geographic management zones described in Chapter 10. Each zone assigns a high to low level of focus for natural, cultural and recreational strategies. For the resource and recreation strategies described in this chapter, the management zones that are assigned a corresponding high level of focus in Chapter 10 are listed for reference.

1. Natural Resource Management Strategies

Highest Priority Chapter 10 Management Zones

- 10.1 Bull Canyon
- 10.2 West Entrance
- 10.3 Esau
- 10.7 Hay Creek
- 10.10 Circulation

The management issues related to the natural environment at Cottonwood Canyon State Park - including the bottomlands, steep slopes, uplands, riparian areas and wetlands - are complex and require substantial investigation, planning and funding. As more site information is acquired over the coming decade, management strategies will be refined. A summary of these strategies developed for the park are described below. Opportunities for restoration are detailed in the following chapter.

Weeds

For all plant communities and habitat types within the park, controlling weeds is paramount to the long-term goal of natural ecosystem management. Early detection of manageable infestations and rapid response is critical for effective and efficient weed management. Initial weed control efforts will focus on the following:

- Control weeds along avenues of dispersal such as roads, parking areas, ditches, trails, and streams. Weeds are currently flourishing adjacent to many of the park's roads and trails. This encourages weed seed to spread via vehicles, socks, dogs, etc.
- Control weeds in areas that are in the best ecological condition and have the highest conservation ranking, to prevent their rapid deterioration. It is much easier to maintain than to restore.
- In the absence of sufficient labor to attack a large infestation, control perimeters of existing weed infestations. This strategy allows for control, but not eradication. Controlling spread is sometimes all that can be reasonably done with limited resources.
- Rapidly occupy growing space cleared of weeds with native plants that can vegetate and dominate the site.

Riverine Aquatic Habitat

John Day River: The active river channel is dynamic and naturally migrates laterally and vertically over time. Most reaches of river within Cottonwood Canyon will be allowed to move laterally under natural conditions without significant intervention. Areas of the river where active river channel management may occur are:

- Where existing or proposed infrastructure must be protected, such as vital access roads; and,
- Where opportunities arise to enhance habitats degraded by past land management practices, such as re-grading and planting steep banks eroding in previously-grazed areas.

Protecting and enhancing river channel complexity in the low gradient reaches of the John Day River will provide greater numbers and diversity of fish and wildlife habitat types. Geomorphologic features (river channel shape) considered beneficial for aquatic habitat diversity include:

- Sinuosity typical for that reach of river
- Bank slopes stabilized by vegetation
- Backwater areas (alcoves, sloughs, seasonal overflow channels)
- Braided channels

Hay Creek: In the river confluence area, moderate quality backwater habitat and dynamic delta formations currently exist. Opportunities remain for increasing aquatic habitat value through the placement of woody debris and other forms of in-stream structures. In the upper reaches of Hay Creek, promoting continued tree planting would definitely be of value.

Riparian Habitat

With very little riparian vegetation along all the water bodies this contributes to compromised water quality (elevated water temperatures) and fish habitat (bank stability, woody debris recruitment) but also reduces the potential for bird and mammal use.

Addressing the above issues will rely on the existing restoration proposal contained in this plan and the collection of more data through a period of monitoring and assessment. This is required before any final decision can be made regarding aquatic issues. Once the data is in place, it may be possible to choose from a series of enhancement options that will best suit the aquatic environment following an adaptive management strategy to increase resource resilience. The appropriate solutions will need to be phased in over a period of decades, but initial strategies should have a marked effect.

Bottomland Management

Bottomland habitat types are the most severely modified habitats in the study area. Most of these stream terraces and floodplains have either been converted to agriculture or to development, or cattle have grazed them intensively. Very little natural, native vegetation remains. What little

Canyon slope and upland habitats are both ecologically important and aesthetically appealing. Their management is essential to the Cottonwood Canyon environment and its biological health.

is left is usually severely degraded by invasive weeds. OPRD management provides the opportunity to restore the ecological quality and function of these important habitats through projects that could:

- Reintroduce vegetation types that have been replaced with agriculture
- Restore habitats degraded by weeds
- Establish vegetation diversity and structure through establishment of trees and tall shrubs
- Restore and protect important off-channel aquatic habitats
- Protect and restore wetland and floodplain condition and function
- Establish tall, woody riparian vegetation where it is lacking and appropriate
- Prevent significant new invasions of weeds
- Monitor ecological conditions and functions to allow for efficient adaptive management approach

Slope and Upland Management

Canyon slope and upland habitats are both ecologically important and aesthetically attractive. Their management is essential to the Cottonwood Canyon environment and its biological health. Current conditions of these slopes are widely variable: some areas are completely degraded by weeds and overgrazing; others are nearly pristine. Degraded areas are likely spreading as the weeds they harbor continue to move through seed dispersal. Most of the weed degradation on the slopes is due to species like cheatgrass and red-stem filaree, which are not easily managed, especially in steep and difficult terrain. Using equipment to control these infestations will be nearly impossible. Management will focus on monitoring and triage. Monitoring will mean periodic reconnaissance for new significant infestations, as well as identification of those habitats that are in the best ecological condition. Triage means assigning limited manual resources to protect the most vital and significant areas, especially those that are currently in the best condition. Triage can result in targeting of emerging infestations of high-priority weeds for eradication, management of the perimeters of less important infestations to minimize their spread, and eradication or control of invasive species in general from the highest priority habitats.

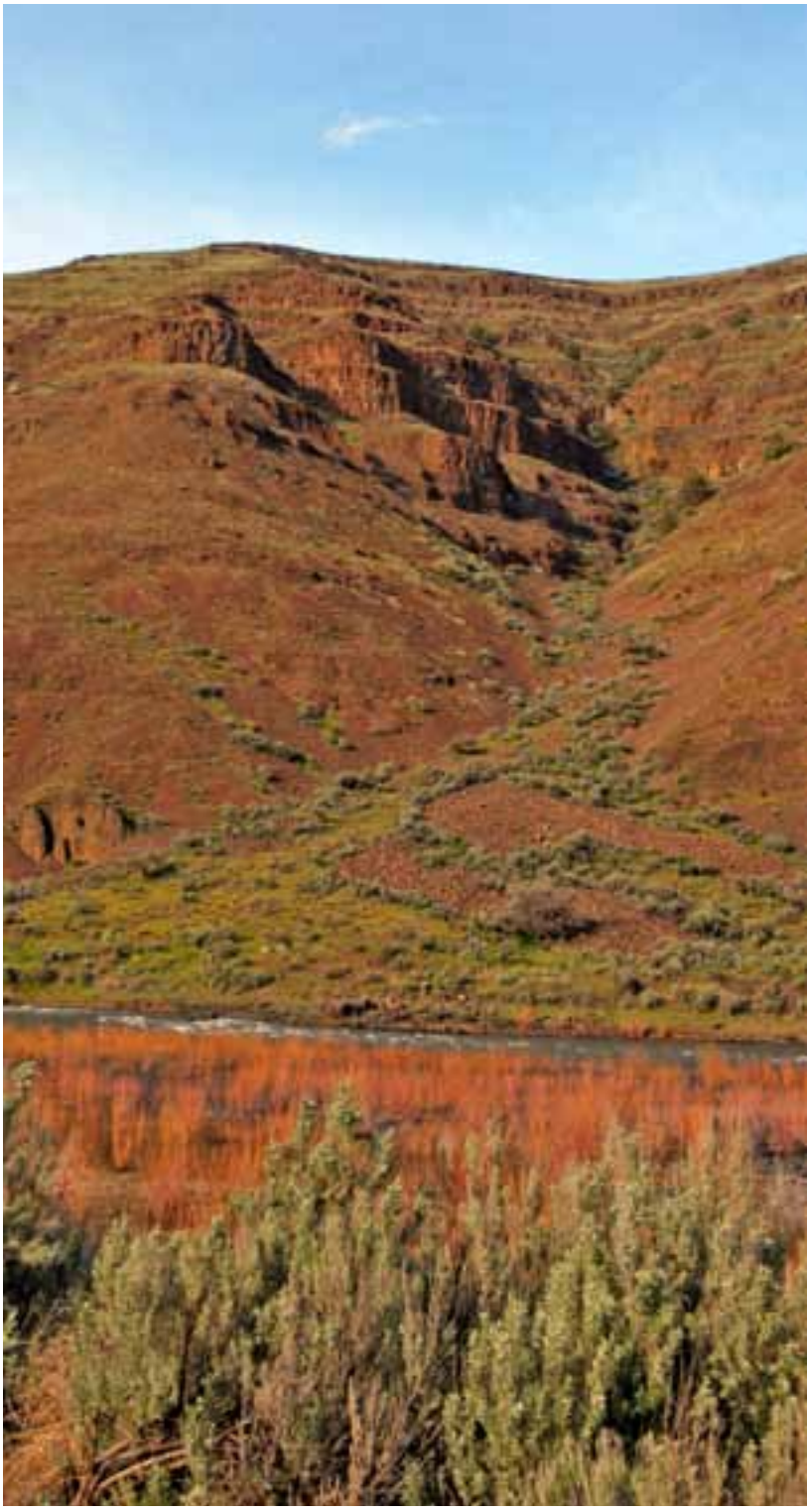


Photo 9.2 A side canyon off the John Day River in Cottonwood Canyon State Park, OPRD 2010

Photo 9.3 Bush wirelettuce growing in a crevice on the steep canyon sides, OPRD 2010

Side Canyon Management

Side canyons provide important habitat for a wide range of species. They are currently degraded by past grazing and agricultural use, as well as by weed infestation. Some side canyons contain vital water sources. Management of side-canyon habitats will be similar to that of the bottomlands in general. Control of invasive species, restoration of big sagebrush habitats, and establishment or restoration of riparian vegetation along wetland/water features will be of high importance. Because many or most of these side canyons are relatively inaccessible to equipment, and ecological management will be done through manual labor, monitoring and triage will be important here as for the canyon slopes above.

Cliff Top Management

Cliff top habitats and high ridgetops are the most pristine habitats in the planning area. Because of their rocky inaccessibility and thin, relatively inhospitable soils, these areas were grazed and trampled much less than areas with deeper soils on flats, slopes, and draws. Many of the ridgetops have trails or roads on them, which are the main vectors of weed spread, and indeed weeds are spreading out from these features now. Management will need to focus on controlling these emerging infestations before they have a chance to consume these rare and important examples of pre-agricultural habitat. Monitoring for new infestations of invasive species, and rapid response to any discoveries will be important into the future. Since these habitats contain rare and important areas of intact biological soil crusts, steps will need to be taken to assure that human trampling does not decimate the ecology that was spared from cattle destruction by sparse forage. In contrast, the views afforded by these high point on the landscape are attractive "forage" for hikers that will be walking the ridges, hungry for views.

Hardwood Forest at Hay Creek Management

The mouth of Hay Creek (as well as a newly planted strip of riparian vegetation along the creek extending to the property line upstream) provides an important forest habitat that is relatively rare in this portion of the John Day River Canyon. The Pacific willow forest at the mouth of Hay Creek is already mature, and appears to be spreading. Riparian forest benefits include shading of off-channel salmon habitat, wood recruitment for the river, and important habitat for birds and other wildlife. Management in this area should consider the option of fostering the expansion of forest habitat in the area, possibly through planting of additional trees and tall shrubs. Forest composition and diversity of species, age, and structure will need to be evaluated to inform forest management strategy for this area, as well as any other forest establishment actions that might be implemented at Cottonwood Canyon State Park. Currently, Hay Creek provides an example and a reference site for other riparian planting in the planning area. Its value extends beyond its current function as a habitat, to a model and reference for determination of what will grow in similar habitats, what wildlife will use it, what ecological benefits it provides, and what management

challenges will arise in riparian forest restoration projects implemented in similar settings.

Power Line Corridors Management

Active corridors: Management of habitat beneath corridors with active power lines will continue similar to the current strategy, including suppression or removal of any vegetation to allow for maintenance access, unless there is an option for relocation or burial of the lines. Control weeds as necessary.

Vacant or decommissioned corridors: Plant trees, shrubs and grasses in densities and species consistent with adjacent communities on similar or identical aspects and elevations.

Adaptive Management Approach

Many of the natural vegetation types present within the park are maintained by patterns of natural disturbance. Important sources of natural disturbance include flooding, erosion, herbivory, and wildfire. It is important that some natural disturbance processes are allowed to continue to create and maintain important habitat types within a framework of public safety and protection of neighboring property interests. The landscape within the planning area cannot be maintained precisely as-is in perpetuity. Habitats need to come, go, and change. Otherwise it will be impossible for the land to provide the range of habitats needed to sustain desirable species of the planning area. This means allowing some ecological processes to periodically destroy natural resource investments such as plantings or stabilized stream banks.

This will be particularly true in riparian environments and flood plains where we should not try to completely and permanently stabilize all banks and prevent erosion processes that perform functions such as providing areas of bare cobble, mud flats, and low shrubland; and providing recruitment of new down wood and gravels for spawning beds. Riparian and aquatic habitats need to be able to be created, destroyed, shifted, and moved to be able to provide habitat for the full range of species that use these features. Similar processes of disturbance and renewal are needed in many areas and management will need to be guided by the principal of adaptively providing dynamic habitats rather than trying to fix everything in its current successional stage and location. This is a difficult task and will involve making site-specific judgments about how to best deal with succession and disturbance in light of investments, neighboring interests, ecological benefits, hazards, and other factors. Management and maintenance decisions will require monitoring of the planning area's ecology and habitats to be able to understand trends toward creation or loss of important target habitats.

Fish and Wildlife Management

All of the diverse environments of Cottonwood Canyon State Park provide important habitat for wildlife; however, certain habitats are more at risk than others. Among the most significant habitats in the planning area are:

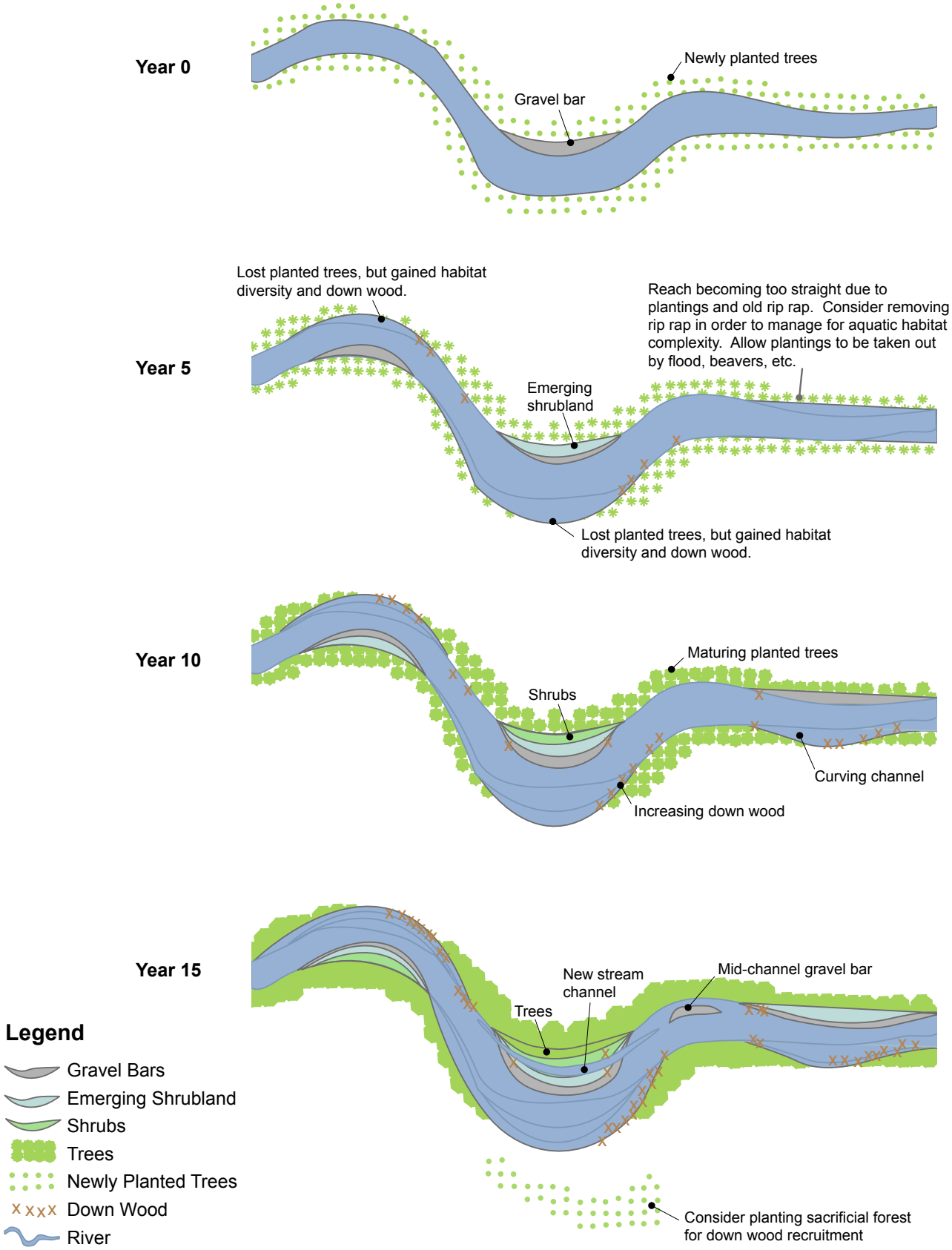
- Aquatic areas, including John Day River, Hay Creek, and perennial streams
- Riparian habitats, including associated off-channel areas
- Upland seeps, springs, and wetlands
- Shrub-steppe dominated by big sagebrush
- Cliffs and talus slopes

While all habitat types will require some degree of management and monitoring, these habitats will be the primary focus of wildlife-related management planning and monitoring. Management of high priority habitats, as well as habitats of comparatively lesser importance, will involve protection of good quality habitat, restoration of degraded habitat, and re-establishment of essential habitats that are lacking. Monitoring will be important to assess threats and adaptively react to them in order to protect these resources over the long term.

Aquatic Species Management: At Cottonwood Canyon State Park, aquatic species management is reliant primarily upon water quality and the structure of the river systems. Current fish populations are monitored and managed by ODFW. The salmonid fish populations are wild stock with no hatchery fisheries within the John Day River, although some hatchery stock migrate into the John Day from other locations. Cottonwood Canyon State Park contains important holding sites for summer steelhead. Park education programs and signage will include information on ODFW regulations in regards to fishing the river. OPRD will also regularly consult with ODFW to ensure the continued health of the fishery.

Because of their rocky inaccessibility and thin, relatively inhospitable soils, cliff top habitats were grazed and trampled much less than areas with deeper soils on flats, slopes, and draws.

Example of a Riparian Adaptive Management Scenario



It will be important to allow ecosystem processes to continue modifying riparian areas. Management should be adaptive and should take into consideration the need for early seral habitats and periodic disturbances. Forces such as flood events, fires, beavers, erosion, and accretion will continue to act on the riparian landscape and provide for the full range of potential natural habitats. Management will not strive to lock habitats into place permanently.

The John Day River's riparian areas will be improved through riparian tree and shrub plantings, which will stabilize erosion and decrease the trend toward steepening banks and a deepening main channel. Hay Creek will benefit from the restoration of a hardwood forest at the delta with the John Day as well as along at least a mile of its length upstream.

Terrestrial Species Management: Many of the terrestrial species within Cottonwood Canyon State Park fall under management of ODFW (Rocky Mountain elk, California bighorn sheep, mule deer, etc.). OPRD will utilize ODFW management plans and regulations as appropriate. For focal species, OPRD will also maintain habitat connectivity within the park as well as to surrounding parcels to the greatest extent possible.

Riparian restoration planned for other purposes will also benefit the full range of fish and wildlife species that can potentially use these environments. Decisions regarding the plants to be used in restoration should take the foraging and other needs of wildlife into consideration, in addition to providing shade, woody debris, and stream stabilization.

Fish and Wildlife Management Strategies: Management strategies will be periodically reviewed and updated in Volume II of the Comprehensive Plan, or in a Natural Resources Management Plan, throughout the duration of the Park's use. The following strategies provide a starting point for adaptive management:

- Promote native wildlife populations and habitat
- Enhance recreational wildlife use
- Minimize wildlife-human conflict

Improving native wildlife populations and habitat will require a series of strategies that will consider a wide range of options. These options will be further developed as more inventory and analysis is completed for the park. The main strategies for fish and wildlife management are:

Riparian Areas:
- Improve riparian habitats along the John Day River and Hay Creek
- Restore and enhance a diversity of habitat including open bars for tiger beetles and migratory shore birds
- Plant and maintain, where possible, a 200-foot wide or wider riparian woodland (black cottonwood, coyote willow, white alder, and shrubs). Riparian zones should be fenced using wildlife friendly techniques to protect plantings (Missoula Technology & Development Center, 1988)
- Minimize new hiking trails through riparian areas that will disturb nesting birds and trampling of vegetation
- Work with local ranchers in areas where restoration plantings are being established. Strategic grazing can be utilized to manage vegetation in the riparian zone

Shrub-Steppe:
- Develop fire management plan to support sagebrush habitat
- Allow natural re-establishment of sagebrush habitats

Waters:
- Provide signs and wash areas for aquatic invasive species control
- Protect springs and seeps
- Control invasive species with the best management practices

Grasslands:
- Maintain existing high quality grasslands
- Invasive plant species control should be a priority
- Utilize cattle grazing as a management tool: remove the over duff in grasslands and improve fall forage for deer and elk (focal species)

Riparian restoration will also benefit the full range of fish and wildlife species that use these environments.

Across all habitats:
- Monitor focal species to determine effectiveness of habitat restoration projects
- Determine location of calving, lambing, and fawning areas; re-assess location of trails and infrastructure once known
- Locate focal raptor species nests and ensure recreational uses will not disturb these areas
- Monitor and survey for new infestations of non-native and invasive species

Minimize wildlife-human conflict:
- Follow existing OPRD policies for trash management, cougar encounters, bear encounters, and other nuisance wildlife

Enhance recreational wildlife use:
- Where compatible with other uses, enhance foraging and reproductive locations for game species
- Where compatible with other uses, provide appropriate fishing access

Water Quality Management
The aquatic environment at Cottonwood Canyon State Park includes the John Day River, Hay Creek, intermittent creeks and isolated wetlands. With the control of livestock grazing from the property and cessation of other agricultural activities that may have formerly contributed to nutrient, pesticide, bacteria and soil runoff into adjacent water bodies, future land and facilities management will employ best management practices that will not contribute to degradation of water quality of potential receiving waters.

Another water quality concern is temperature. Water temperatures in the John Day River throughout most of the basin are considered in excess of water quality standards designed to protect aquatic habitat. Although there is an acknowledged general lack of data, it is reasonable to assume that elevated water temperatures result from solarization due to the lack of riparian plantings along the John Day River and its major tributaries. ODEQ is currently drafting Total Maximum Daily Loads (TMDLs) allocations that are expected to include temperature as a critical water quality-limiting factor. Water quality conditions in the John Day River and Hay Creek should improve as restoration projects are initiated, improving habitat for native fish that are protected by federal law.

Specific enhancement, restoration, conservation and monitoring actions that may affect water quality will be outlined in the management zone section of this plan. OPRD will refine the natural resource planning as monitoring and restoration projects are implemented and assessed over the coming decades.

Irrigation and Water Rights Management
Establishing free-to-grow trees, shrubs and grasses in the Cottonwood Canyon environment without water irrigation is difficult and slow. OPRD will confirm the property's water rights that may be used for irrigating vegetation during and after the initial establishment period. Associated water rights that will be investigated are:
- Supply wells on property at Murtha Homestead and Hay Creek
- Irrigation water from John Day River

Fire Control and Management
OPRD staff is developing a Fire Plan as a decision support tool to help OPRD personnel and decision makers determine the management response to an unplanned ignition. The upcoming Fire Plan will provide a finer scale of information than is possible at the Volume 1 level. For example, the Fire Plan will include detailed on-the-ground descriptions about specific areas throughout the park. No decisions are made in Fire Plans; instead, they are used to provide information about the fire conditions in an area. The Fire Plan for the park will evolve and be revised as conditions change. Lands included in the plan are those administered by OPRD, Western Rivers Conservancy and the Prineville District BLM. Sherman and Gilliam County Fire Chiefs and other effected stakeholders and agency partners such as the BLM will review it.

2. Cultural Resource Management Strategies

Highest Priority Chapter 10 Management Zones
- 10.2 West Entrance
- 10.4 Gooseneck
- 10.7 Hay Creek

Cultural resources consist of historic structures and archaeological sites (both pre-historic and historic), each with their own methods for documentation, evaluation, and treatment. Initial historical research has been conducted on the overall property, and on-site surveys have been conducted in several areas anticipated for park development. To date, while the research and surveys have yielded valuable information for potential interpretation at the park, they have not revealed substantial numbers of truly significant sites that might be eligible for listing in the National Register of Historic Places. That said, the potential for significant properties—primarily archaeological sites—remains high, given the likelihood that the natural resources of the river canyon were very attractive to earlier peoples. Further details about the historic and archaeological resources are provided in the sections below.

Given the high costs of site-by-site documentation and evaluation, especially for archaeological sites, a "zoned" approach is being followed for addressing cultural resources. Each of the ten management zones within the park are being assessed by OPRD Cultural Resource staff using

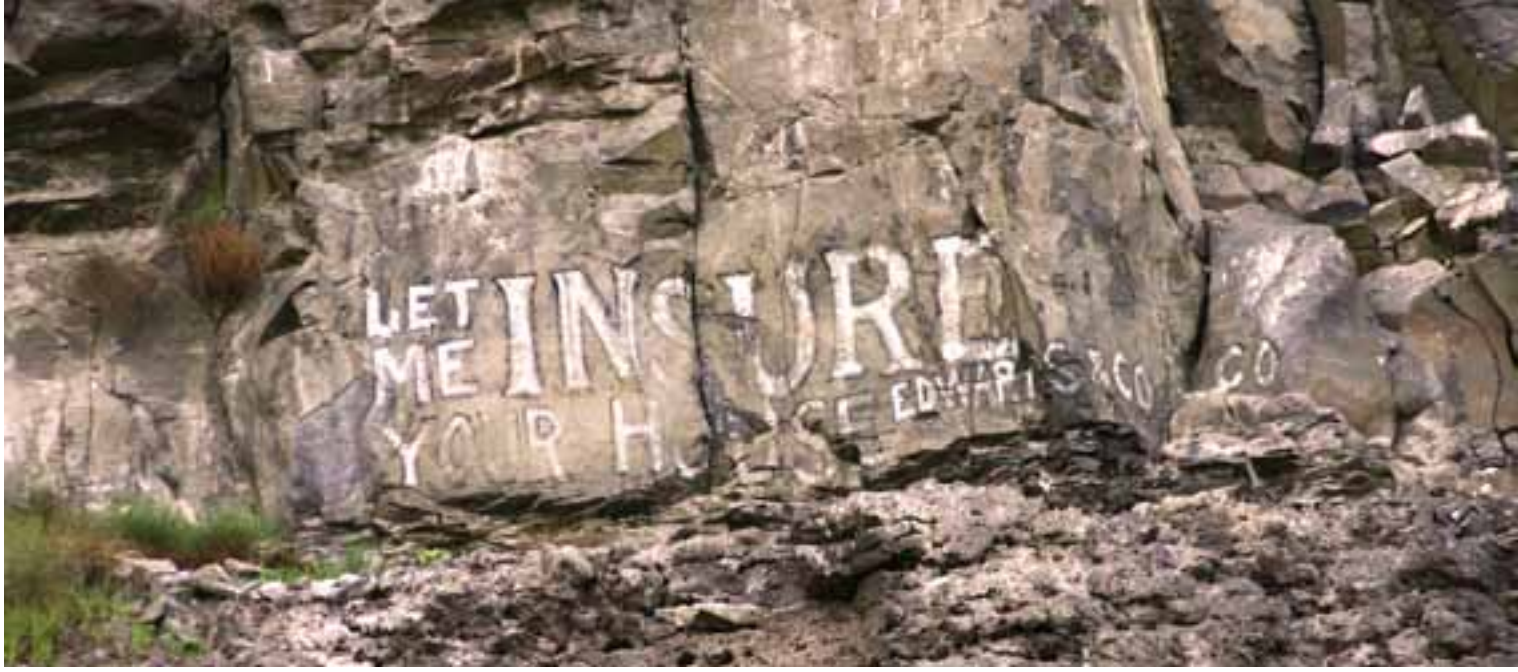


Photo 9.4 Advertising from homesteading period at bottom of Esau Canyon, OPRD 2010

Esau's cliff-wall setting and lack of new development help it convey a distinct "sense of place," which is supplemented by historic features such as corral fencing and painted advertising on the canyon wall.

a matrix that evaluates the various aspects of the known or expected resources within each zone. This will help in prioritizing both cultural resource and park development work in conjunction with similar matrices for other resources groups (vegetation, wildlife, etc.). .

HISTORIC RESOURCES

The historic buildings and structures in the park consist primarily of late-nineteenth and early twentieth-century features related to farming and ranching. These include clusters, such as the Murtha Homestead and the Hay Creek Ranch/Settlement, as well as linear and open-space features—fences, fields, roads, irrigation systems, and trails.

Initial evaluations indicate that none of these historic resources appear to be eligible for National Register designation, due primarily to loss of historic integrity. Many historic-era buildings and structures have been demolished or heavily modified, and the introduction of newer structures has further compromised the historic setting of the primary ranch complexes.

The remaining ranching elements are still quite numerous in the bottomlands and are concentrated at the former Murtha Homestead among pastures and fields spread along the canyon floor, punctuated by occasional homestead trees (mostly walnuts). Little remains of the former homestead at Hay Creek besides an entrance road, stone wall, fields, and foundations of former buildings, including a school site.

The Esau site, midway between the two ranches, may actually have the greatest potential for intact historic archaeological features and cultural landscape designation. Though not yet officially surveyed due to priorities in other areas, Esau is a natural stopping point where the downstream narrows force travelers from the canyon bottom to the uplands. Esau's cliff-wall setting and lack of new development help it convey a distinct "sense of place," which is supplemented by historic features such as corral fencing and painted advertising on the canyon wall. Further investigation, including archaeological survey and testing is needed to assess its significance.

Retaining some of the historic elements throughout the park is important despite them being deemed ineligible for the National Register as they have important cultural associations with the local community. For example, many local people remember stories of spending time with Mr. Murtha at the homestead. The Red Barn, visually prominent as you cross Cottonwood Bridge, has become a local landmark. The smaller surrounding

domestic and agricultural buildings at the homestead form a complex that denotes the site's ranching past. Smaller features, including rock jacks and corral fencing highlight the historic character of the former Murtha homestead. Based on community feeling, state scenic regulations, the need to blend buildings with their surroundings and a practical approach of reusing existing structures, the "ranch character" will guide the design style for construction of new facilities in the park. Names of park areas will also retain existing family names where appropriate.

CULTURAL RESOURCES ASSESSMENT AND STRATEGY MATRICES

The following matrices are intended to help OPRD decide how best to move forward with cultural resource issues as part of an overall park plan. There are three key aspects to this approach:

- Separate evaluations should be made for archaeological resources and historic resources.
- Evaluation areas may be large or small, general zones or specific sites, depending on the level of information currently available.
- These evaluations should be included in the GIS for the park so they can be viewed with evaluation overlays for other resource types (vegetation, wildlife, scenic, etc.).

While the first assessment, Cultural Value, is based solely on the merits of a site, the other two assessments take into account other department goals and priorities (including budget), plus priorities of other stakeholders. A few examples may help illustrate the process:

Photo 9.5 Lichen on cliff face ,OPRD 2010

- A very significant archaeological site in a park (ranked #1 under Cultural Value) may receive a low priority rank (#4 ranking) under Documentation Priority because it is a sacred site that tribes would prefer to not expose to the public. Given its significance and sensitive nature, however, it should receive a #1 ranking (Protect/Avoid) under Treatment Recommendation.
- A ranch complex may have been altered too much to be eligible for the National Register (ranked 4 under Cultural Value), but the story of the ranch may be an important component of the Interpretive Plan, so obtaining a complete and accurate history of the ranch would be a high priority (#2 ranking). The Treatment Recommendation may also be high or medium (#2 or #3 ranking) for selected structures, such as an intact barn or chicken coop that have both utility and interpretive value for the park. There would be more latitude in modifying or adapting them to new purposes than there would be if the Cultural Value were high (#1 or #2 ranking). Other ranch structures of lesser cultural value or historic integrity would probably have a #4 ranking.
- An archaeological site may be ranked quite high (#2 ranking) based on initial observations, but its Documentation Priority might be low or medium (#3 or #4 ranking) if there are no immediate plans to either develop or interpret the site. In this case, the best Treatment Recommendation would be to Protect/Avoid (#1 ranking).
- A National Register-listed building (#1 ranking) is planned for visitor use of some sort. Given that it has already been thoroughly documented when it was placed on the Register, the Documentation Priority ranking would probably be quite low (#3 or #4), because there probably is not much more to be learned from more research and documentation. Its Treatment Recommendation, however, would be very high (either #1 or #2 ranking) because we want to retain its significant physical characteristics in perpetuity.

Culturally Significant Vegetation

Tribal consultation and ethnographic studies have identified plants present or historically present at the park. Any decision by the park staff and management to reveal or interpret this information should be done sensitively and in harmony with the desires of the Confederated Tribes of Warm Springs and Confederated Tribes of the Umatilla Indian Reservation.

Cultural Value

	Archaeological	Historic
1	High—Confirmed	High—National Register listed
2	High Probability	High—National Register eligible (individually)
3	Medium Probability	Medium—Possibly NR eligible (part of a district)
4	Low Probability	Low—Not eligible for National Register

Documentation Priority

	Archaeological	Historic
1	High Priority—for recreational/development purposes	High Priority—for recreational/development purposes
2	High Priority—for interpretive or cultural purposes	High Priority—for interpretive or cultural purposes
3	Medium Priority	Medium Priority
4	Low Priority	Low Priority

Treatment Recommendation

	Archaeological	Historic
1	Protect/Avoid	High Level of Restoration/Interpretation
2	Preserve/Interpret	Preserve/Rehab/Adapt/Use/Interpret
3	Interpret only	Maintain as-is or modify as appropriate/May have interpretation potential
4	No Preservation or Interpretation	No Preservation or Interpretation
5	Mitigation through data recovery prior to construction impacts	Mitigation through data recovery prior to construction impacts

Archaeological Surveys
Separate pedestrian archaeological surveys, by the OPRD archaeologist and presence or absence testing by the University of Oregon's Museum of Natural and Cultural History were conducted for a portion of potential development areas of Cottonwood Canyon State Park in an attempt to locate archaeological resources.

The cost of surveying and the sheer size of the park have prohibited more thorough surveying. Future survey work will continue to focus on specific planned project sites. The frequency of known cultural sites will require monitoring of ground disturbing projects. Planned tribal consultation field trips and ethnographic studies will reveal more resources at minimal expense.

3. Scenic Resource Management

Highest Priority Chapter 10 Management Zones
- 10.1 Bull Canyon
- 10.2 West Entrance
- 10.3 Esau
- 10.4 Gooseneck
- 10.6 Mile 33
- 10.7 Hay Creek
- 10.8 Canyon Overlook
- 10.10 Circulation

OPRD evaluates scenic resources in state parks based on OAR 141-100-0000 and follows general guidance provided by OPRD's mission statement, as well as OPRD's recreation setting definitions developed for the Statewide Comprehensive Outdoor Recreation Plan. The recreation setting definitions are applied in the master plan assessments. This park overall falls into the Class III threshold, Rural Category, but the management zones chapter identifies more specific settings for smaller areas within the park.

OPRD administers the Oregon State Scenic Waterways Program that includes segments of the John Day River. OPRD determines the best information available regarding in-stream water flow for recreational use in scenic waterways. The people of Oregon established the Oregon Scenic Waterways Program in 1970, recognizing that wise individual and public use of these special rivers and adjacent lands is necessary. It strives to achieve a balance between protecting the rivers´ natural resources and the activities of the people who use them.

The strategy for the park will go beyond managing the scenic resources to stay within the rural classification. The scenic assessment indicated that many areas of the park are Class II, Natural and a few areas are Class I, Primitive with Trails. Therefore, many areas of the park will be managed to the scenic character Class II threshold, natural area, and two management zones will be managed as Classification I, Primitive with Trails. A couple of Class II areas could also qualify as Class I in the future if restoration efforts are completed in these zones. The areas are described under the scenic landscape assessment below.

Scenic Landscape Assessment
A scenic landscape assessment can support the needs of the park by collecting and organizing information about the landscape that will aid in the creation of site-specific design guidelines. The assessment looks at character-based

landscape assessments that can act as a beginning step towards understanding the cultural and natural values of the area and how to manage those values through design guidelines. These types of landscape assessments provide a systematic means for identifying, describing and classifying the quantitative and qualitative features of a place, and include information about the siting, spacing, scale and form of those features. This information aids in establishing design guidelines by identifying the elements that are crucial to understanding the innate character, and specifies a visual vocabulary for the unique patterns in the landscape. The assessment and classification of a landscape helps to monitor and deepen understanding of a place's sensitivity to change, and informs planning strategies to make better decisions about altering or removing valued characteristics in the landscape. The scenic assessment for Cottonwood Canyon led to the development of opportunities that represented the unique character of areas within the park. These areas together form what we perceive as the park. By breaking them down we can assign values to them and create guidelines to protect and manage that character. For Cottonwood, the scenic landscape assessment led to the creation of 10 specific character areas; five cover the bottomlands, four cover the uplands and slopes and the final area describes the John Day River itself. They are listed below and can be viewed on the landscape assessment plan:

Character Areas:

Bottomlands

- Bull Canyon
- West Entrance
- Esau
- Mile 33
- Hay Creek

Uplands and Steep Slopes

- Canyon Overlook
- Gooseneck Overlook
- Rattlesnake Canyon
- Other Uplands and Steep Slope

John Day River

The division of the bottomland areas related primarily to the level of ranching that occurred in the area. They are generally similar from a natural perspective; it is the recent settlement that distinguishes them today. The West Entrance, Hay Creek and Esau character areas all show signs of ranching activity ranging from pasture fields and corrals, to a major homestead (West Entrance). The Chasm and Bull Canyon character areas have a strong natural character. In the uplands and along the steep slopes of the canyon, three character areas stand out. The Rattlesnake Canyon, compared to the low lying bottomlands of Hay Creek Canyon, rises steeply into the uplands. The Gooseneck and Canyon Overlook area provide vantage points that provide the best locations in the park to enjoy the outstanding beauty of park.

The John Day River, including the riparian edge, is a character area in its own right. The river is the major focal point for the region; the designated fish species; recreation opportunities it provides for; its cultural associations to Native Americans and local communities means that the river itself can be viewed as the primary character area from which all other character areas act as a backdrop.

The landscape assessment therefore defines the scenic character of the park and will be used to inform design development concepts described in the management zones chapter and design guidelines found in the management section of this plan. The development concepts and design guidelines will inform decision making regarding future development of the park and will help preserve and enhance the scenic character of Cottonwood Canyon.

Managing Viewpoints and Screening

There are many viewpoints to be found within the park; the purpose of identifying the major viewpoints is to ensure the scenic beauty of the canyon can continue to be viewed by the public and is accessible to all. Views from the bottomlands are very accessible due to the flat grade along the canyon floor. Here efforts will be put into managing vegetation to ensure the view is not blocked. On the uplands, it is much more difficult to provide accessibility, but easier to manage protection of the viewshed. Universal Access to the Canyon and Gooseneck Overlooks will require long-term planning to enable road access to these viewpoints. In the short-term, they can be accessed by trails that will require steep grades. In other areas, screening will be required to blend new development in with the surrounding landscape or hide it from the river. The major viewpoints and screening areas are described in the Management Zones Chapter following this one.

Any visitor experience at Cottonwood Canyon is influenced by the rugged nature of the park. This rugged setting can provide for a wide array of backcountry hiking and camping experiences

4. Park Recreation Strategies

Highest Priority Chapter 10 Management Zones

- 10.2 West Entrance
- 10.10 Circulation

Cottonwood Canyon State Park is not a typical state park. OPRD purchased this property knowing it would leave a light footprint on the ground while also returning the landscape to a natural appearance normally associated with a typical state park. A large portion of Cottonwood Canyon State Park is currently suffering from a large weed infestation. OPRD is working closely with BLM and other partners to make sure that the lands are restored and an appropriate level of public access is provided. In addition, OPRD is working with adjacent property owners to ensure that grazing can continue in the areas of Esau and Hay Creek. The continuation of grazing ensures local traditions are continued and, if done correctly, can be used to show best practice.

This is not a responsibility that OPRD takes lightly. The potential to restore a place as a beautiful natural area is important. OPRD is taking on this challenge, which is best stated in the agency's strategic planning document, the Centennial Horizon Plan, "OPRD will acquire and restore lands that have the potential to become special places." With this in mind we encourage our partners, stakeholders and volunteers to work with us as we begin the long process of restoring this site to a more natural state. This process needs to be coupled with an approach to recreation that carefully limits facility development, blends all buildings and structures with the surrounding landscape, and lays lightly on the land. The rugged terrain of Cottonwood Canyon imposed natural limitations on

Photo 9.6 View of Esau bottomlands looking east ,OPRD 2011

Future recreation activities and amenities that are proposed for the park

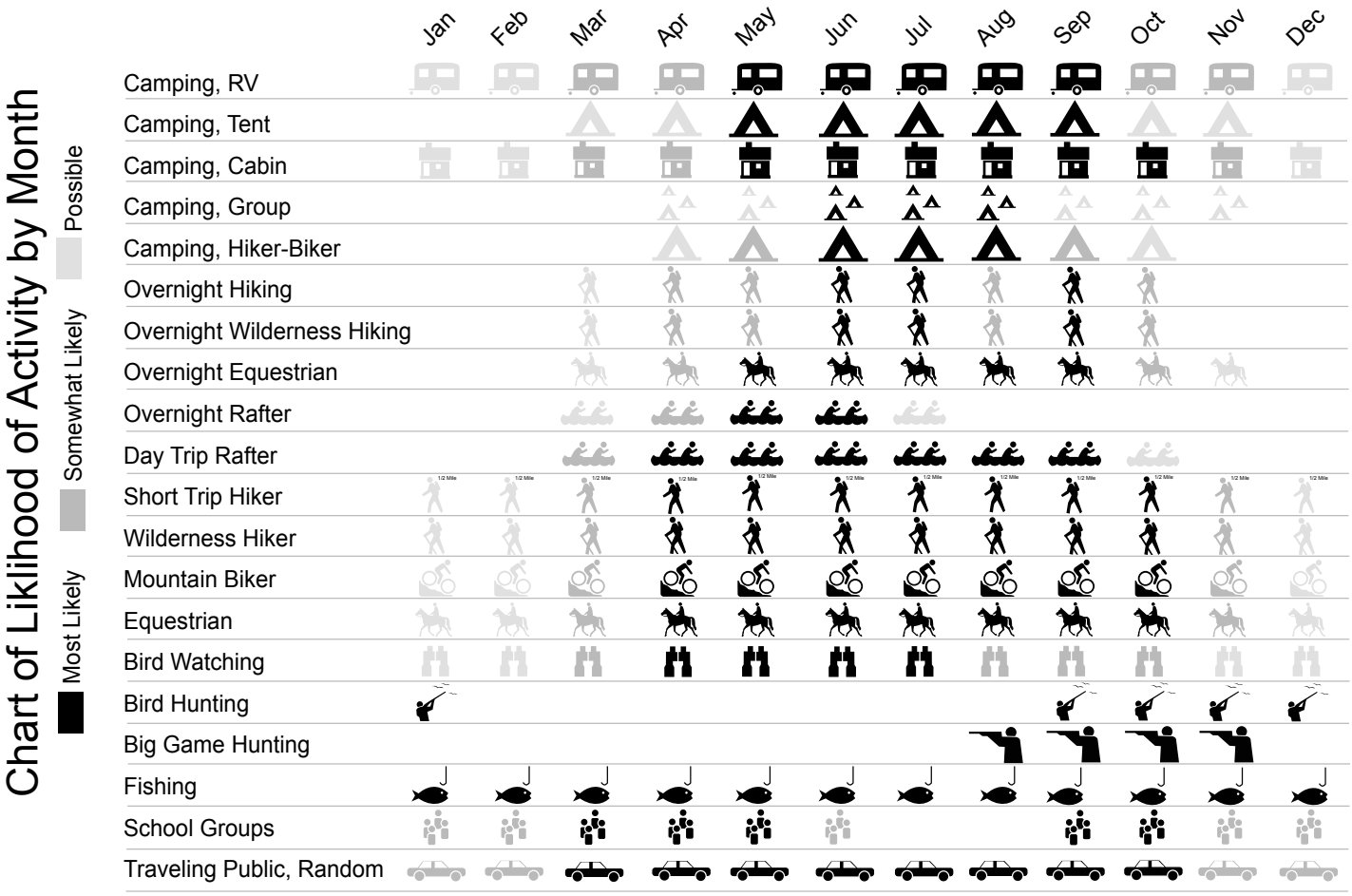
- **Biking and mountain biking**
- **Bird Watching**
- **Camping**
- **Camper Cabins**
- **Campground**
- **Group Campgrounds**
- **Equestrian Camps**
- **Hiker/Biker Camp**
- **Hike-in Camps**
- **Concession led trips for rafting, hiking, nature walks, hunting and fishing**
- **Day Use short loop walks**
- **Dark skies program**
- **Drinkable water pumps**
- **Education Center**
- **Entrance gateway to park with photo opportunity area**
- **Evening programs**
- **Food Service**
- **Fishing**
- **Grazing**
- **Horse riding**
- **Hunting**
- **Interpretation of John Day River and Cottonwood Canyon**
- **Interpretive events**
- **Long day hikes**
- **Native plant viewing**
- **Natural Resource Volunteer (restoration and monitoring)**
- **Non-motorized boating**
- **Open field play**
- **Overnight hikes (one to three days)**
- **Panoramic views of canyon and surrounding region**
- **Photography**
- **Picnicking**
- **Rafting**
- **Restrooms**
- **RV sewerage dump station**
- **Scat machines**
- **School group education opportunities**
- **Showers**
- **Special events (including local farmers market)**
- **Terrestrial mammal watching**
- **Volunteering**
- **Welcome Center**
- **Wildlife and bird watching**
- **Winter activities: snowshoeing, cross-country skiing**

recreation access and so this plan promotes innovative and traditional recreation opportunities that take advantage of the natural beauty of Cottonwood Canyon and the process underway to restore the landscape. It will take many years to see the fruits of these efforts, before the site will appear "park-like". We plan to share the story of the restoration efforts as a learning tool for other places and landowners.

Parameters for Recreation

The parameters for formulating recreation concepts at Cottonwood Canyon strive for a balance between providing opportunities for the public to access the resources and protecting the very resources they come to visit. This can be best described as ensuring recreation development in the park leaves a light footprint on the land. The parameters applied to ensure this happens include:

- Avoid or mitigate significant impacts on important natural, cultural and scenic resources within or adjacent to the park;
- The potential types of visitor experience have been evaluated and will guide recreation opportunities;
- Balance multiple recreation needs and avoid or minimize conflicts among recreation uses;
- Provide appropriate access for vehicles and non-motorized travel to and within the park;
- Locate and design recreation facilities, roads and trails in a manner that is understandable by the public in navigating to and through the park;
- Take advantage of and create scenic views and resource interpretation opportunities;
- Present an appearance that is harmonious with the setting, the region and a state park experience;
- Provide choices for visitors who may have different desires for recreation amenities and settings;
- Cluster development to keep large areas of park lands undeveloped;
- Avoid or mitigate recreation conflicts with neighboring land uses;
- Achieve compliance with regulatory requirements including Federal/State Wild and Scenic goals, state land use goals, local comprehensive plans, building codes and resource laws;
- Provide opportunities for quality access by visitors with disabilities and different economic and cultural backgrounds.
- Design facilities to be cost effective to construct and maintain.
- Design facilities to blend with their surroundings and be sustainable over their lifetime.
- Design the park for an enjoyable, safe and meaningful experience.



Implementing Recreation Planning

Recreation planning for the park describes trails, roads, day use areas, overnight areas and associated maintenance facilities that will support recreation activities in the park. To realize implementation of recreation projects, park plans are produced with supporting guidelines showing appropriate locations, layouts, sizes, and types of recreation development for the park. The locations and layouts of development projects are illustrated as schematic designs that will guide construction drawings. For Cottonwood Canyon this includes preparation of a 1" to 200' or 100' scale design development plan showing hard and soft landscape components complete with site cross sections and elevations as necessary. This plan will also show resource management projects, interpretive projects and potential partnership opportunities. This will establish the basis for commencing with the preparation of construction drawings. The concepts also include preparation of architectural plans showing; building program, floor plans, sections, elevations, details, and colored perspective renderings of the major buildings. Reasonable flexibility to make changes in the locations and layouts of development project components when completing final designs is expected, provided that such changes:

- Do not change the types, maximum sizes or capacities of projects;
- Do not significantly impact important natural, cultural or scenic resources; and
- May not be moved to new development sites that are not identified in the plan, or to other types of use sites where the relocated use would be inconsistent with the planned use of the site.

Preliminary and final project designs are reviewed in cooperation with the local land use approval authority as needed to ensure compliance with the intent of the plan.

OPRD is dedicated to proposing facilities to support outdoor recreation that is needed in the region, and that are appropriate for the park setting and OPRD's roles as a recreation provider. Proposed park facilities are selected, located and designed to avoid significant impacts on important resources, as identified in the resource assessments and Opportunity Areas prepared for the plan. The proposed facilities are also selected, located, and designed to avoid incompatible recreation uses or have significant impacts on surrounding land uses.

Summary of Proposed Recreation Activities and Amenities

The recreation activities and amenities proposed for Cottonwood Canyon fulfill the previously described goals and strategies that will support a rewarding visitor experience. Any visitor experience at Cottonwood Canyon is influenced by the rugged nature of the park. The rugged nature of the park determines that recreation opportunities are limited to experiences that leave a light footprint on the land or follow traditional pursuits typical to this area. The recreation values expressed by those attending public meetings confirmed traditional pursuits or those that did not affect the resources would be best suited to the park. The resulting activities described below reflect the above points and ensure the State Scenic Waterway designation for the John Day is not impaired by park development, but in many ways can enhance this designation. The list on the next page describes future recreation activities and amenities that are proposed for the park.

Many of the recreation activities will revolve around seasonal use. The seasonal use is difficult to predict and often it is only after the park has been open for a number of years that trends can be fully understood. However, based on recreation use at other parks in the region and feedback from the public at the planning meetings, there are some clear indicators as to when various types of seasonal recreation will occur. Primary types of users at the park have already proven to be or are likely to include the following and occur during the peak seasons described: tent campers (year-round), short trip or day hikers (year-round), wilderness hikers (year round), RV campers (year-round), road bikers (March-October), mountain bikers (year-round), multi-day rafters (March-June), day trip rafters (March-September), equestrian riders (year-round), birders (year-round), natural history tourists (year-round), bird hunters (September-January), big game hunters (end of August-November), fisherman (year-round), local resident visitors (year-round), local rafters (year-round), school groups (September-June), out of the area visitors (year-round). The table above summarizes findings to date. The following summary of proposed recreation facilities will be built over a period of years following the development of a phasing plan for the park and as funding allows. Locations are shown on the site map at the end of this chapter. More detailed descriptions and site plans are found in Chapter 10.

Western Gateway:

Murtha Homestead

- Day-use area with welcome center, education facilities, park ranger horse corral, parking (50 vehicles) and picnic shelters;
- Trail hub to connect with Gooseneck Overlook and north side of John Day River;
- Central campground with up to 35 sites (maximum pad length 60 feet), RV dump station, recycling station, and restrooms with showers;
- Up to 18 camper cabins, meeting building (including restrooms and kitchen), two restroom with shower buildings, and parking;
- A group camp (10 sites);
- A hike bike camp with access to restroom and showers building.
- Potential interpretive infrastructure such as a gathering area for talks, wildlife blind, photography blind, or interpretive displays within existing or new structure;
- Maintenance yard with shop;
- Manager and staff residences with three host sites;

JS Burres:

- Day-use area with designated parking (75 vehicles), vault toilets and picnic shelter;
- Non-motorized public boating access to river;
- Trail hub to connect with Esau, Rattlesnake Canyon and Hay Creek;
- A hike-in camp half-a-mile from trail head;
- Small equestrian camp (5 sites).

Esau Bottomlands:

- A hike-in camp with toilets and water;
- A boat-in camp with toilets and water.

Hay Creek:

- Small day-use area with parking (15 vehicles) and picnic shelter;
- Boat take-out site and parking;
- Trail hub to connect with Esau, Rattlesnake Canyon and JS Burres;
- A primitive group camp (10 sites);
- Two hike-in camps (8 sites each);
- Small equestrian camp (5 sites);
- Park staff house with maintenance storage shed;
- Host site and check-in point.

Gooseneck Overlook:

- Small overlook area with 270-degree view of John Day River (gooseneck).

Canyon Overlook:

- Small overlook area with panoramic view of BLM wilderness study area.

Trails:

- Trails for hiking/biking/horse riding (50 to 70 miles total with numerous ¼, 1, 3, 7, 15 mile loops and out/back trails).
- Major Trailheads at Murtha Homestead, JS Burres and Hay Creek.
- Minor Trailheads at Esau Bottomlands, Gooseneck Overlook Trail

Interpretation Strategies

Development of the interpretive program at Cottonwood Canyon State Park will include build out of infrastructure, interpretive media, and staff development. Coordination with Natural Resources staff and Heritage Division staff will be important for the ongoing interpretation of the park. Resource restoration projects will be interpreted to help visitors understand and support the work underway. Natural resource survey work can occur in partnership efforts such as bird surveys that provide data that benefit both the natural resource management of the park as well as interpretation of the resource. Citizen science projects are one way that OPRD can gain in natural resource information for appropriate projects. Research undertaken by the Heritage Division can provide valuable information to help interpret the history and cultures of the area. Funding sources for interpretation may include the OPRD budget as well as grants and partnerships.

Interpretive Infrastructure
Planning for the development of interpretive infrastructure such as a gathering area for talks, wildlife blind, photography blind, or a place to hold education talks will be in phases. A place to hold education talks will require the development of an interpretive plan to specify the functions, size, location, and features needed. All infrastructure will be designed to blend with the landscape, permit universal access, and use sustainable features when possible.

Interpretive Media
The development of interpretive media will be in a phased approach as funding permits. Media can include personal presentations by rangers as well as brochures, wayside exhibits, audio or video presentations, smart phone applications, self-guided trails, and even facility or landscape design. Adequate orientation and interpretation of the park will be planned to be in place for the park opening. Additional media development can occur as funding and partnerships permit. Some projects may require partners to move forward. All media development will use the interpretive themes developed to communicate agency messages. The development of an interpretive plan following this plan will provide more detailed development of media concepts.

Staff Development
The interpretive staffing proposed for Cottonwood Canyon State Park includes a seasonal interpretive ranger as well as interpretive volunteer hosts. Additionally, partnerships should be developed, where possible with other agencies and organizations as appropriate to assist in interpretive and educational efforts at the park. OPRD will provide interpretive training to park staff and volunteers through:

- Annual Interpretive Core Training in June, a four day training designed to prepare staff and volunteers to present interpretive programs.
- The Interpreters Manual, updated on an annual basis.
- Annual Junior Ranger training, designed for staff and volunteers leading Junior Ranger programs for youth ages six to twelve years of age.
- The Junior Ranger Leader's Manual, updated on a yearly basis.
- Regional interpretive training sessions led by the Eastern Oregon Regional Interpretive Coordinator. These sessions are designed to reinforce interpretive skills, and help develop skills in the interpretation of Eastern Oregon flora, fauna, history, and culture.
- The OPRD State-wide Interpretive Team interpretive skills workshops to enhance the abilities of park staff and volunteers.
- Certified Interpretive Guide workshops through the National Association for Interpretation are held periodically to further staff development.

Media Prescription
Brochure and Publications: Provide a general park brochure to provide an overview of the attractions, facilities, and services provided.

- Trail brochure to be used to navigate the park and introduce interpretive themes.
- Bird checklist once data are available.
- Native American uses of the land, this might include uses of plants and fishing techniques, for example. This needs to be developed in cooperation with the Confederated Tribes of Warm Springs.
- Self-guided interpretive trail. This guide will interpret a series of stops along the interpretive trail near the Welcome Center.

New Media
Smart Phone Applications: Provide media displaying geologic themes, a mapping feature, and/or providing wildlife identification information can be included in smart phone applications. Since the park is lacking widespread cell phone reception, a downloadable application would make information available in real time in the park. Development of this product would, of course, be fairly costly and take time to develop, but the opportunities for future embellishment of a fairly simple program and the ease of use for people already familiar with smart phone applications would be of benefit to interpretation of the park's features.

Earthcache: This is another trend which is increasing in popularity. OPRD sanctioned scavenger hunts would attract families who are looking for adventure. Many people seek out unique Earthcaches or Geocaches when

planning family (or personal) trips, and this would make Cottonwood Canyon a destination for these people. This is also an interesting opportunity for interpretation through discovery, as visitors learn a piece of the story as they uncover more objects/locations.

Outdoor Exhibits: Provide four interpretive panels each 24" x 36" on the following topics: geology, cultural history, flora and fauna, and recreational opportunities. Frames to be OPRD design standard low angled on powder coated steel. Frames to be brown in color. Locations for sets of four to include: Welcome Center, Hay Creek, JS Burres, and Esau.

Interior Exhibits: The orientation display and set of four interpretive panels can either be set up in a plaza outdoors near the Welcome Center, or placed indoors.

Programs: Interpretive presentations will be led for visitors seasonally from April through October. Most programs will be based out of the amphitheater near the campground. Some programs will take place at other locations in the park. Possible presenters include a mix of OPRD staff, volunteers, other agency staff, Confederated Tribes of Warm Springs, and the Lower John Day Conservation Working Group. Program types will include Junior Ranger programs for youth ages six to twelve years, family programs, environmental education programs for school groups, and adult outdoor skills programming. Some programs may be led by concessionaires, such as guided raft trips through the park.

Natural resource survey work can occur in partnership efforts such as bird surveys that provide data that benefit both the natural resource management of the park as well as interpretation of the resource.

Infrastructure

Major structures include;

- Consider adapting the Red Barn for use with school children programs and exhibits. This proposal is subject to further structural and architectural studies and extensive funding that will determine the feasibility of the proposal. If feasible; work in cooperation with local partners on design and funding sources. Concepts for this proposal will require an Interpretive Plan to be fully developed.
- Key functions would include:
    1. Meeting site for environmental education groups and interpretive programs
    2. Interpretive displays to tell key park stories

3. Possible restoration of the barn would be a visible interpretation of local history

This facility can be designed to be used by both OPRD staff and other agencies and organizations such as schools or universities as a base for programming. This type of facility may be appropriate in situations where OPRD staff or Friends groups are limited in availability and a partner agency or organization has the staffing capability to offer appropriate programming. There are normally at least some interpretive exhibits to tell the story of the area.

Options for other types of interpretive facilities that could be created include:

- A gathering area to seat 50 to 100 people near the campground.
- A wildlife observation blind located near the campground facing the river amid a planting of riparian trees and shrubs.
- A wildlife blind for photographers at least a mile away from the campground along the river.

Seasonal Interpretive Supportive Facility

This is a small facility that is used as a base for interpretive programming, typically in the summer months. It may serve as the headquarters for Junior Ranger programs. Interpretive exhibits created may be of a seasonal or temporary nature.

Interpretive Plan

A detailed Interpretive Plan is recommended to develop the specific concepts needed to plan for education facilities, exhibits and associated media, both for interpretation and environmental education efforts. The interpretive plan will further develop the media prescription beyond the initial concepts proposed in this plan. The interpretive themes and supporting stories will be connected to specific interpretive panels and other media. Interpretive programs and events will be reviewed for potential development. Designing support for environmental education efforts will be a part of the planning effort. The plan will include a phased approach to development of interpretive media and programming, with cost estimates for implementation of the plan.

5. Operations

Highest Priority Chapter 10 Management Zones

- 10.2 West Entrance
- 10.7 Hay Creek
- 10.10 Circulation

1. VISITOR SERVICES

Enforcement

All applicable Oregon Administrative Rules will be enforced as on all other OPRD properties. This will include specific emphasis on:

a. OAR 736-010-0055 that protects cultural, historic, natural and wildlife resources.

b. Visitors will be encouraged to stay on established trails due to the sensitivity of the cultural and natural resources.

Specific enforcement patrols will be conducted only on an as-needed basis for specific activities, follow-up on complaints and during other high use periods. Otherwise, enforcement activities will be incidental to other maintenance, inspection, or project activities. The steep canyon terrain and local vernacular make the park a fitting location for horseback patrol.

General Interpretation and Information

Informational signage at the site will be kept to the minimum needed to adequately communicate safety, park use and orientation messages. Signs on the interior of the site will be low profile and made of natural materials whenever possible. Interpretation will begin at the welcome center and continue at a lesser level of development, at various viewpoints and/or trail stops. The exact locations, types and sizes of interpretative media will be determined during interpretive planning. Other printed materials, presentations, guided hikes and "new media" (such as iPod/cell phone transmissions, if feasible) may be used to deliver interpretive information at the site. Some of the specific interpretive themes developed for Cottonwood Canyon State Park have been identified in the pertinent sections of this plan.

Non-traditional park use

By definition such uses include some group use and filming. An OPRD Miscellaneous Use Permit is required for any organized group or non-traditional use activities. This permit must be signed and closely monitored by the Park Manager. Weddings, family reunions and similar activities that require shelter, structures, generators, or other site alterations may be appropriate in some areas of the park. Group activities that do not disturb the natural setting or other users may be considered. Youth activities (particularly park improvement projects) and educational activities should be encouraged and, if fitting, be approved on a case-by-case basis by the Park Manager. OPRD is currently in the process of creating a separate permit program for non-concession commercial activities, which would likely pertain to guiding types of activities..

Human/Wildlife Interactions

Several species have the potential to alarm or upset the uneducated visitor when encountered. They include the mountain lion or cougar, western rattlesnake and tick. While conducting inventories of the property, a number of surveyors reported a particularly heavy population of ticks in the Hay Creek area, which were definitely of a species that would attach to humans. The Murtha Ranch, particularly the old barn area, seems to be a hotspot for western rattlesnake encounters. Possibly the density of rodents found in a barn environment are attracting relatively high snake populations. As the barn is cleaned up and human traffic increases, the encounters there will likely diminish to a level comparable with the rest of the property.

Hunting

Various forms of hunting occur and are permitted at Cottonwood Canyon State Park. Some hunting occurred prior to OPRD ownership on a very limited basis by private individuals that had agreements with the Murtha family. Through a partnership with ODFW, Western Rivers Conservancy allowed upland game bird hunting on their property. OPRD quickly amended park rules to allow and promote continued hunting. While an existing State Wildlife Refuge boundary currently prohibits waterfowl hunting, there is the possibility that restriction could be lifted by ODFW allowing yet another form of sustenance hunting to complement the upland game bird and big game hunting opportunities. The park manager will have to remain ever heedful to the potential for hunters to trespass on private property from park property. Staying connected to neighboring land owners, educating visitors, maintaining visible presence during hunting seasons and clear posting of boundaries are some of the tactics that staff will have to employ conscientiously.

Fishing

With populations of Chinook salmon, steelhead, smallmouth bass, catfish and carp in the lower John Day River it is no wonder Cottonwood Canyon State Park is so attractive to a wide variety of anglers. As with hunting, regulations are set by the Oregon Department of Fish and Wildlife, a cooperative partner. As such, park staff should support the goals of ODFW and can serve as an effective avenue for educating anglers at the park.

Landscape Management
Management of the landscape in general will be influenced and impacted by the following classifications and designations: State Scenic Waterway/Scenic designation, Federal Wild and Scenic River/Recreation designation, BLM Wilderness Study Area (BLM lands south of highway), State Wildlife Refuge (along the river and out ¼ mile from the river), State Conservation Strategy/Lower John Day Opportunity Area (south of highway), and BLM John Day River Study area. These classifications and designations were a primary consideration in park design should be the foremost consideration for the park manager in planning for the future.

Buildings and Site Furnishings
Designs and locations strongly consider and are complements to the wild place feel of the property. This includes minimizing visual impact, limiting development and complementing local vernacular, all while providing economy, function and ease of maintenance, as was dictated by field staff input during design and engineering. Universal accessibility, Americans with Disabilities Act compliance and sustainability were and should continue to be significant considerations also. The park manager shall ensure any future development or projects adhere to the same ethics.

Roads and Parking
The design and location goals for roads and parking led the siting of buildings and site furnishings. Asphalt paving and extensive road development were minimized. The U.S. Department of Transportation Federal Highway Administration's Flexibility in Highway Design and the National Park Service's Park Road Standards are both helpful resources to the park manager in continuing this minimalist approach.

Trails
The spectacular canyon and river vistas encourage visitors to want to explore and the park affords the potential opportunity for up to fifty miles of hiking, equestrian and bike trails. Trail development impacts have been kept to a minimum by using existing jeep roads and trails in conjunction with new trail development. Cultural and natural resource impacts should be a primary consideration in placement of trails.

Signs
Besides OPRD sign standards, sign design should adhere to the same themes as buildings, site furnishings, roads and parking at Cottonwood Canyon State Park. While necessary for providing direction to visitors, interpretation and safety, the scenic values of the park infer that "less is more" would be an appropriate maxim to follow in sign placement.

Fences
Generally fencing should be as inconspicuous and unobtrusive as possible. The materials should be fitting for the application such as use of high tensile wire fence on T posts to repair or replace like materials adjacent to privately owned agricultural land or use of split rail fence to delineate areas in the park using the local ranch vernacular theme. The ultimate camouflage technique, of course, is to not construct fence unnecessarily. While OPRD has established a standard of using Oregon Department of Corrections constructed gates, use of traditional tubular farm gates would prove to be more conforming for Cottonwood Canyon State Park.

Bridges
It is unlikely that many bridges will be constructed in the park, due to expense and the limited development of the park. In the long term, if existing culverts, a low water crossing or concrete box culvert are not suitable for crossing then a small bridge might have to be built in some areas such as crossing the perennially flowing Hay Creek. All classification and designations and facility guidelines would be inherent considerations. If the Oregon Department of Transportation were to construct a new bridge across the John Day River at Cottonwood on Oregon Highway 206, it would be worth contemplating a proposal to enhance pedestrian access. This would improve public safety and facilitate better potential hiking trail loops for park visitors.

Utilities
The historic use of the property, remoteness and proximity to the John Day River have kept the utility infrastructure into and at the park at a limited level. The prohibitive cost of increasing utilities into the park and sustainability goals will likely keep it that way. Wind generation at a small scale for park purposes might be appropriate. While there may be potential to generate revenue or reduce utility costs with commercial wind turbine installation at the park, to do so can conflict with state scenic regulations that will impair scenic resources. Protecting views from the river will be the primary consideration.

Utility Easements
Existing easements, such as power lines, are limited and will probably remain that way. However, with the scale of wind turbine operations there is always the possibility of large-scale utility corridors being proposed in the area, such as with Portland General Electric's recent Cascade Crossing

project and natural gas lines elsewhere in the state. The park manager should always be on the lookout for this potential and diligent in protecting the park's interests.

3. PARK ADMINISTRATION

Emergency Response
The park manager shall ensure a park emergency plan is completed prior to opening the park. The plan should be written in the OPRD accepted format with input from OPRD's risk management staff. All park staff will become intimately familiar with the plan. It shall become an integrated part of the safety culture of the park and be accompanied by associated regular training and drills. There are significant concerns about visitor/employee safety, because of the steep terrain, and limited access. Limited road access and irregular land ownership patterns result in challenging emergency ingress/egress. Training each staff member to the highest level, relating to emergency response, permitted within the classification specifications for their position would greatly enhance staff and visitor safety as well as providing comfort and piece of mind to them along with park neighbors. If allowed, relevant certifications might include wildland firefighting, wilderness first responder/emergency medical technician, search and rescue and should be further reinforced with other skills which may not carry certification. Some of these could include abilities to raft, ride horses, navigate with a Global Positioning System device, orienteering and other survival skills.

While all park staff aspire to create an environment that would safeguard visitors and staff from ever having to evacuate a park, they will confidently and calmly do so, when circumstances dictate. No amount of prevention can guarantee against the need to evacuate, so it is in the staff's best interest to be prepared. With clear guidelines for the evacuation procedure in the Emergency Plan and diligent training exercises, staff will gain the confidence needed to coordinate an evacuation in an assured manner, minimizing panic in visitors and fellow staff.

Coordination with Law Enforcement and Emergency Services
The location of the park in two counties presents challenges for park rule enforcement and coordination with emergency services. These challenges are complicated by the service levels for emergency response in the region. Almost all emergency response is reliant on volunteer response. The park manager will, on an annual basis, review the emergency response plan and emergency response capabilities with emergency managers in Gilliam and Sherman Counties. Prior to park opening operations staff will review strategies for coordinating emergency services. This may include staging of specialized equipment, contracts or agreements to provide emergency services, and delineating response areas. While most park rule enforcement issues can be handled by park staff within policy and procedure, there may be an occasion to enlist support from county, state, or federal law enforcement personnel to address issues outside of the jurisdiction of OPRD rules and regulations.

On an annual basis OPRD operations staff will review the enforcement needs of the park to identify areas where additional law enforcement resources are needed. Where appropriate, OPRD will pursue additional resources to respond to on the ground conditions.

Fire
Fuel conditions and terrain intensify the impact of fires in the park. Fire season usually lasts from June 1st until the middle of October. The general pattern is for fire potential to increase through June, with July, August, and September as the most active months for fire activity. As stated in the Cottonwood Fire Plan, the region of Cottonwood Canyon is not protected by any fire district so the Park's first line of defense is through prevention. Fire education will be the most effective and therefore dominant prevention means, in the park manager's toolbox, to ensure visitors are safe and resources protected. Hence, fire education has been specifically called out as a goal in both the Cottonwood Fire Plan and, though not an interpretive theme per se, the Cottonwood Canyon State Park Final Interpretive Draft Themes. Prominent posting of fire restrictions and seasons will augment the interpretive and educational efforts, as well as notifying visitors who have not had the benefit of encountering park staff.

Flooding
In the dry climate, it is easy to dismiss or forget the reality of periodic flooding. The canyon lands landscape is conducive to quick and severe flash flood events when precipitation conditions are right. The John Day River is an undammed natural flowing river in constant flux. Park facilities designs and locations are based on flood history. Some sites, such as JS Burres, have had recent events that impacted recreational use of the area. Park management will have to be prepared for such events to safely and calmly conduct evacuations or close areas as needed. Discrete and tactful education of visitors during times of heightened flood potential will be key.

Staffing
Cottonwood Canyon State Park is a large and remote enough property that it suggests the need for full

complement of staff. A park manager, office coordinator, up to three year round park rangers and a six seasonal staff would be reasonable. To allay community fears and properly address visitor safety, accommodation should be made to house some staff on-site. Ideally, this will include the park manager and one park ranger living in park residences year-round. Potentially this could be further augmented by providing some seasonal housing.

Volunteers
A standardized agency-wide mechanism was implemented to more accurately assess the ratio of staff to work. After careful asset inventorying, task analysis and maintenance management scheduling and planning, it was determined that most Oregon State Parks are operating with about forty percent of the staff needed to ideally run the parks. While most park managers knew this intuitively, they now have the means to measure it. Over the years, park staff had already creatively addressed the problem. One way was through the use of volunteers.

The largest category of state park volunteer is the camp host. Camp host duties vary widely and may include greeting visitors, providing information, rule education, grounds maintenance, light restroom cleaning, interpretation, selling passes, staffing events, assisting with light construction projects and other maintenance activities. A cadre of hosts would be a worthy addition to the staff at Cottonwood Canyon State Park. Construction of three strategically placed host sites at the maintenance compound and campgrounds would facilitate use of hosts. Sites should be attractive to promote recruitment to this remote location.

A variety of other volunteers such as Adopt-A-Park groups, Friends Coop groups, scout troops, conservation nonprofits and corrections crews would also prove their worth if applied properly to benefit the park. Volunteer management should be a specifically assigned duty to prevent communication issues and ensure effective use.

Park Maintenance Routines
The first years of establishing and opening a new park is the most critical time for establishing routine and preventative maintenance schedules. Park staff will be trained and expected to competently use the OPRD proprietary maintenance management system known as HUB or a similar system if superseded, in scheduling and management of maintenance activities. The park manager will ensure that new facilities do not create an undue sense of confidence that could adversely impact compliance with OPRD maintenance standards. Additionally, the park manager and district manager are charged with inventorying assets, creating task lists and cooperatively developing a maintenance management plan and schedule for the management unit, using agency established methods to ensure standardization of practices.

Project Selection
The park manager will follow the prescribed OPRD process for submitting project proposals, where projects are selected competitively based on their overall merit and benefit to the park, management unit, North Central District, Eastern Region and ultimately the agency. Project types may include those funded by various OPRD sources such as Preventative Maintenance, Facilities Improvement Project, Cabin/Yurt, Natural Resource, Concession, Residence, Business/Trust Account funds, as applicable. With prior authorization regarding small grant limitation and suitable fit, other projects may compete for external grant funding sources. All projects shall conform to the comprehensive plan and goals of the park.

Project timing
The park staff and management will be the best resource for ascertaining park use patterns and applying the information to minimize project impacts to visitor use, including clear conveyance of the use patterns to engineering staff. Until the opportunity has passed for accurate assessment, the manager can refer to the description of types of users and likely seasonal use periods described in Section 3 – Recreation as a general guideline and also confer with peer managers within a reasonable proximity such as at Deschutes SRA.

5. BUDGET

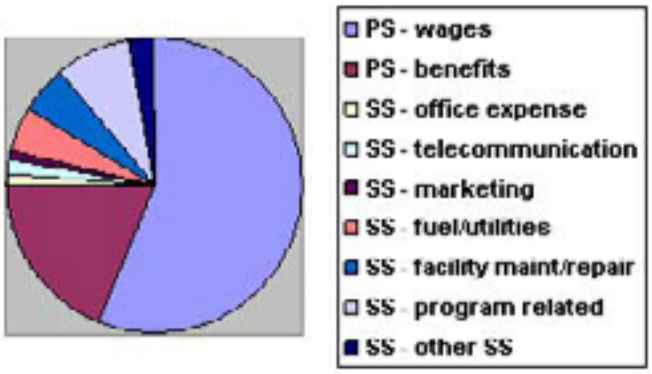
One of the most crucial duties of being a park manager is that of being the trustee or steward of public funds. This responsibility is never taken lightly and one of the most important tools the manager has to manage this endeavor is a budget or spending plan. Each park or management unit is unique and has its own priorities. Following is a summarized version of a proposal for a new budget development structure. As it concludes, even if the current traditional budget structure must be used, this format could serve as a template to correlate the budget more practically to park priorities. Each line item identified in the last two budget models intentionally coincides with the “focus” types of the Cottonwood Canyon State Park Management Zones and Focus Map and identify critical priorities for the park.

The following pie charts demonstrate three models that show how the budget can be managed for the park.

Model A: This model is based on averages in OPRD's Eastern Region, of a current park operating budget developed using a traditional approach.

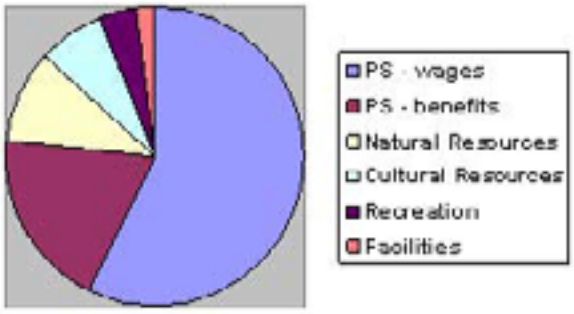
Assumptions include:

- Budget is "ongoing based."
- Budget is developed as a "line item budget," but has the freedom of a "lump sum budget" in the ability to transfer between components at the park level.
- Primary budget components are Personal Services and Supplies & Services.
- Personal Services comprises approximately 75% of operating budget.
- The Personal Services component is made up of wages 75% and benefits 25%.



Model B: This model is based on similar assumptions as Model A, except:

- A different approach is taken with the non-Personal Services component only.
- Natural Resources, Cultural Resources, Recreation and Facilities are high priority line items within that component.
- Although these line items are foci within the agency mission, current budget structure does not place separate emphasis on them. Pieces of them are incorporated into larger encompassing categories (e.g. a pedestrian archaeological survey would be charged to Professional Services). Here components and line items are not bound by OPRD traditional methodology, but strictly on a sense of park specific mission prioritization. In this model, the previous example would be charged differently (e.g. a pedestrian archaeological survey would be charged to Cultural Resources).

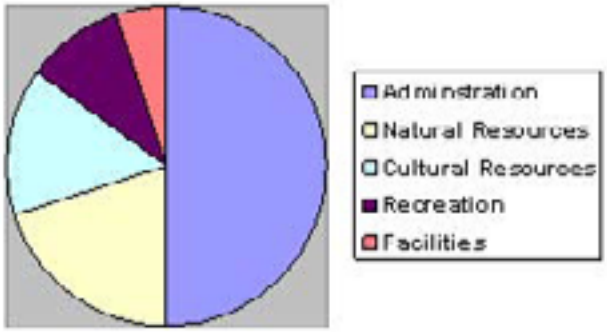


Model C: The assumptions for this model are:

- Budget is completely "zero based."
- Budget is developed as a "line item budget."
- Administration covers personnel costs and must be weighed on its' own merit, competitively against all other line items. Another option might be to absorb personnel costs into the other pertinent line items.

In conclusion, it is worth noting that:

- The prioritization of the line items can be validated (order & percentage weight) after conclusion of the comprehensive planning process.
- The models only reflect percentages, not money. When it has been completely determined what the completed park will look like, a Maintenance Management Plan process can be worked up to help estimate the park budget in dollars instead.
- It would be quite challenging to set one park outside of the current agency-wide practice as an experiment. If there isn't a way to do so, such as if prohibited by policy or law or just too impractical, then perhaps the alternative models could just serve as a field manager's template or tool to apply to the current method.



6. Community Partnerships and Communication

This section addresses the role of partnerships and communications in park development and operations. Partnership and communication strategies presented here are the result of an intensive community engagement effort designed to identify strategies for the development of public-private and public-public relationships that will support park goals.

OPRD and Cottonwood Canyon State Park operations staff will strive to;

1. Employ constant, timely, accurate communications.
2. Pursue partnerships with public, private, government and nonprofit organizations.

The above two goals will enable the local community and interested parties outside of the region can actively participate in the management choices at Cottonwood Canyon State Park. Through this section, general standards and goals for communications and partnerships are described to guide the development of a relationship between the park and its constituents and neighbors. Regardless of these guidelines, OPRD staff should always seize opportunities that fulfill the basic purpose and goals of the park outlined in previous sections.

Communications can refer to a variety of methods and media, and for this case shall refer to usual business practices of: personal meetings; news releases; written and electronic correspondence; newsletters; and Internet technologies. These communications will be used to:

1. Attract visitors to and inform visitors about park features and services in a way that leads to highly satisfying experiences.
2. Maintain community trust and involvement in park development and operations.
3. Build financial and social support for park development and operations.
4. Respond to local and regional concerns regarding emergency response and visitor behavior.

Partnerships can be formed on a formal or informal basis and can be comprised of local or extra regional interests. Generally, partnerships will be created to:

1. Achieve actions related to the natural, cultural, recreational or scenic goals of the park (Chapter 11)
2. Increase operational effectiveness through a reduction of expenditures or staff time required to operate the park.
3. Through highest and best use of park resources help other organizations and agencies achieve community goals that compliment park goals and staff effectiveness.

Measures for Successful Communications

OPRD maintains standard communication policies for communication between Cottonwood Canyon State Park operations staff and other department employees.

The agency will know communications are successful when:

- Few or no neighbors and visitors are surprised by decisions made at the park, or by the conditions of park facilities and features.
- Visitors and neighbors generally support management decisions, and management decisions are amended early in their development thanks to constructive feedback from people outside OPRD.
- Contacts increase from people interested in deeper engagement with the park.
- Day-use and camping visits gradually increase at a rate greater than the population's growth.
- Emergency response is immediate, appropriately scaled for the severity of the event, and successfully resolves or controls the emergency.

Public communication will also follow current policies and procedures, and potentially include the following actions:

Description	Priority	Reviews / Approvals
Timely news releases by fax and email to formal and informal media outlets on issues related to park development, opening or closure of public opportunities, and important advances in natural or cultural resource protection	1	Operations, OPRD IT, Public Services
Website presence that promotes and encourages safe, neighbor-friendly use the park and mass public engagement in park stewardship	1	Operations, OPRD IT, Public Services
Integration with local emergency response communication system	2	Operations, Forestry, Local Emergency Managers, OPRD contracting
An always-on phone or computerized system conveying status information on key park features	2	Operations, Public Services, RNW, IT

Strategies for Successful Partnerships

Community Interaction: Resource Management Partners – Extensive assessment and restoration work has been initiated in cooperation with partners and the park manager should place much emphasis on continuing to build positive, mutually beneficial relations with them. They include: Western Rivers Conservancy, Lower John Day Conservation Work Group, Sherman County Soil and Water Conservation District, Sherman County Area Watersheds Council, Oregon Department of Agriculture and the U.S. Bureau of Land Management whose scope of partnership is defined in the Cooperative Management Agreement that will follow this plan.

Neighbors: OPRD conducts outreach to the community during park development or planning, but a number of factors have led project staff to an elevated level for Cottonwood. Some of the factors include the limited previous Oregon State Park presence in Sherman and Gilliam Counties, reducing agricultural use, trespass, emergency issues relating to fire and egress, weeds and land stewardship. The outreach efforts included additional public meetings during the planning process, formation of specific subcommittees to deal with specific issues and even creation of a park specific website with the ability to constantly receive public input via blogs or email. It will be of the utmost importance for the park manager to continue these outreach efforts fostering positive neighbor relations, ensuring the park integrates into the community and becomes a welcome addition.

Intergovernmental: The following agencies have interests in the park and specific efforts have been made to develop positive relations with them: Gilliam County Sheriff's Office, Sherman County Sheriff's Office, U.S. Bureau of Land Management, Oregon Department of Fish and Wildlife, Confederated Tribes of Warm Springs, and Confederated Tribes of the Umatilla Indian Reservation. The park manager should continue these efforts and be aware of other potential similar partners with mutual interests.

Education: Cottonwood Canyon is ideally suited to serve as an outdoor education school for the community and Oregon in general. This became readily apparent quite early in the comprehensive planning process and was addressed by formation of an education subcommittee of the Lower John Day Conservation Work Group. Participating members include Sherman County Soil and Water Conservation District, Sherman County Area Watersheds Council, Sherman County School District and Gilliam County School District. A trial program in April 2011 will determine actual suitability of the site. In essence, the park will serve as an outdoor laboratory for watershed studies. The capability to suit other education needs, such as agricultural and natural science related curriculum is obvious. For this cooperative program to develop years before the scheduled park opening seems to confirm the demand. Once the word is out, other schools and colleges will likely want to become education partners, as well.

Measures for Successful Partnerships: OPRD has sought to engage the public in the development of Cottonwood Canyon State Park. Partnerships and partnership opportunities are an integral element of an active and robust community engagement strategy.

Partnerships can also improve public service and resource stewardship. Formal partnerships will conform to department policies and procedures related to signed agreements. Informal partnerships with established nonprofits, government agencies and unaffiliated groups are also encouraged.

OPRD will know successful partnerships are occurring when:

- Key natural, recreational and cultural park projects are completed with ever-increasing involvement by organized and informal volunteers.
- Partners originate new projects that support park values and goals.
- Grants dollars increase each biennium as a proportion of the park budget.
- Partners generally support management decision, and management decisions are amended early in their development thanks to constructive feedback from outside organizations.
- Partners rise to appropriately defend the park and its management decisions.

RELATIONSHIPS WITH OUTSIDE GROUPS CAN BENEFIT PARK PUBLIC SERVICES AND RESOURCE STEWARDSHIP IN ANY OF FIVE MAIN AREAS:

Natural: Partnership potential in this area is focused on relationships that help improve the condition or understanding of the natural resources of Cottonwood Canyon, and the surrounding landscape. These partnerships may focus on research opportunities on wildlife research projects, invasive weed control, range management, formal and informal education opportunities, and interpretation relating to the natural systems of the park. Partnerships may also involve funding strategies to complete restoration or weed control projects, or create demonstration projects in best management practices in resource management. The following areas are potential partnership opportunities.

Asset No.	Description	Phasing
6.1.1	CREP project on Murtha Homeplace with WRC	1
6.1.2	CREP project at Rattlesnake corral	1
6.1.3	Weed Control Projects (parkwide) with Gilliam County	1
6.1.4	Grazing demonstration projects (formal OSU extension, informal with adjacent neighbors)	2
6.1.5	School outdoor laboratory programs with Lower John Day Conservation Work Group	2
6.1.6	Riparian restoration project (Parkwide) with BLM	3
6.1.7	Wildlife study projects (informal) college/graduate students	3
6.1.8	Work with hunting and fishing groups to identify habitat improvement projects	3

Cultural: Partnership potential in this area includes the protection, preservation, and interpretation of the history and culture of the park area, and those who have used, and continue to use the park. This may include research and study of tribal uses of the area, European settlement and the changes in resource use. This may include interpretive or demonstration projects to explain the cultural connection to the landscape. The following are potential partnership opportunities.

Asset No.	Description	Phasing
6.2.1	Complete oral histories relevant to historic uses of park and the people and families that lived there and used the park	1
6.2.2	Work with Confederated Tribes of the Warm Springs to determine appropriate programs and representation of tribal use of park area	1

6.2.3	Work with John Day River Territory Tourism group to integrate Murtha Barn and Hay Creek School into regional barn and school site tour	2
6.2.4	Work with BLM and Tribes to develop protection plan for known cultural sites in park Study Area	1
6.2.5	Develop agricultural heritage demonstration project (formal Oregon Wheat League, informal adjacent neighbors)	2
6.2.6	Develop a network of interpretive speakers or program leaders	3

Recreational: Recreational partnership opportunities consist of user groups to help develop and maintain specific recreational facilities, provide visitor education or support emergency service response. These partnerships may coordinate with related properties to provide a whole experience, training and orientation to recreational practices.

Asset No.	Description	Phasing
6.3.1	Work with OET and Backcountry Horseman to design and develop equestrian facilities	1
6.3.2	Work with river guide community to create rafting education program/tour	1
6.3.3	Work with hunting and fishing groups to develop Leave No Trace educational materials and programs for users	2
6.3.4	Work with local and regional astronomy groups to develop star watching events or programs	2

Operations: While Cottonwood Canyon will likely appeal to a modest portion of the recreation market, marketing communications are still important to attract visitors and prepare them for their visit. In general, marketing efforts should work in close cooperation with natural, cultural and recreational partnership and access a mass audience to:

- attract park use compatible with natural and recreational goals and respectful of neighbor property rights.,
- generate revenue by promotion,.
- help visitors form accurate expectations of the park environment and services,
- aid conservation by engaging citizen scientists and attracting donations, and
- increase enrollment in park-based programs.

Asset No.	Description	Phasing
6.4.1	Traditional advertising	1
6.4.2	Internet-based social media outreach	1
6.4.3	Earned media coverage, especially through familiarization tours and media coverage of signature special events	2
6.4.4	Cooperative ventures with collective marketing organizations such as regional tourism organizations	3

Community: Some partnership opportunities may not yield direct tangible benefits to the park; instead, they help build a relationship or communication line to local community members, recreation advocates and visitors. Some partnership opportunities include a local operational advisory team, a forum for landowner liaison, participation in regional economic and tourism development groups, and value added experiences for public, private and home schoolchildren.

Asset No.	Description	Phasing
6.5.1	Form an informal advisory group to help guide and advise park staff on operational challenges	1
6.5.2	Partnership with local emergency service response agencies to identify ways that park staff and park resources can contribute to emergency response in the region.	1

6.5.3	Hold annual meeting to update adjacent landowners on park issues and listen to concerns	2
6.5.4	Continue dialogue with Lower John Day Conservation Work Group to identify ways that Cottonwood Canyon can contribute to the regional efforts to preserve and protect the Lower John Day River	2
6.5.5	Participate with John Day River Territory Tourism group to identify and develop regional tourism opportunities	1
6.5.6	Participate with local and regional business and economic development groups (Condon Chamber, Gilliam County Economic Development, Sherman County Economic Development) to identify and pursue economic development	2

Community relations and communications exist for two basic reasons: to accomplish park goals and improve the capability of park staff to act as stewards, and to play a positive role in the community so long as it doesn't conflict with this stewardship. Many Oregon state parks grow into this latter community role over many years simply by existing in the community, and this will be true of Cottonwood Canyon as well. In its first generation as a member of the community, however, every communication success—and every failure—can set the relationship tone for decades (or longer), and particular care to engage in constant, open, transparent, and complete communication is important.

Phasing Priorities

Restoration of natural resources and recreation development of the park will be carried out in phases. The general plan illustrates how the park may look when all of the proposed design concepts and restoration projects are completed. The successful completion of this plan will require a strong partnership with the local community. The park manager welcomes assistance with events, interpretation, trail and vegetation upkeep, and visitor contact and supervision through community partnerships. The park concepts herein are hoped to stimulate new community partnerships while retaining longtime friends and partners.

Priorities will guide the phasing of park development and management. To open the park, much effort will be expended on initial restoration projects and preparing the Western Gateway's Murtha Homestead area and JS Burres area as well as Hay Creek to make them available for public use. OPRD has geared up for initial restoration work and will restore and enhance many more areas of the park over time. This slow process will ensure that the river, creeks and bottomlands with their future restored riparian areas once again will afford good habitat for fish passage and wildlife use, while providing careful access for a variety of recreational uses.

Initially, the West Entrance including the Murtha Homestead will be developed as the major entrance area to the park. Restoration projects will focus on these areas as well as Esau and Hay Creek. Later, additional day-use and overnight opportunities will be provided at the West Entrance, Hay Creek and some minor overnight areas at Esau. Trails expansion and improvements of existing jeep roads for trail use will occur as funding allows and will be subject to the NEPA decision making process on BLM fee title lands. Restoration of the riparian areas and bottomlands will continue, along with the continued effort to control and eradicate weeds. The goal is to restore Cottonwood Canyon to a resilient habitat that will support an abundance of wildlife. This will take many decades, but initial efforts will be visible by the time the park opens in 2013.

The following table and diagrams highlight phasing priorities for recreation development projects in the park. The priorities are not supposed to be fixed; they are a starting point to provide a picture of how recreation in the park can be managed.

Phasing Priorities for Recreation Development Projects

Phasing Priority Legend

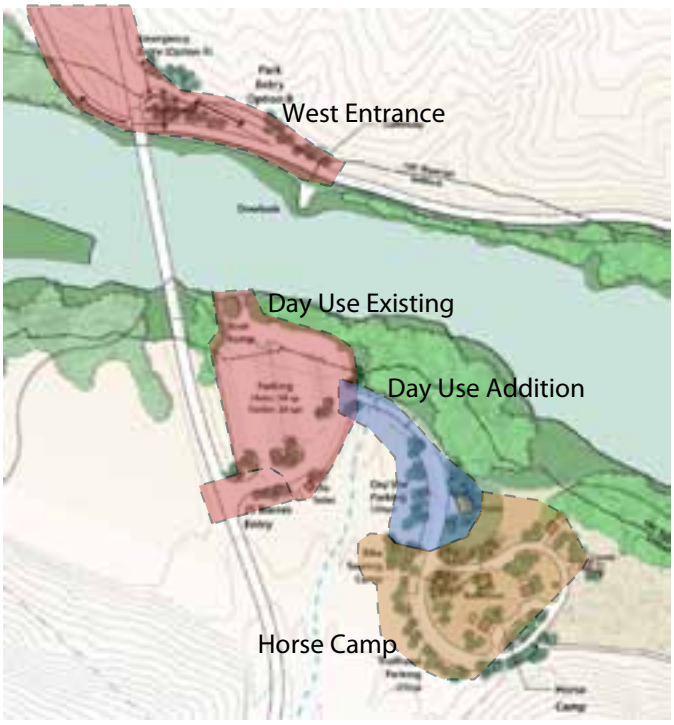
Priority 1 Priority 2 Priority 3

Phasing Priority Table

Action No.*	Project Areas:	Priority
	Murtha Homestead:	
10.4.1.1.2	Road Circulation	1
2.4.1.1	Day Use West	1
2.4.1.2	Day Use East	2
2.4.3.1	Maintenance and Staff Area	1
2.4.2.1	Cabin Area- P1	1
2.4.2.1	Cabin Area- P2	2
2.4.2.4	Campground	1
2.4.2.3	Earth Cabins	2
2.4.2.5	Group Camp	2
2.4.2.6	Walk-in Camps	2
2.4.2.8	Hiker Biker Camp	2
	JS Burres:	
2.4.1.3	Day Use Existing	1
2.4.1.4	Day Use Addition	3
2.4.2.7	Horse Camp	2
2.4.1.9	Walk-in Camps	3
	Hay Creek:	
10.4.1.5	Road Circulation	1
7.4.2.1	Day Use	2
7.4.2.1	Horse and Group Camp	2
7.4.2.2	Hike-in	1
7.4.3.1	Maintenance and Staff Area	2
	Other Areas:	
3.4.1.1	Esau Bottomland Primitive Camping	1
4.4.1.1	Gooseneck Overlook Trail Head	3
8.4.1.1	Canyon Overlook Trail Head	3
	Trails:**	
10.4.4.1	North River Trail	1
10.4.4.2	South River Trail	1
10.4.4.3	Gooseneck Trail	1
10.4.4.4	Rattlesnake Ridge Trail	2
10.4.4.5	Esau Canyon Trail	2
10.4.4.6	Side Canyon Trail	3
10.4.4.7	Summit Trail	3
10.4.4.8	North Rim Trail	3
10.4.4.9	South Rim Trail	1
10.4.4.10	Bull Canyon Trails	3
10.4.4.9	John Day Water Trail	1
10.4.8.1	Murtha Interpretive Trails	1
10.4.8.2	Hay creek Interpretive Trail	2
10.4.8.2	Canyon Overlook Trail	3

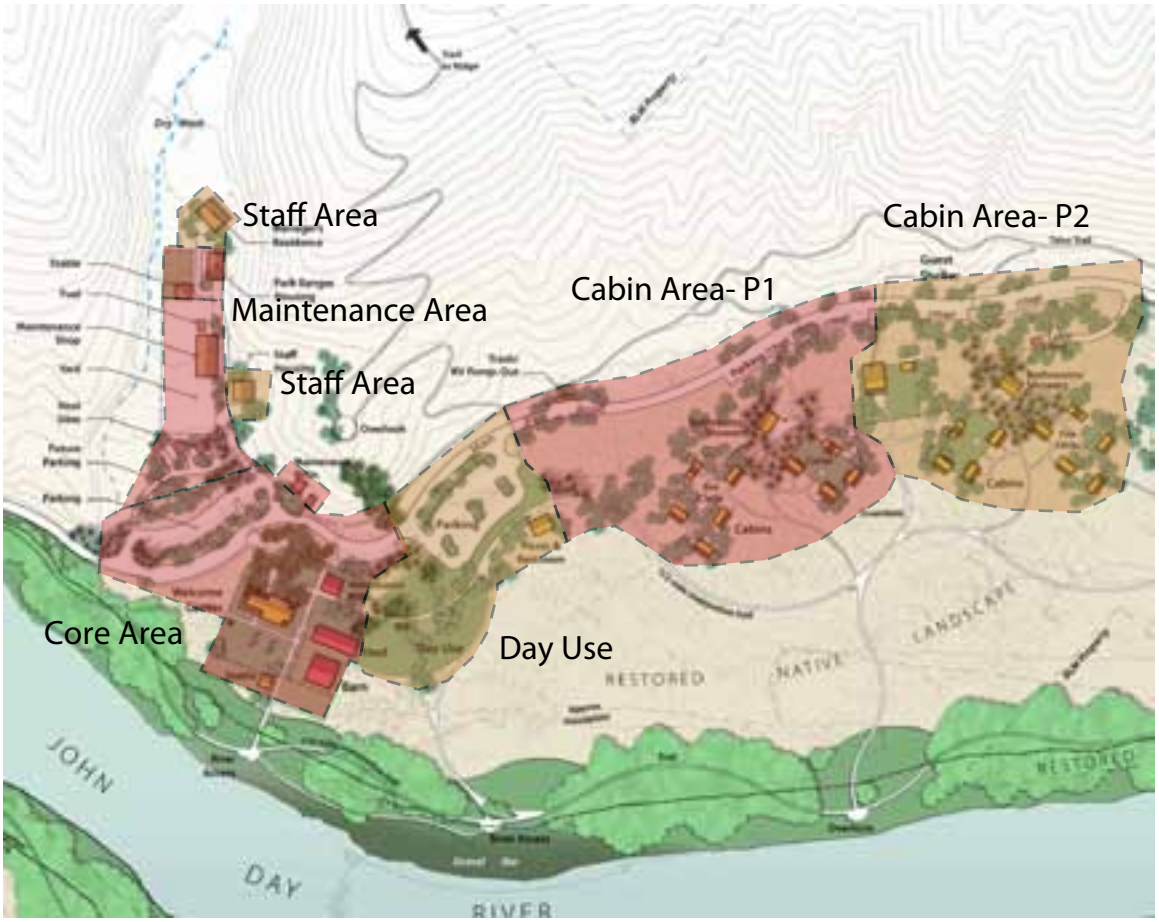
* Actions numbers can be referenced in Chapter 11, Management Zones
** Any decision on trails concepts is subject to NEPA on BLM fee title land

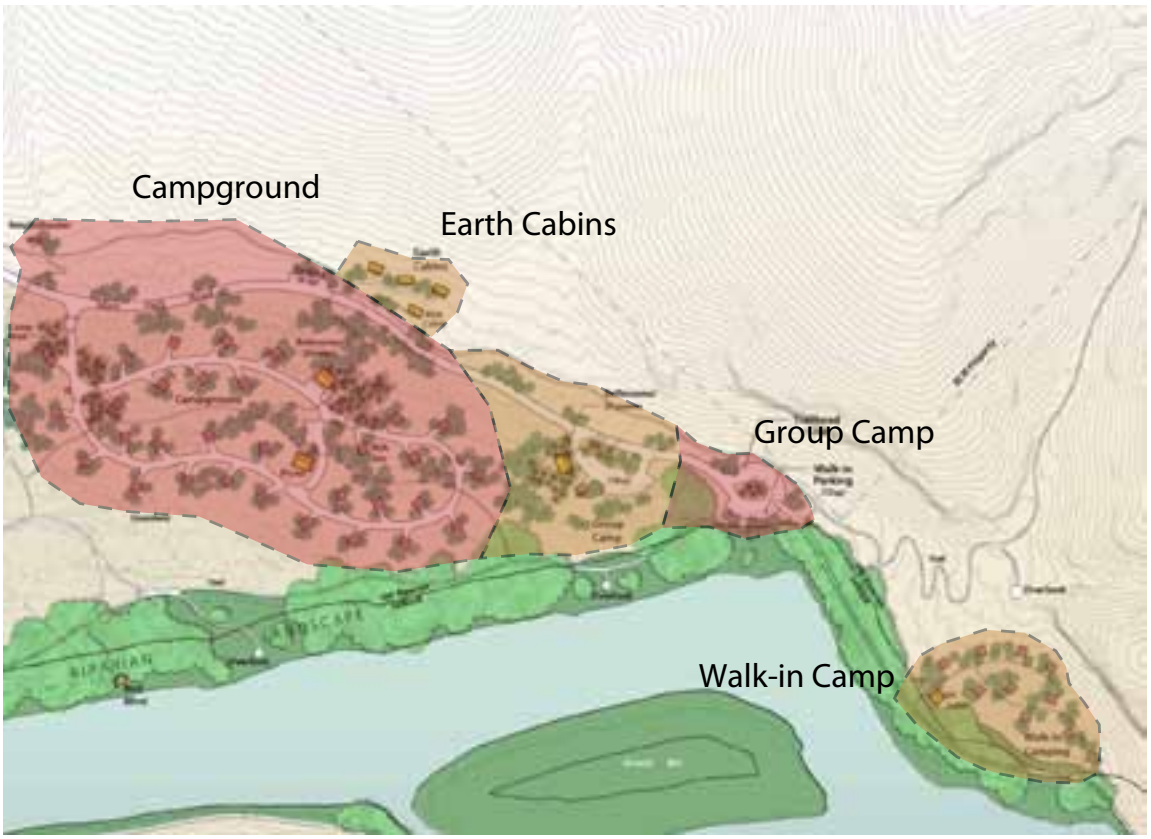
JS Burres Day Use and Overnight Area



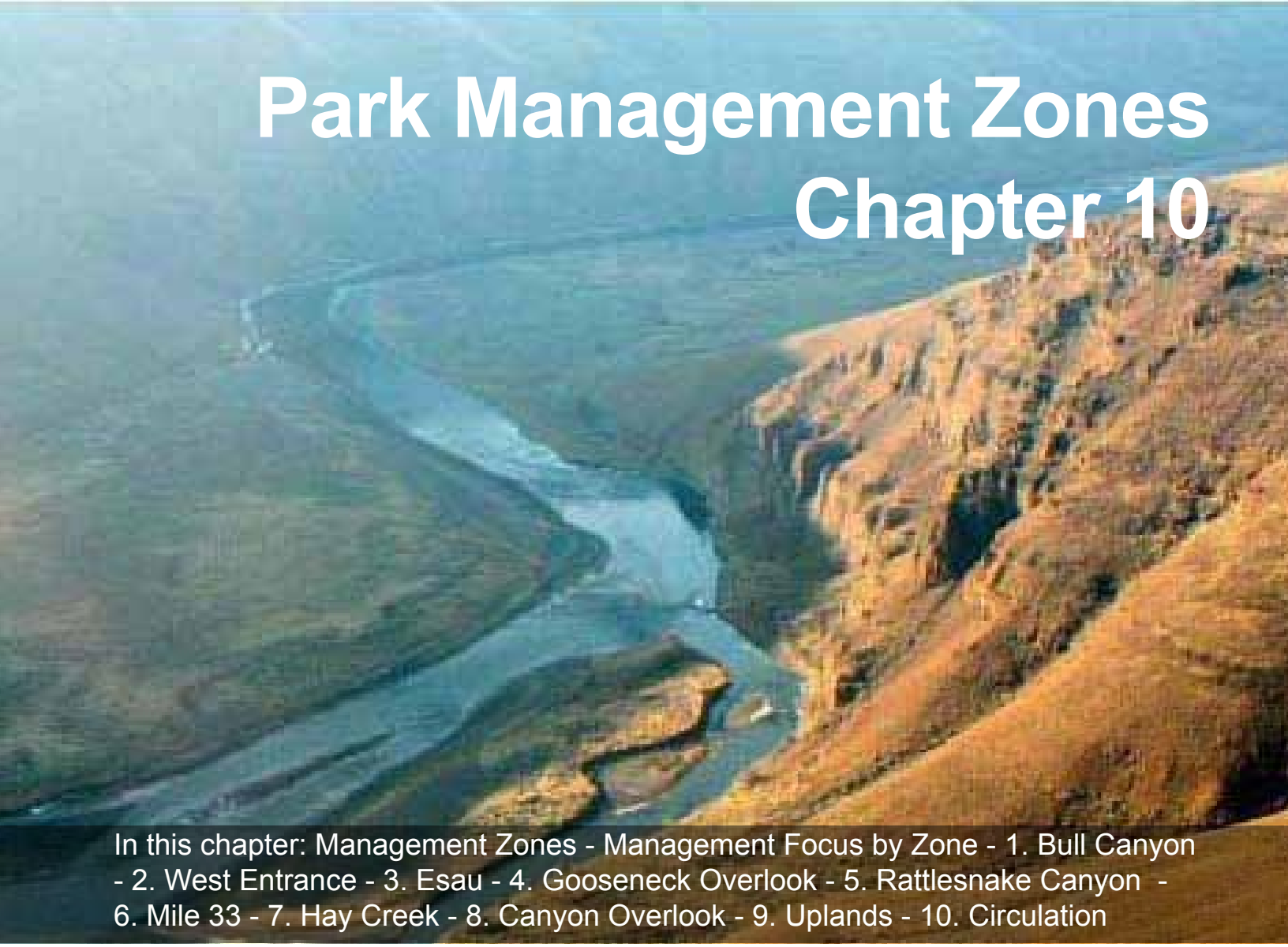
Hay Creek Day Use and Overnight Area

Murtha Homestead Day Use and Overnight Area





Park Management Zones
Chapter 10



In this chapter: Management Zones - Management Focus by Zone - 1. Bull Canyon - 2. West Entrance - 3. Esau - 4. Gooseneck Overlook - 5. Rattlesnake Canyon - 6. Mile 33 - 7. Hay Creek - 8. Canyon Overlook - 9. Uplands - 10. Circulation

Photo 10.1 View of the John Day River from within Cottonwood Canyon State Park, OPRD 2010

Management Zones

A management zone is an area inside the state park dominated by characteristics which set it apart from other parts of the park.

Four kinds of resources — natural (plants, animals, soils and water), scenic, cultural and recreational — rise and fall as priorities from zone to zone. This chapter describes the priorities found in each zone, explaining which of the resources are the dominant concern. Within each zone, information on strategies, concepts and guidelines are described and management actions listed for that portion of the park. Using management zones as a guide, staff can decide how to assign their time and budget to achieve the park goals. Management zones also help staff understand the skills required to complete work in each area, and seek those skills out in the form of training, assistance from other areas of the Parks and Recreation Department, and partnerships with outside groups.

The zones described in this chapter were created to preserve and improve the park's most important natural, scenic, recreational and cultural resources. Management staff need to know which kind of resource holds the trump card. Natural resource restoration and protection is so basic, so necessary to delivering quality recreational and scenic experiences, it is present to some degree in every management zone. Even so, there are places particularly well-suited to recreation — especially where human use is already well established. Recreation and natural resource management share priority in those cases. Cultural resources — present in many locations throughout the park – often overlay natural and recreational features and require special attention to integrate their preservation and management into park operations.

Park management zones are the next logical step, following the foundation created in Chapter 7 Opportunities and Constraints, Values and Goals for Park Management in Chapter 8, and Chapter 9 Park Strategies and Operations. Nine opportunity areas were described in Chapter 7, and each handled natural and recreation priorities in one of three ways: primarily natural, primarily recreational or a mixture of the two. Nine of the ten management zones in this chapter are set up the same way as the opportunity areas, apply to the same geographic areas, and even carry the same names as the nine opportunity areas. The only addition here is Management Zone 10, Circulation, which deals with the in-park transportation routes crossing through each of the other zones.

To ease implementation of the concepts in this plan a system for numbering actions or strategies and tying them to management zones as well as resource and recreation goals has been developed. The numbering system uses four digits. The first digit describes the management zone, the second notes if it is a recreation, natural, cultural, scenic, or operations goal, the third describes the type of action or strategy and the fourth is the project or program number for the described action or strategy. For example, 2.1.3.5 describes the West Entrance Management Zone (2), a natural resource goal (1), the strategy for that goal; bottomland restoration (3), and that this is the fifth project of this type for bottomland restoration projects in this management zone (5). Opposite is a table that describes what each of the numbers represents (Table 10.3).

Management Focus by Zone

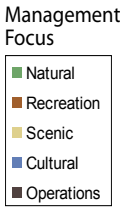
The ten management zones that make up the park define natural resource conservation strategies, recreation intensity, scenic character protection, cultural resource preservation and operations management. The intent of the park is predominantly focused on natural resources with a recreation component that must lay lightly on the land. For each zone, it is possible to understand the focus for that area in terms of either natural resources or recreation, or a combination there of. Even though the intent for a zone is predominantly focusing on natural resources or recreation, scenic and cultural resources are still always taken into consideration. The table below shows a high to low level of intensity for natural, scenic, cultural and recreation intent for each zone.

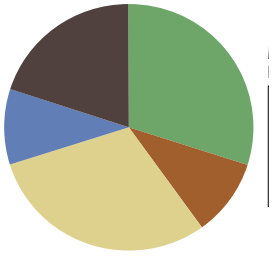
Based on these factors it is also possible to describe the level of focus for operations in each zone. The pie charts opposite show a breakdown in terms of resource, recreation and operational management for the park (Table 10.2). The larger the piece of pie the higher intensity of management for each zone. By displaying the information in this manner it highlights not only the level of management effort that is expected for a category in each zone, but also the focus for that zone, be it in terms of recreation opportunities or conservation and preservation efforts. Over the years the intensity of effort for each category may change within a management zone as projects are completed.

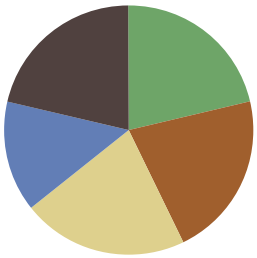
Zone	Natural	Recreation	Scenic	Cultural	Operations
1. Bull Canyon	H	L	H	M	M
2. West Entrance	H	H	H	H	H
3. Esau	H	M	H	M	M
4. Gooseneck Overlook	M	L	H	H	L
5. Rattlesnake Canyon	M	L	M	L	L
6. Mile 33	M	L	H	M	L
7. Hay Creek	H	M	H	H	H
8. Canyon Overlook	M	M	H	L	L
9. Uplands	L	L	M	L	L
10. Circulation	H	H	H	L	H

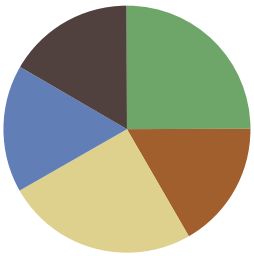
Table 10.1: Focus is based on a high to low ranking with:
High Focus - Medium Focus - Low Focus

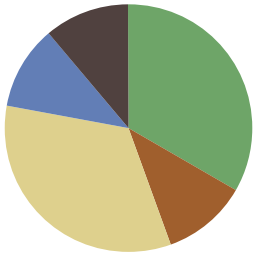
The pie charts below show the focus is on natural and scenic resources in the park. Recreation and cultural are mostly a secondary focus.

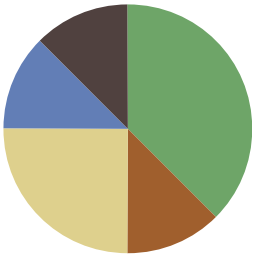


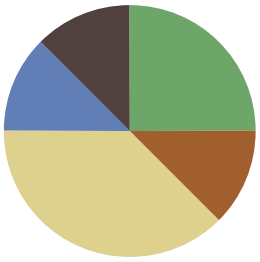

1. Bull Canyon Zone

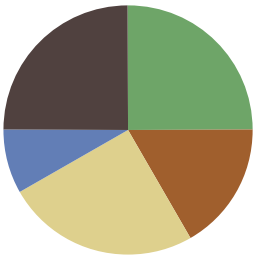

2. West Entrance Zone

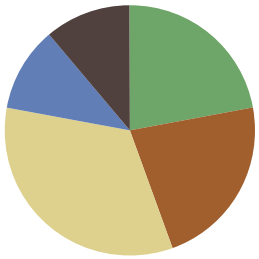

3. Esau Zone

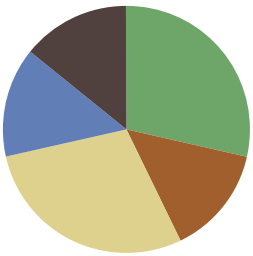

4. Goosneck Overlook Zone


5. Rattlesnake Canyon Zone


6. Mile 33 Zone


7. Hay Creek Zone


8. Canyon Overlook Zone


9. Uplands Zone

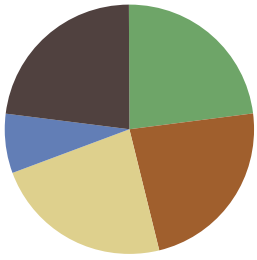

10. Circulation Zone

Table 10.2: Management Focus by Zone

Key to Action Codes

First Digit: Management Zones

1. Bull Canyon
2. West Entrance
3. Esau
4. Gooseneck Overlook
5. Rattlesnake Canyon
6. Mile 33
7. Hay Creek
8. Canyon Overlook
9. Uplands
10. Circulation

Second and Third Digits: Resource and Action

1. Natural Resources:
    1. Control weeds along roads and trails
    2. Establish willow and shrubs
    3. Bottomland Restoration
    4. Riparian Restoration Project
    5. Control Weeds (Poison Hemlock)
    6. Control Weeds (Hemlock)
    7. Control Weeds (Whitetop)
    8. Monitor
2. Cultural Resources:
    1. Preservation
    2. Rehabilitation
    3. Documentation
3. Scenic Resources:
    1. Primitive Character
    2. Natural Character
    3. Rural Character
    4. Viewpoints
    5. Views
    6. Screening
4. Recreation:
    1. Day Use
    2. Overnight
    3. Maintenance
    4. Circulation
5. Operations:
    1. Development Projects
    2. Resource Projects
    3. Park Maintenance
    4. Park Management
    5. Personnel Services

Fourth and Fifth Digits: Location and Feature (as noted in tables for this chapter)

Table 10.3

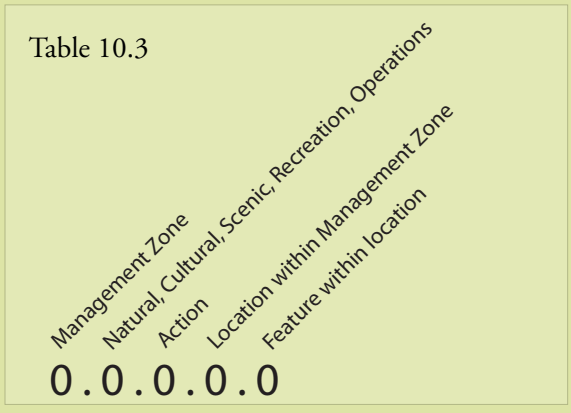


Photo 10.2 The setting for Cottonwood Canyon is spectacular, but on the ground conditions can be harsh. The mid-day sun can leave hikers dehydrated if not properly prepared for day or overnight hikes in the park. The management zones can be used to highlight the degree of ruggedness and distance from centers that provide basic utilities for visitors. This ranges from the rural setting in day use areas at the Murtha Homestead, JS Burres and Hay Creek, to a primitive setting in Mile 33 Management Zone, which is a long hike from the nearest services.

1. Bull Canyon Management Zone

The focus for this management zone is on conserving and restoring natural resources. Recreation is limited to the use of trails along the river bank and the area has a high scenic value. Operational effort in this area will be low compared to other areas in the park with a focus on restoration projects, enforcement of park rules and education opportunities.

Zone	Natural	Recreation	Scenic	Cultural	Operations
1. Bull Canyon	H	L	H	M	M

1.1 NATURAL RESOURCES

This management zone includes the floodplain and terraces of the John Day River, the area upstream of Cottonwood Bridge and land adjacent to the Wilderness Study Area. Its natural landscape primarily consists of riparian fringe, big sagebrush steppe, grassland, off channel wetlands, and gravel bars, as well as severely degraded former agricultural or overgrazed land. The current overall condition is poor, and this zone contains some of the highest park-wide restoration priorities.

The restoration concepts for this management zone are area-wide-priority 1 or 2. The priority is to control weeds, reestablish the riparian area, and reestablish big sagebrush in the bottomlands. To reestablish the riparian area, an adaptive approach will be undertaken that will allow changes to occur depending on events, especially those that are river-related. For example, flooding may create small wetland areas where wetland planting will be more suitable than riparian planting in the typical set-back for the river. Over time this adaptation may change back to a riparian habitat and so the approach will logically return back to a riparian planting approach.

Phase 1
Action 1.1.4.1 Riparian Restoration Project (Map code 4)
Prescription summary: Establish willow in bottom of incised channel. On banks establish cottonwood and white alder.
Desired future condition: black cottonwood-coyote willow-pacific willow-Oregon ash-white alder-mockorange-woods rose-blue elderberry-/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass

Step A: Plant and cage trees and tall shrubs

Phase 2
Action 1.1.3.1 Bottomland Restoration (Map code 3)
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.
Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster

Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.

Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

Action 1.1.6.1 Control Weeds - poison hemlock (Map code 6)
Prescription summary: Control poison hemlock. Seed additional basin wildrye. in areas of hemlock control.
Desired future condition: big sagebrush-rubber rabbitbrush/prairie sage-basin wildrye-creeping wildrye-streambank wheatgrass

Step A: Control poison hemlock and seed former hemlock areas with basin wildrye, creeping wildrye, and streambank wheatgrass.

Action 1.1.7.1 Control Weeds - whitetop (Map code 7)
Prescription summary: Control whitetop. Seed with creeping wildrye.
Desired future condition: big sagebrush/creeping wildrye-basin wildrye

Step A: Control weeds and seed newly bare ground with creeping wildrye and basin wildrye.

1.1 Bull Canyon Zone - Natural Resources

Action	Description	Size / Quantity	Reviews / Approvals
1.1.4.1	Riparian Restoration Project	11.5 ac	Any grading: County, FEMA, DSL, USACE, USFWS, NOAA fish Water rights: Water Resources Clearing existing vegetation: Possible County review
1.1.3.1:	Bottomland Restoration	28 ac	Partners and peers (coordination and sharing)
1.1.6.1	Control Weeds (poison hemlock) + seed	0.5 ac	Any grading: County/FEMA, DSL, USACE, USFWS/NOAA fish Water rights: Water Resources Clearing existing vegetation: Possible County review
1.1.7.1	Control Weeds (whitetop) + seed	1.5 ac	Partners / peers (coordination / sharing) Consider DSL if on islands

1.2 CULTURAL RESOURCES

The potential for archaeological sites to be found is high. Archaeological surveys and testing will help determine the presence or absence of cultural resources. There are no known significant historic resources in this zone.

1.3 SCENIC RESOURCES

There is an outstanding view upriver from Cottonwood Bridge. This view is symbolic of the park as well as the Lower John Day River basin. The John Day River can be seen snaking through lush bottomlands, which quickly give way to steep sided canyon walls with protruding layers of volcanic rock. The deep red, brown, and orange of the canyon walls are in stark contrast to the bright green of the vegetation below and the sky above. It is the colors and scale that leave the biggest impression, highlighting the vast size of the canyon and the forces that work upon it.

The traditional activities in this zone are limited to two trails leading upriver from the bridge on either side of the John Day supporting activities like fishing, hunting and hiking. The only other activity is paddlers passing through that are able to use designated BLM primitive camping spots. Protecting the natural character of this area is important as it gives visitors the opportunity to connect with nature. There are currently a couple of locations on the river where the top portion of wind turbines on the north side of the canyon are visible. The area can be described under the ROS category as a Class II, Natural Setting. This area, if it is fully restored, could be upgraded from a Class II to a Class I, Primitive with Trails Setting. In addition, the view upriver from the bridge should also be protected.

1.3 Bull Canyon Zone - Scenic Resources

Action	Description	Reviews / Approvals
1.3.3.1	Preserve and enhance natural character	State Scenic review Federal Wild and Scenic Review
1.3.4.1:	Retain view upriver from bridge	State Scenic review Federal Wild and Scenic Review

1.4 RECREATION

Access upriver from Cottonwood Bridge is limited and visitors can hike the existing trails, 2.5 miles along the north side of the river and 1.5 miles on the south side, before they encounter the steep canyon walls that run straight down into the John Day. Only when the river is fordable is it possible to continue upstream into the Wilderness Study Area. The best opportunities these two trails afford are for short hikes and wildlife viewing, or for access to fishing and hunting grounds. At the terminus of the trail on the north side of the river, there is an existing primitive boat-in area that provides facilites for limited ranger or concession-led short paddling trips. The paddling outings are an oppotunity to provide environmental education about the history and natural beauty of the John Day River and Cottonwood Canyon. In this managment zone, BLM also has located primitve boat-in camps along the river.

1.4 Bull Canyon Zone - Circulation and Recreation

Action	Description	Status	Size / Quantity	Reviews / Approvals
10.4.4.1	Bull Canyon Trail	Rehab	Approx. 4 miles	Explore possible BLM requirements State Scenic review
10.4.2.1	Water Trail	Existing	48 to 40 segment	Explore possible BLM requirements State Scenic review
1.4.1.1	Primitive Boat put-in	Existing	1	Explore possible BLM requirements State Scenic review

1.5 OPERATIONS

Characteristics of the Bull Canyon Management Zone which will influence and dictate Operations functions include an ROS category Class II Natural setting designation, convenient access to the highway, rugged and steep terrain, views and the narrow scope of recreation activities. Primary recreation is likely to be rafting, hiking, hunting, fishing and scenic viewing. Operations will include:

1.5 Bull Canyon Zone - Operations

Action	Description
1.5.1.1	Develop trails to protect natural resources from visitor impacts while providing trail connectivity and scenic viewing opportunities.
1.5.2.1	Manage weeds as prescribed in Vegetation Management Plan, including manual and chemical treatments followed by planting of native or interim species, especially along trails.
1.5.3.1	Maintain trail to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
1.5.3.2	Maintain park amenities to Oregon Parks and Recreation Department standards, using a park specific Maintenance Management Plan and HUB. Amenities include a raft put-in.
1.5.4.1	Routinely patrol for rule enforcement and safety.
1.5.4.2	While interpretation will be occasional, it will be a dominant focus for staff when encountering visitors in this management zone to educate on safety and reducing impacts on the land.
1.5.4.3	Cooperate with Oregon Department of Fish and Wildlife, supporting their goals to provide safe and positive fishing and hunting opportunities while managing fish and wildlife populations and habitat.
1.5.4.4	Ensure activities and development complement goals of the adjacent Bureau of Land Management Wilderness Study Area.

Photo 10.3 For many multi-day boaters the Bull Canyon Management Zone is the last stretch of the John Day River before they take out at Cottonwood Bridge, OPRD 2010.

Bull Canyon Management Zone

This is one of the most spectacular segments of the John Day River as it winds through the park boundary. The colors of the canyon walls, especially at dusk, highlight the natural beauty of the place and the size of the canyon in this section portrays the vast sense of scale. Restoring the riparian edge along the John Day River and the sage bottomlands is the priority for this zone. Recreation activities will be limited to traditional activities including paddling, hunting, fishing, hiking and horse riding. To continue up river requires fording the John Day, which is only usually possible in late summer. Up river from the this zone is the BLM's Wilderness Study Area. This zone acts as a buffer between the study area and the major day use area for the park at the Murtha Homestead. BLM also allows primitive boat camping in designated locations in this section and there are opportunities for park rangers to lead environmental education for school groups through this very scenic section of river.

Photo 10.4 View at sunset in fall highlighting the amazing color of the canyon upriver from the bridge, OPRD 2010

Bull Canyon Management Zone begins at Cottonwood Bridge and covers the bottomlands up to the beginning of the BLM's Wilderness Study Area.

Restoration Concept Descriptions:

Phase 1

Map code 4: Action 1.1.4.1 Riparian Restoration Project
Prescription summary: Establish willow in bottom of incised channel. Where banks allow, establish cottonwood and white alder.

Desired future condition: black cottonwood-coyote willow-pacific willow-Oregon ash-white alder-mockorange-woods rose-blue elderberry-/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass
Step A: Plant and cage trees and tall shrubs

Phase 2

Map code 3: Action 1.1.3.1 Bottomland Restoration
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.

Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster
Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.
Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

Map code 6: Action 1.1.6.1 Control Weeds - poison hemlock
Prescription summary: Control poison hemlock. Seed additional basin wildrye. in areas of hemlock control.

Desired future condition: big sagebrush-rubber rabbitbrush/prairie sage-basin wildrye-creeping wildrye-streambank wheatgrass
Step A: Control poison hemlock and seed former hemlock areas with basin wildrye, creeping wildrye, and streambank wheatgrass.

Map code 7: Action 1.1.7.1 Control Weeds - whitetop
Prescription summary: Control whitetop. Seed with creeping wildrye.

Desired future condition: big sagebrush/creeping wildrye-basin wildrye
Step A: Control weeds and seed newly bare ground with creeping wildrye and basin wildrye.

Bull Canyon Trail

Bull Canyon Trail

Boat Put-in Area

206

Legend
Trails
Restoration Concept Areas
Park Area
Management Zone
County Roads
Highway 206
River

0 0.5 1 Mile

Bull Canyon Management Zone

2. West Entrance Management Zone

The focus for this management zone is recreation, providing a central location for welcoming and orienting visitors to the park. This zone also provides the majority of the overnight accommodation. Conserving and restoring natural resources is also a priority. Operational effort in this area will be high, focusing on visitor services and maintenance operations. This is the only area in the park with a focus on recreation. The development of a day use and overnight area will require scenic regulations are carefully adhered to in this zone.

Zone	Natural	Recreation	Scenic	Cultural	Operations
2. West Entrance	H	H	H	H	H

2.1 NATURAL RESOURCES

This management zone includes the floodplain and terraces of the John Day River that are downstream of Cottonwood Bridge. The former Murtha Ranch homestead is also within this zone as well as the JS Burres day use area, which is the most developed and human-modified area of the park. The homestead includes multiple proposed and existing buildings and other man-made structures and landforms that have altered the natural landscape. The current overall condition of the zone is poor, and contains some of the highest area-wide restoration priorities.

The restoration concepts for this management zone are area-wide-priority 1 or 2. The priority is to control weeds, reestablish the riparian area, and reestablish big sagebrush in the bottomlands. The main gateway located at the Murtha Homestead, its associated overnight area to the east, and the minor day-use and overnight facilities in the JS Burres area will be landscaped using native plants.

Phase 1
Action 2.1.4.1: Riparian Restoration Project (Map code 4)
Prescription summary: Establish willow in bottom of incised channel. Where banks allow, establish cottonwood and white alder.

Desired future condition: black cottonwood-coyote willow-pacific willow-Oregon ash-white alder-mockorange-woods rose-blue elderberry/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass

Step A: Plant and cage trees and tall shrubs

Phase 2
Action 2.1.3.1: Bottomland Restoration (Map code 3)
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.

Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster
Phase 1: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.

Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

Action 2.1.5.1: Control Weeds - poison hemlock (Map code 5)
Prescription summary: Control poison hemlock.
Desired future condition: blue elderberry-hackberry-mockorange-smooth sumac/Lomatium-monkeyflower, etc

Step A: Chemically treat poison hemlock

2.1 West Entrance - Natural Resources

Action	Description	Size / Quantity	Reviews / Approvals
2.1.4.1	Riparian Restoration Project	27 ac	Grading: County/FEMA, DSL, USACE, USFWS/NOAA fish Water rights: Water Resources Clearing existing veg: Consider County review CREP: USDA /NRCS; and ODF
2.1.3.1	Bottomland Restoration	75 ac	Partners and peers (coordination and sharing)
2.1.5.1	Control Weeds (poison hemlock)	0.3 ac	Partners and peers (coordination and sharing)
2.1.8.1	Monitoring of results	77 ac	Share findings with partners

2.2 CULTURAL RESOURCES

Historic resources in this management zone are not eligible for the National Register. However, the core area of the ranch including the barn and surrounding buildings should be preserved where possible as they are important to local people who value ranching in the region. The red barn, in particular, is a local iconic image that is visible when crossing the John Day River via Cottonwood Bridge. The local public has stated this building be retained and rehabilitated as a facility within the park with which Oregon State Parks agrees. In addition, remnant site features of the ranch including the roads, corral fencing, rock jacks and homestead trees should be also preserved where possible. The potential for archaeological sites to be found is high. Archaeological surveys and testing will help determine the presence or absence of cultural resources.

2.2 West Entrance - Cultural Resources

Action	Description	Reviews / Approvals
2.2.1.1	Preserve ranch buildings where possible as part of park development	SHPO
2.2.1.2	Preserve site features where possible and maintain	SHPO
2.2.2.1	Stabilize or Rehabilitate Red Barn	Sherman County building permit 1200C storm water management permit and erosion sediment control plan Consult with SHPO State Scenic review.

2.3 SCENIC RESOURCES

The main gateway for Cottonwood Canyon is at the Murtha Homestead and JS Burres day use area, which can be accessed by roads on either side of Cottonwood Bridge. The homestead and the pasture fields with fence lines are typical of the traditional ranching landscape along the John Day River. The steep canyon walls with exposed rock faces encase the working landscape of the bottomlands to display not only a geological timeline that goes back 15 million years but the ranch vernacular of the region. From the Murtha Homestead, the view downriver leads to a sharp bend framed against the rock canyon wall. This area can be described under the ROS categories as a Class III, Rural Setting.

Protecting views downriver from Cottonwood Bridge and from the Murtha Homestead are important as this is the most frequently viewed and visited area. From the river, any views of new development need to be screened with plantings along the riparian zones and around the development itself. However, the Class III, Rural Setting designation means the homestead character is scenically viewed as a character-defining feature, therefore new development conforming to the ranch vernacular or existing homestead buildings need not be screened but can be viewed as part of the setting for this management zone. In addition, OPRD will work with partners to re-locate utility lines if opportunity ever presents itself.

2.3 West Entrance - Scenic Resources

Action	Description	Reviews / Approvals
2.3.3.1	Preserve rural character	State Scenic review Federal Wild and Scenic Review
2.3.5.1	Retain view down river from bridge	State Scenic review Federal Wild and Scenic Review
2.3.5.2	Retain views out from Murtha Homestead	State Scenic review Federal Wild and Scenic Review
2.3.5.3	Retain historic views of red barn	State Scenic review Federal Wild and Scenic Review
2.3.6.1	Screen views of new development	State Scenic review Federal Wild and Scenic Review

Photo 10.5 View from Cottonwood Bridge looking down the John Day River. The former Murtha Homestead is on the left bank with the red barn and other outbuildings visible. This is the proposed site of the main day use area for the park including a Welcome Center and stabilizng the old Red Barn. On the right bank is the site of the existing JS Burres day use area, which will continue to be the main boat take out location in the park, OPRD 2010.

West Entrance Management Zone

The emphasis on blending park facilities with the landscape will extend to site furniture. A traditional windmill for pumping water, hand water pumps, and corral fencing supported by rock jacks will typify the historic ranching character of the area and provide amenities for the visitor. This approach follows one of the major overarching goals for the park; to lay lightly on the land.

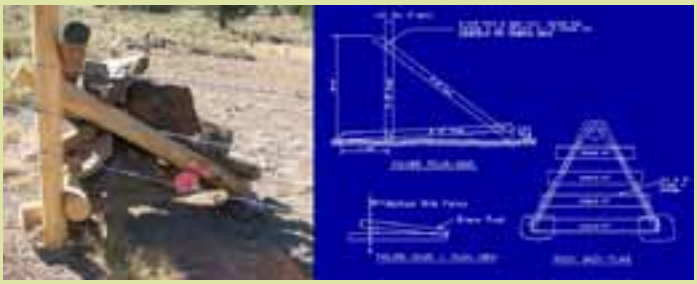


Photo 10.6 A rock-jack and how to make one, source 2010.

The West Entrance Management Zone (highlighted above in green) mostly covers the bottomlands running adjacent to the John Day River. The zone begins at Cottonwood Bridge and follows the John Day down river, ending before the big bend where Esau Management Zone begins. This zone contains the major recreation center for the park where most visitors will get oriented to Cottonwood Canyon. It will also have a boat put in, four trail heads, day use area and a mixture of camping and cabin opportunities. Restoration in the this zone will focus on the riparian edge of the John Day River and the sagebrush bottomlands.

The West Entrance covers both sides of the river including the Murtha Homestead on the north sides and JS Burres on the south side.

Murtha Homestead Day Use and Overnight Area
The former Murtha Homestead is the major gateway to the park. The park entrance will be marked by a ranch entrance arch and sign that enables visitors to recognize they are entering the state park, and to understand the outstanding setting as well as the great history behind Cottonwood Canyon and the John Day River. The design of the entrance area will reflect the appearance of the former ranch and will blend into the canyon bottomlands. This rural vernacular design style will be carried throughout the park's buildings, structures and site furnishing in order to form a cohesive identity that complements the dramatic setting of the park. Visitors arriving at the Murtha Homestead will be able to check-in at the Welcome Center, which will provide information on the park ranging from backcountry exploration, education programs, day rafting trips to crucial safety advice. A series of buildings and open gathering spaces around the Welcome Center will help orient the visitor to the park.

Day Use: The day use area will leave a light footprint on the land, blending in with the local setting, while providing facilities typically found at a state park including a Welcome Center, gathering areas, interpretive trails, picnic shelters and education programs. With up to 70 parking spaces, this area will be a hub from which to explore the park trails along the bottomlands and up to the rim of the canyon. The core area will provide a Welcome Center, bathroom facilities, park information and will be the main starting point for education programs. The Welcome Center will include a registration booth, a small gathering area and staff administration offices. Two of the three major existing buildings, the Red Barn and tack barn, will be adapted for park use. The Red Barn in particular is a local icon and efforts will be made to first stabilize the structure. Once stabilized it is possible to preserve the building and interpret its history with limited public access. The other alternative is to rehabilitate for use as a public gathering space or for education programs. The two options will be more fully explored over the next two years, in consultation with the local community, to work out what will best serve the park and its neighbors. The tack barn can also be rehabilitated to serve as picnic shelter. The silver shed can also serve as an interim contact building, until funds exist that allow for the construction of the Welcome Center. In the area around the Red Barn and Welcome Center, there will be orientation and interpretive panels that tell the stories of the park and direct visitors out to more remote areas. From the Welcome Center or potentially the red barn, the visitor will be able to choose an experience that best fits their comfort level for spending time in rugged country. This can range from a quarter-mile interpretative trail, to a seven-mile loop hike along the canyon rim and back along the bottomlands, up to a three-day backcountry hiking trip to remote campsites that are exposed to brilliant night skies. In addition, ranger-led tours or potential concession operations can offer visitors front and backcountry opportunities focused on education, recreation, enjoying the scenery or learning about the park's incredible history.

Overnight: There will be a range of overnight opportunities at the park that will accommodate a variety of overnight visitors. Due to the intent and setting for the park, as well as efforts to minimize impact, the camping footprint at the Murtha Homestead will be moderate. The campground will accommodate up to 35 sites including a picnic shelter and restroom with showers. There will also be a host site that can provide information and aid with registration for new arrivals. The campsite pads will be relatively close due to limited space for development outside of the floodplain; they will be about 75 feet on center, creating a compact loop. The campground will provide electricity and water, with hand pumped water spigots located at reasonable distances from camping sites. Currently the site is exposed, but over time landscaping will provide shade and privacy screening.

The camping cabins, group camp, hiker biker camp, and walk-in camp will be tucked along the bottom edges of the steep canyon slopes. Parking for these areas will be off the main park road and visitors will access the camp sites or cabins by foot. The camping cabins will be basic two-room structures with heat and light with porches that afford shade. A separate restroom with shower building will serve the cabins along with a central building that will provide cooking as well as additional bathroom, and shower facilities. This building will also provide a place where visitor groups can gather and share stories. Universal access will be provided for all types of overnight stays, except for the hike-in camps.

The group camp will provide 12 campsites with associated parking spaces. Groups will be able to gather in the center of the space. The hiker biker camp will be located near the main campground and the hike-in camp on a tight bend with

steep canyon walls that screen the Murtha Homestead area downriver. The farthest walk-in campsite is 400 feet from the parking lot and toilet building. All overnight sites and cabins will be served by centrally located fire rings that will be available only seasonally due to fire risk. As with the main camp loop, the cabins and camp sites are currently exposed, but over time landscaping will provide shade and privacy screening.

Maintenance Yard and Staff Housing: The maintenance yard will be located opposite the Welcome Center area, tucked into a side draw screened from the river. The yard will include a maintenance shop, fuel station, staff parking and storage. Landscaping and fencing will screen the maintenance yard from the welcome area. A manger's residence, staff house, and seasonal dorms will be located adjacent to the maintenance yard. The staff house will include a paddock and stable to house park patrol horses.

Murtha Homestead

10.4.1.1 West Entrance: Murtha Homestead - Main Entrance

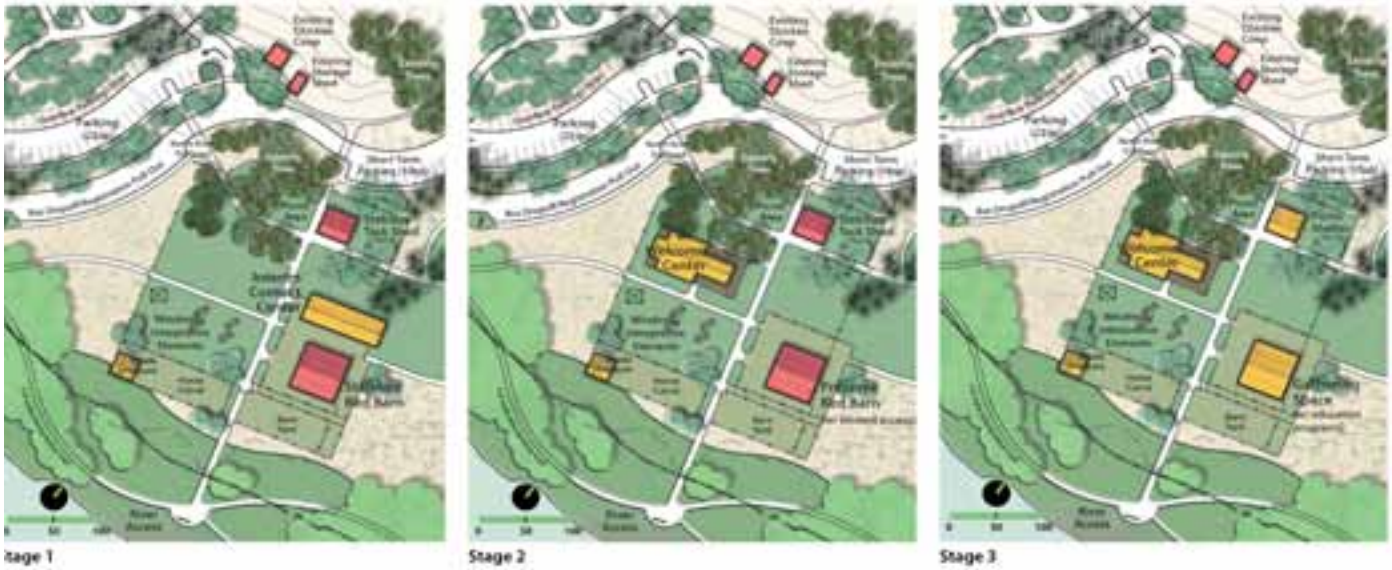
Action	Description	Status	Size / Quantity	Reviews / Approvals
10.4.1.1.1	Consider new entrance using old county road alignment or exisitng entrance as alternatives. Park arrival entrance sequence includes highway intersection, clear sight distance, retaining walls, park entrance signs, native revegetation, and view corridors.	New	Main Entrance	Possible Sherman County requirements ODOT requirements Possible DEQ grading permit required State Scenic review.
10.4.1.1.2	West Entrance Road improvement: use existing road with realigned segments	Rehab	1 mile	Explore possible Sherman County requirements ODOT requirements Possible DEQ grading permit required State Scenic review.
10.4.1.1.3	Trailhead turnaround and parking	New	22 spaces (3 ADA) (9,688 sf)	Possible Sherman County requirements Possible DEQ grading permit required State Scenic review.
10.4.1.1.4	Vault toilet	New	1 (200 sf)	County building permit, sanitary permit State Scenic review
10.4.1.1.5	Trailhead signage/kiosk	New	1	State Scenic review
10.4.1.1.6	Trailhead Kiosk Plaza	New	1,300 sf	State Scenic review
10.4.1.1.7	Native shade trees	New	15	State Scenic review
10.4.1.1.8	Drip irrigation for shade trees	New	750 sf	State Scenic review

2.4.1.1 West Entrance: Murtha Homestead - Day Use Area West with Welcome Center

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.1.1.1	Welcome Center building with staff offices, registration area, gathering area, education programs and bathroom	New	3,265 sf	Sherman County building permit 1200C storm water management permit and erosion sediment control plan State Scenic review.
2.4.1.1.2	Red Barn (Adaptive Use) Alt 1: Stabilise with limited access Alt 2: Gathering Space with education programs	Rehab	2,800 sf	Sherman County building permit 1200C storm water management permit and erosion sediment control plan Consult with SHPO State Scenic review.
2.4.1.1.3	Tack Barn (Adaptive Use) Alt 1: Stabilize Alt 2: Picnic Shelter Alt 3: Education Programs	Rehab	875 sf	Sherman County building permit 1200C storm water management permit and erosion sediment control plan State Scenic review.

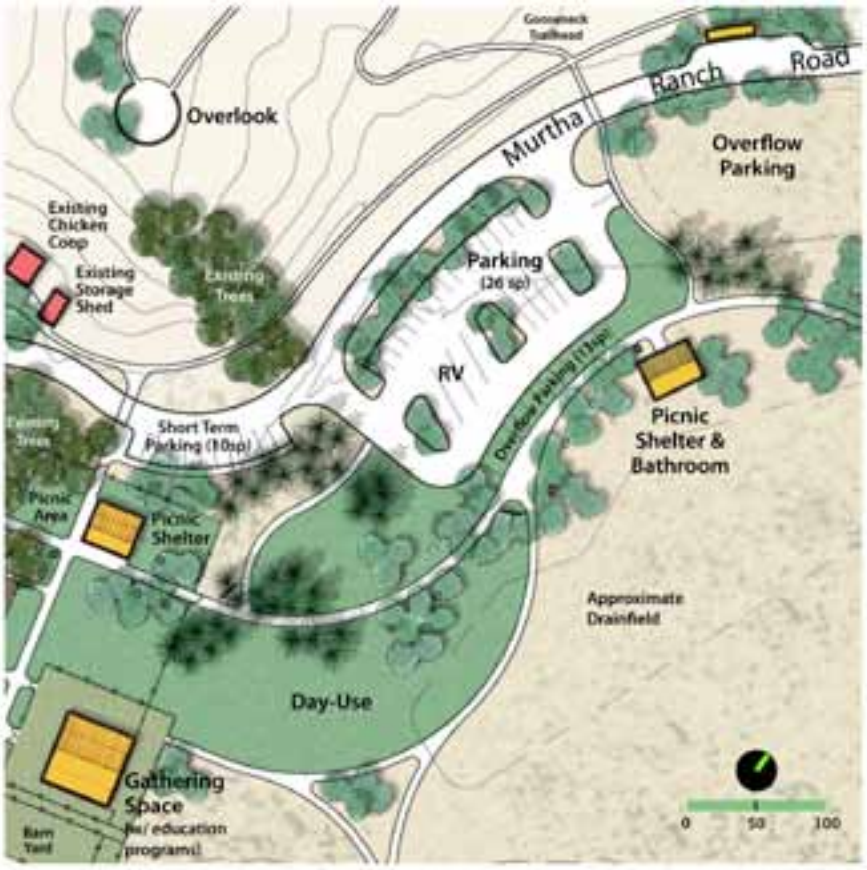
2.4.1.1.3	Silver shed (Adaptive Use) Alt 1: Interim Contact Center Alt 2: Remove on completion of Welcome Center	Rehab	2175 sf	County building permit 1200C storm water management permit and erosion sediment control plan
2.4.1.1.4	Horse shade structure	New	900 sf	Sherman County building permit 1200C storm water management permit and erosion sediment control plan State Scenic review
2.4.1.1.5	Corral fencing with reuse of advertising signs	New + Rehab	1,000 sf	State Scenic review
2.4.1.1.6	Lighting (8 in core at path intersections, 2 in parking area)	New	10	Explore possible Sherman County requirements State Scenic review
2.4.1.1.7	Bus drop off	New	3 spaces (3,300 sf)	Explore possible Sherman County requirements State Scenic review
2.4.1.1.8	North parking lot (incl walks, stalls, road)	New	38 spaces (5 ADA) (17,500 sf)	Explore possible Sherman County requirements State Scenic review
2.4.1.1.10	Short term parking and path	New	10 spaces (2 ADA) (3,160 sf)	State Scenic review
2.4.1.1.11	Native trees in core area	New	30	State Scenic review
2.4.1.1.12	Core area domestic landscape (within corral fencing)	New	33,000 sf	State Scenic review
2.4.1.1.13	Core area domestic landscape irrigation (includes controllers)	New	33,000 sf	State Scenic review
2.4.1.1.14	Corral landscape (next to stable and barn within corral fencing)	New	11,000 sf	State Scenic review
2.4.1.1.15	Park monument sign	New	1	State Scenic review
2.4.1.1.16	Interpretive signage kiosks	New	4	State Scenic review
2.4.1.1.17	Riverside overlook	New	1,200	State Scenic review
2.4.1.1.18	Shade structures	New	4	State Scenic review
2.4.1.1.19	Picnicking clusters	New	Misc.	State Scenic review
2.4.1.1.20	Benches	New	6	State Scenic review
2.4.1.1.21	Windmill water pump	New	1	Explore possible Sherman County requirements State Scenic review
2.4.1.1.22	Water hand pumps	New	2	State Scenic review
2.4.1.1.23	Way-finding, information and park rule signage	New	Misc. (Approx 7)	State Scenic review
2.4.1.1.24	Site amenities and gates	New	Misc.	State Scenic review
2.4.1.1.25	River Trailhead West	New	1	State Scenic review
2.4.1.1.26	River Trailhead East	New	1	State Scenic review
2.4.1.1.27	Gooseneck Trailhead East	New	1	State Scenic review
10.4.8.1	Murtha Interpretive Loop Trail	New	1. 5 mile	State Scenic review
2.4.1.1.28	Trailhead access and short connecting trails	New	Misc.	State Scenic review
10.4.4.1	North River Trail Segment	Rehab	2.5 miles	State Scenic review Explore BLM requirements
10.4.2.1	Water Trail	Existing	Mile 40 to 37	

Day Use Area West with Welcome Center



2.4.1.2 West Entrance: Murtha Homestead - Day Use Area East

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.1.2	Day Use			
2.4.1.2.1	Picnic shelter with restroom combination Building (or consider rest room and picnic shelter separate)	New	875 sf (35x25)	Sherman County building permit 1200C storm water management permit and erosion sediment control plan State Scenic review
2.4.1.2.2	East parking lot	New	39 spaces 13,600 sf	Possible DEQ grading permit State Scenic review
2.4.1.2.3	Overflow parking area		30 spaces	
2.4.1.2.4	East parking lot landscape	New	6,670 sf	State Scenic review
2.4.1.2.5	Trailhead access and short connecting trails	New	Misc.	State Scenic review
2.4.1.2.6	Interpretive signage kiosks	New	1	State Scenic review
2.4.1.2.7	Day use lawn--seeded	New	43,000 sf	State Scenic review
2.4.1.2.8	Day use lawn landscape irrigation (includes controllers)	New	43,000 sf	State Scenic review
2.4.1.2.9	Day use native shade trees	New	40	State Scenic review
2.4.1.2.10	Drip irrigation for shade trees (assume 50 sf per tree)	New	2,000 sf	State Scenic review
2.4.1.2.11	Picnicking clusters	New	Misc.	State Scenic review
2.4.1.2.12	Benches	New	4	State Scenic review
2.4.1.2.13	Water hand pumps	New	Misc.	State Scenic review
2.4.1.2.14	Way-finding signage	New	Misc.	State Scenic review
2.4.1.2.15	Site amenities and gates	New	Misc.	State Scenic review
2.4.1.2.16	Wildlife observation blind	New	1	State Scenic review
2.4.1.2.17	Wildlife blind for photographers	New	1	State Scenic review

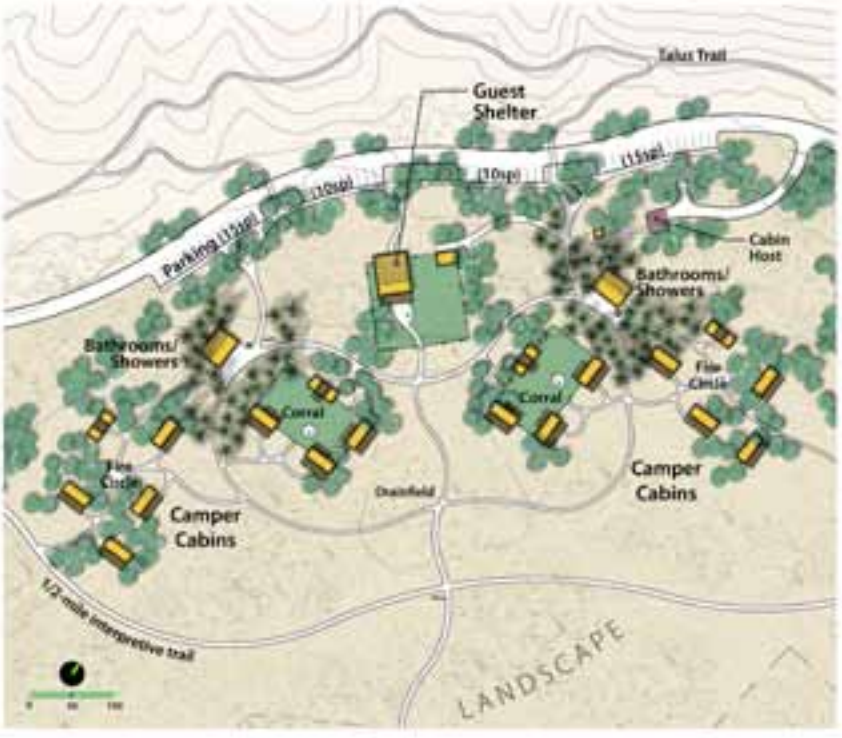


Day Use Area East

2.4.2.1 West Entrance: Murtha Homestead - Camping Cabin Area 1

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.2.1	Camping Cabin Area 1			
2.4.2.1.1	Guest Shelter with meeting space, kitchen, resroom and showers	New	2,000sf	Sherman County building permit 1200C storm water management permit and erosion sediment control plan State Scenic review
2.4.2.1.2	Camping cabin parking	New	25 (3 ADA) 6,400 sf	Possible DEQ grading permit State Scenic review
2.4.2.1.3	Host cabin	New	1 (400 sf)	County building permit State Scenic review
2.4.2.1.4	Camping cabins type A	New	6 (400 sf) (1 ADA)	County building permit State Scenic review
2.4.2.1.5	Camping cabins type B	New	3 (385 sf) (1 ADA)	County building permit State Scenic review
2.4.2.1.6	Restroom/shower building west	New	1200sf	County building permit State Scenic review
2.4.2.1.7	Trailhead access and short connecting trails	New	Misc.	State Scenic review
2.4.2.1.8	Lighting (includes luminaire and associated electrical): 1 per cabin	New	9	Explore possible Sherman County requirements State Scenic review
2.4.2.1.9	Benches	New	4	State Scenic review
2.4.2.1.10	Fire pit	New	2	State Scenic review
2.4.2.1.11	Water hand pumps	New	1	State Scenic review

2.4.2.1.12	Landscape around guest shelter	New	8,500 sf	State Scenic review
2.4.2.1.13	Landscape around cabins within corrals (lawn)	New	5,500	State Scenic review
2.4.2.1.14	Native trees (20% are large caliper for shade)	New	160	State Scenic review
2.4.2.1.15	Drip irrigation for shade trees (assume 50 sf per tree)	New	8,000	State Scenic review
2.4.2.1.16	Drip irrigation for landscape around group shelter and corrals around cabins	New	14,000	State Scenic review
2.4.2.1.17	Corral fencing	New	400	State Scenic review
2.4.2.1.18	Interpretive signage	New	1	State Scenic review
2.4.2.1.19	Wayfinding signage	New	1	State Scenic review



Camping Cabin Area

2.4.2.2 West Entrance: Murtha Homestead - Camping Cabin Area 2

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.2.2.1	Camping cabin parking	New	25 (3 ADA) 6,400 sf	Possible DEQ grading permit State Scenic review
2.4.2.2.3	Camping cabins type A	New	6 (400 sf) (1 ADA)	County building permit State Scenic review
2.4.2.2.4	Camping cabins type B	New	3 (385 sf) (1 ADA)	County building permit State Scenic review
2.4.2.2.5	Restroom/shower building west	New	1200sf	County building permit State Scenic review
2.4.2.2.6	Trailhead access and short connecting trails	New	Misc.	State Scenic review
2.4.2.2.7	New lighting (includes luminaire and associated electrical): 1 per cabin	New	9	Explore possible Sherman County requirements State Scenic review

2.4.2.2.8	Benches	New	4	State Scenic review
2.4.2.2.9	Fire pit	New	2	State Scenic review
2.4.2.2.10	Water hand pumps	New	1	State Scenic review
2.4.2.2.11	Landscape around cabins within corrals (lawn)	New	5,500	State Scenic review
2.4.2.2.12	Native trees (20% are large caliper for shade)	New	160	State Scenic review
2.4.2.2.13	Drip irrigation for shade trees (assume 50 sf per tree)	New	8,000	State Scenic review
2.4.2.2.14	Drip irrigation for landscape around group shelter and corrals around cabins	New	14,000	State Scenic review
2.4.2.2.15	Corral fencing	New	400	State Scenic review
2.4.2.2.16	Interpretive signage	New	1	State Scenic review
2.4.2.2.17	Wayfinding signage	New	1	State Scenic review

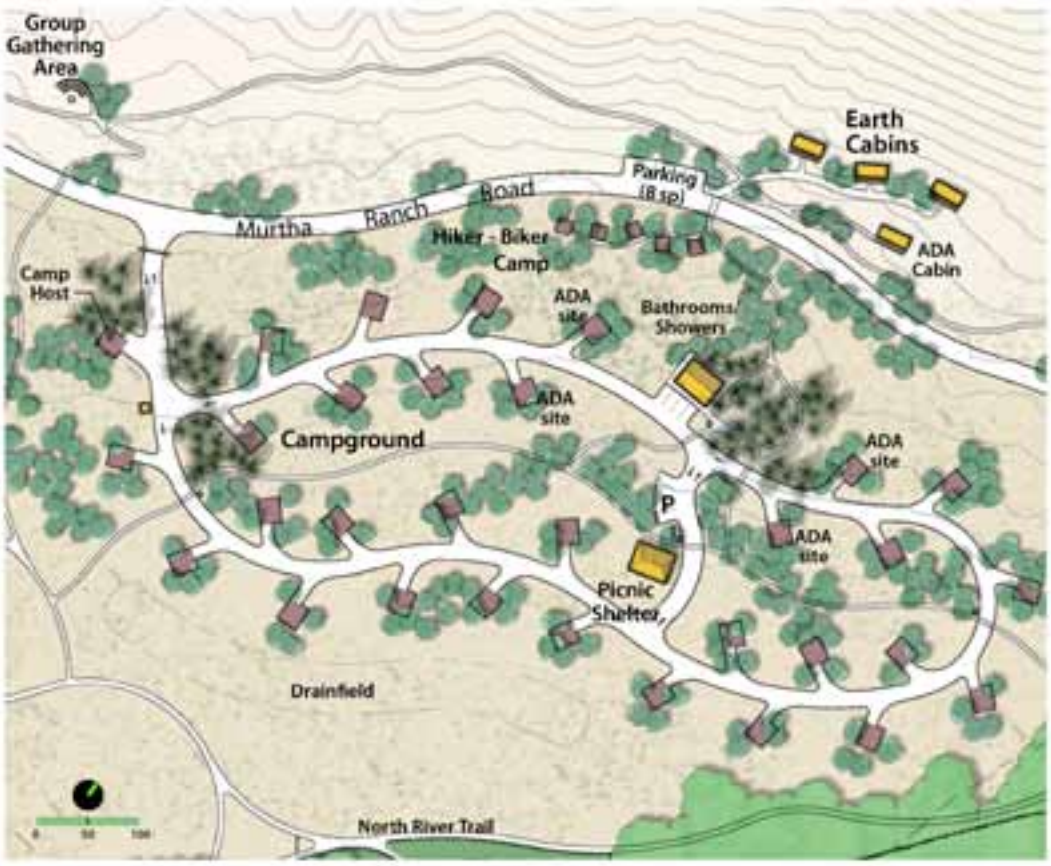
2.4.2.3 West Entrance: Murtha Homestead - Earth Camping Cabins

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.2.3.1	Earth camping cabins	New	4 (400 sf) (1 ADA)	County building permit State Scenic review
2.4.2.3.2	Earth camping cabin parking	New	4 (1 ADA)	Possible DEQ grading permit State Scenic review

2.4.2.4 West Entrance: Murtha Homestead - Campground

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.2.4.1	Camp loop	New	30 sites (3 ADA)	Development approval by County Possible DEQ grading permit State Scenic review
2.4.2.4.2	Host site	New	1 site	Development approval by County Possible DEQ grading permit State Scenic review
2.4.2.4.3	Camp loop restroom/shower Building	New	1200 sf.	County building permit State Scenic review
2.4.2.4.4	Parking for restroom	New	4 spaces (1 ADA)	Development approval by County Possible DEQ grading permit State Scenic review
2.4.2.4.5	Picnic shelter	New	875 sf	County building permit State Scenic review
2.4.2.4.6	Parking for picnic shelter	New	4 spaces (1 ADA)	
2.4.2.4.7	Outdoor program area	New	100 seats	Development approval by County State Scenic review
2.4.2.4.8	Native shade trees	New	340 sf	State Scenic review
2.4.2.4.9	Drip irrigation for shade trees (assume 50 sf per tree)	New	17,000 sf	State Scenic review
2.4.2.4.10	Landscape/lawn around picnic shelter within corral	New	3,000 sf	State Scenic review
2.4.2.4.11	Irrigation for landscape/lawn around picnic shelter within corral	New	3,000 sf	State Scenic review
2.4.2.4.12	Water hand pumps		7	State Scenic review
2.4.2.4.13	Corral fencing	New	1,000 lf	State Scenic review

2.4.2.4.14	Central fire pits	New	10 sites	Development approval by County State Scenic review
2.4.2.4.15	Interpretive signage	New	1	State Scenic review
2.4.2.4.16	Way-finding, information and park rule signage	New	1	State Scenic review
2.4.2.4.17	Trailhead access and short connecting trails	New	Misc.	State Scenic review
2.4.2.4.18	Site furnishings and gates	New	Misc.	State Scenic review
2.4.2.4.19	Drain field	New	2	Development approval by County Possible DEQ grading permit required State Scenic review
2.4.2.4.20	Hiker biker camp	New	5 sites	Development approval by County Possible DEQ grading permit State Scenic review
2.4.2.4.21	RV dump station		1	County building permit State Scenic review



Campground Area

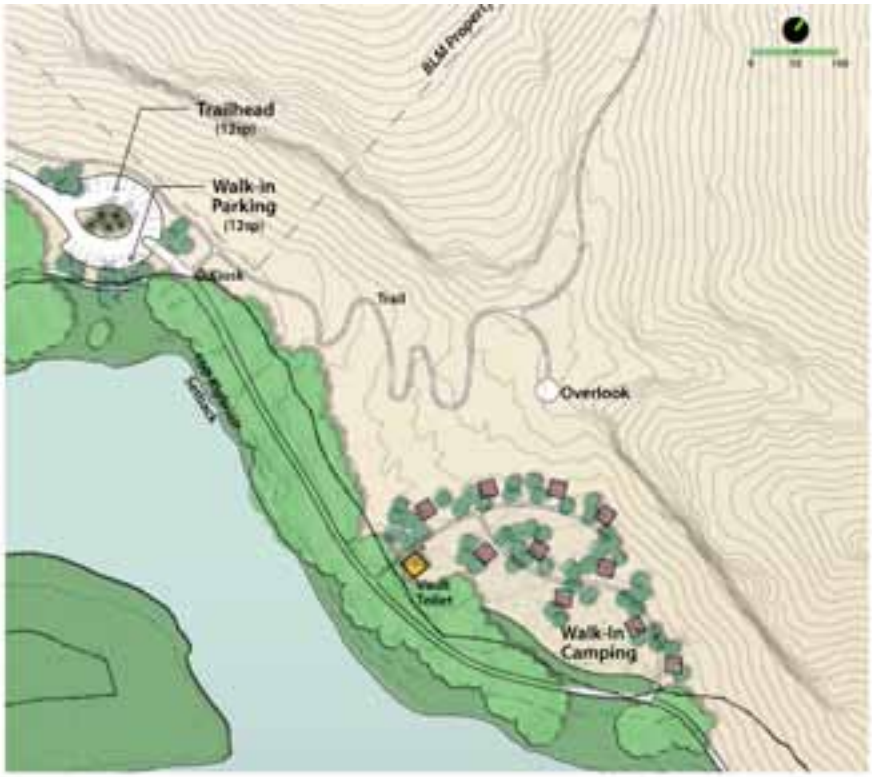
2.4.2.5 West Entrance: Murtha Homestead - Group Camp

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.2.5.1	Group camp loop	New	10 sites	Development approval by County Possible DEQ grading permit State Scenic review
2.4.2.5.2	Group camp parking (includes paths next to parking)	New	18 spaces	Development approval by County Possible DEQ grading permit State Scenic review

2.4.2.5.3	Host site	New	1	Development approval by County Possible DEQ grading permit State Scenic review
2.4.2.5.4	Vault toilet	New	1	County building permit State Scenic review
2.4.2.5.5	Native shade trees	New	50	State Scenic review
2.4.2.5.6	Drip irrigation for shade trees (assume 50 sf per tree)	New	2,500	State Scenic review Development approval by County
2.4.2.5.7	Central fire pit	New	1	State Scenic review
2.4.2.5.8	Water hand pump	New	1	State Scenic review

Group Camp

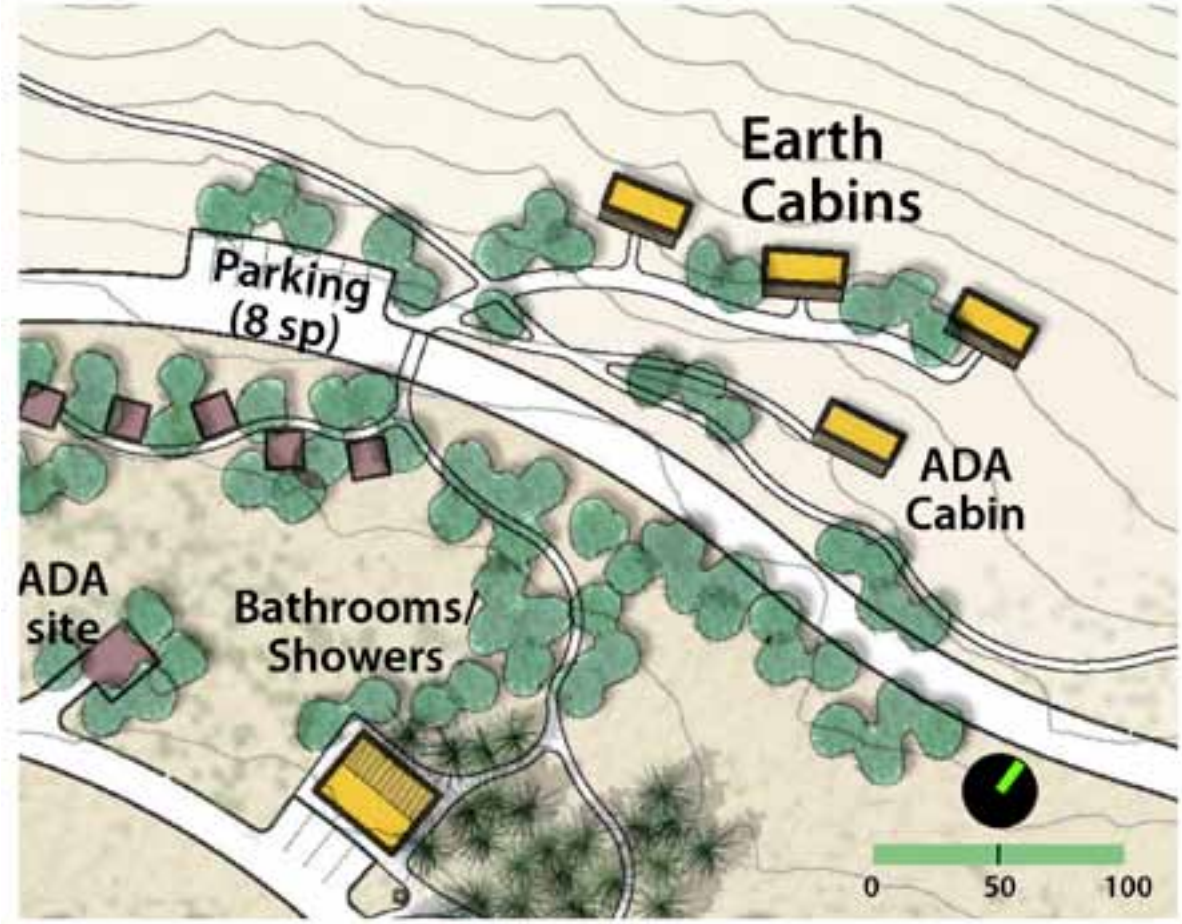
Trailhead and Walk-in Camp



2.4.2.6 West Entrance: Murtha Homestead - Walk-in + Hike-in Camps

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.2.6.1	Walk-in Camp Loop	New	1 loop (12 sites)	Development approval by County Possible DEQ grading permit State Scenic review
2.4.2.6.2	Hike-in Camp Loop	New	1 loop (12 sites)	Development approval by County Possible DEQ grading permit State Scenic review
2.4.2.6.3	Hike-in Camp Loop	New	1 loop (12 sites)	Development approval by County Possible DEQ grading permit State Scenic review
2.4.2.6.4	Wayfinding signage	New	2	State Scenic review
2.4.2.6.5	Native shade trees Central	New	120	State Scenic review

2.4.2.6.6	Native shade trees	New	50	State Scenic review
2.4.2.6.7	Drip irrigation for shade trees (assume 50 sf per tree)	New	2,500	State Scenic review
2.4.2.6.8	Water hand pumps	New	3	State Scenic review

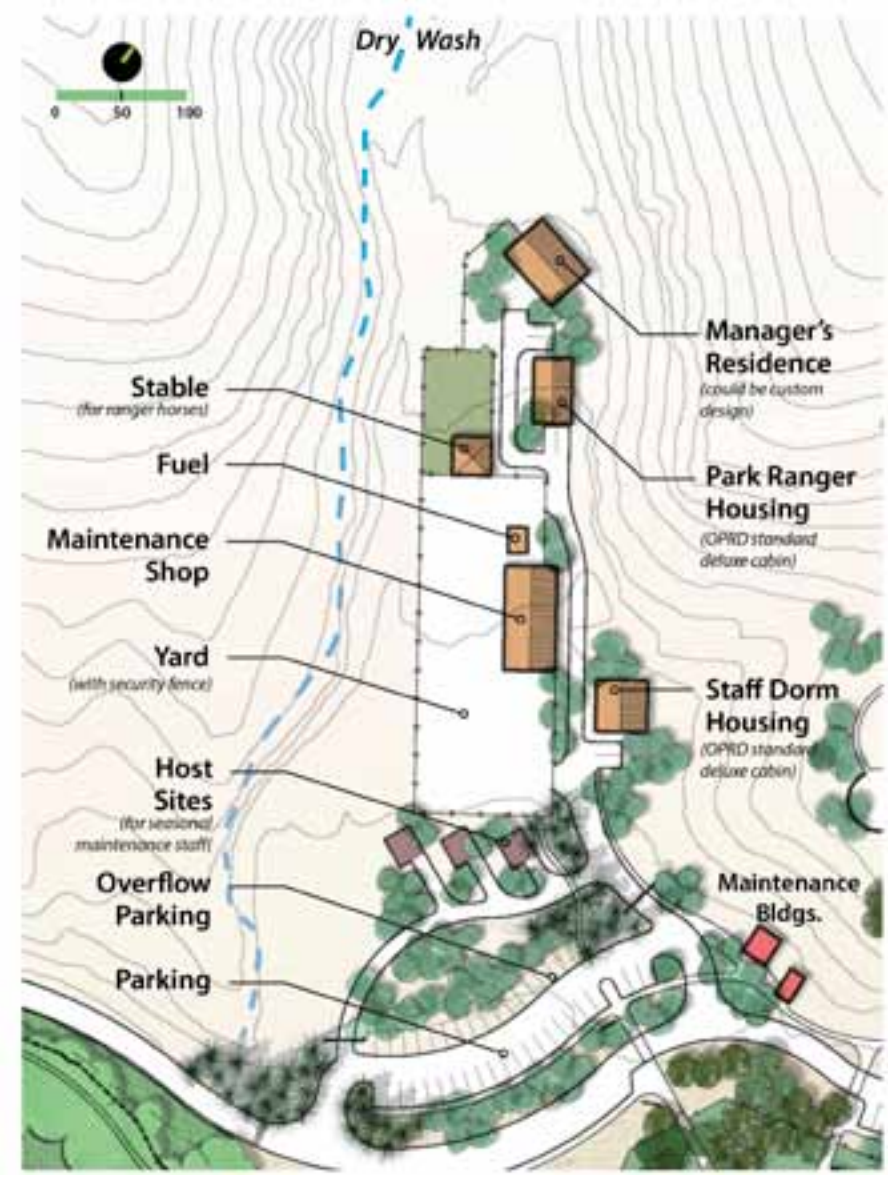


Earth Cabins

2.4.3.1 West Entrance: Murtha Homestead - Maintenance and Staff Area

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.3.1.1	Shop building	New	3,100 sf.	County building permit State Scenic review
2.4.3.1.2	Work yyard	New	22,000 sf	Explore possible County requirements Possible DEQ grading permit required State Scenic review
2.4.3.1.3	Storage areas	New	3	State Scenic review
2.4.3.1.4	Fueling station	New	1	Development approval by County State Scenic review
2.4.3.1.5	Security fencing	New	1,100	State Scenic review
2.4.3.1.5	Lighting	New	6	State Scenic review
2.4.3.1.6	Native landscape screening around edges of maintenance and staff area	New	13,000	State Scenic review
2.4.3.1.7	Staff parking	New	9 spaces (1,500 sf)	State Scenic review

2.4.3.1.8	Host siites	New	3	Explore possible County requirements State Scenic review
2.4.3.1.9	Manager residence	New	2,200 sf	County building permit State Scenic review
2.4.3.1.10	Park ranger residence	New	1,600 sf	County building permit State Scenic review
2.4.3.1.11	Seasonal staff housing	New	1,500 sf	County building permit State Scenic review
2.4.3.1.12	Renovate existing structures for Storage (machine shed, chicken coop and utility barn	Rehab	2	Consult with SHPO



Maintenance and Staff Area

Murtha Homestead

The series of images shown on the next few pages depict how the major day use and overnight area in the park have been carefully designed to blend with the vernacular landscape of the area, and how any new structures can be screened from the river. The welcome area is designed to orient visitors to the park as well as to the local communities, by acting as a major gateway to the John Day River. These images depict how the park can appear in thirty years or so; showing mature vegetation and all phases for recreation development complete.

Rendering of Day Use Area West looking from west parking lot towards the Welcome Center. This parking lot will be screened and a walkway will form an edge to the lot, guiding arriving visitors to a safe pedestrian crossing over the main entry road. The main access point into the welcome area will pass through a small gateway, with a park map adjacent to the gateway guiding visitors to hiking trails emanating from the core, along the river and onto surrounding ridges.

Rendering of aerial view looking east over the proposed daysse area showing Welcome Center and restored Red Barn.,

Rendering looking east into Day Use Area West, with Welcome Center to the left (north) and Red Barn beyond. The corral will incorporate elements of the existing cattle ranching corral system, ideally utilizing some of the segments of billboards found in the original fences, as well as the informal construction of fences using a variety of available materials. The landscape within the corral will be rough lawn, allowing for some recreation and encouraging visitors to walk between interpretive panels while enjoying views of the surrounding canyon. A small horse corral will be maintained, within which the rangers' horses can graze during the day.

Rendering of view from south side of John Day River looking north to the Day Use Area West. The Welcome Center is situated in the middle of this view, to left of Red Barn. This scene emphasizes there will be a direct relationship between the day use area and river access points, located at breaks in the riparian vegetation. An interpretive trail will follow the river and connect to a central path that bisects the central welcome area.

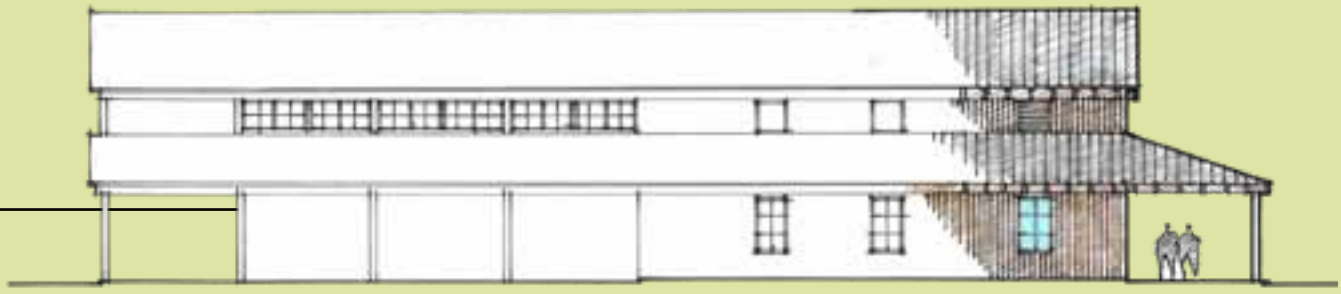
View of camping cabin area looking east with group shelter to the left and cabin cluster on the right. There are a totla of 18 cabins proposed , which are laid out to accomodate a mixture of group bookings and single bookings. Some of the cabins will face inwards to an enclosue that affords an area to gather.

Aerial view of campground looking southeast. There will be 30 sites in the campground and shade shelters will provide protection from the sun until native vegeation plantings can provide natural shade and screening.

EAST ELEVATION (B) WELCOME CENTER 1/8"
COTTONWOOD CANYON STATE PARK 1-11-11

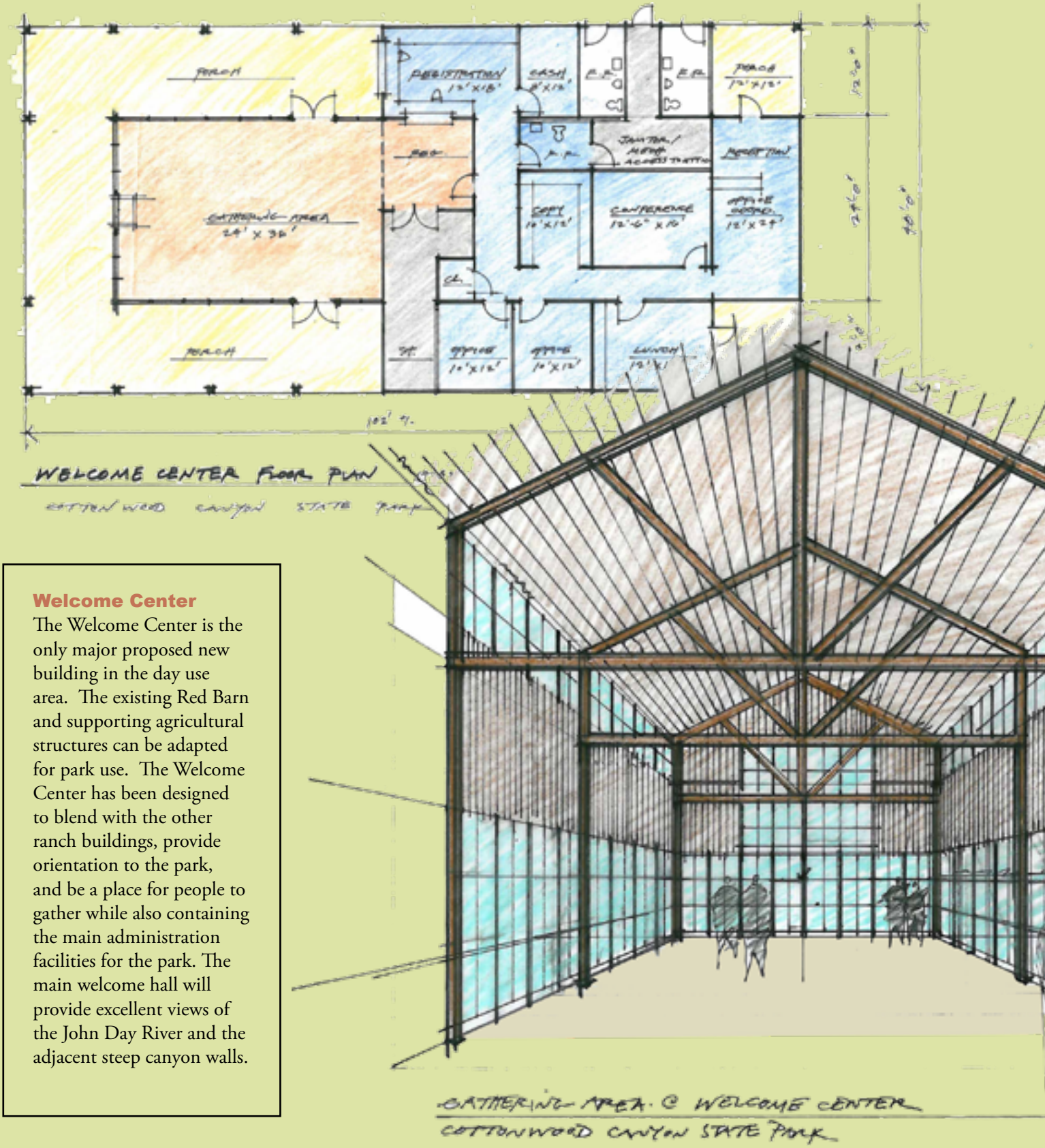
EAST ELEVATION (A) WELCOME CENTER 1/8"
COTTONWOOD CANYON STATE PARK 1-11-11

SOUTH ELEVATION (A) WELCOME CENTER 1/8"
COTTONWOOD CANYON STATE PARK 1-11-11



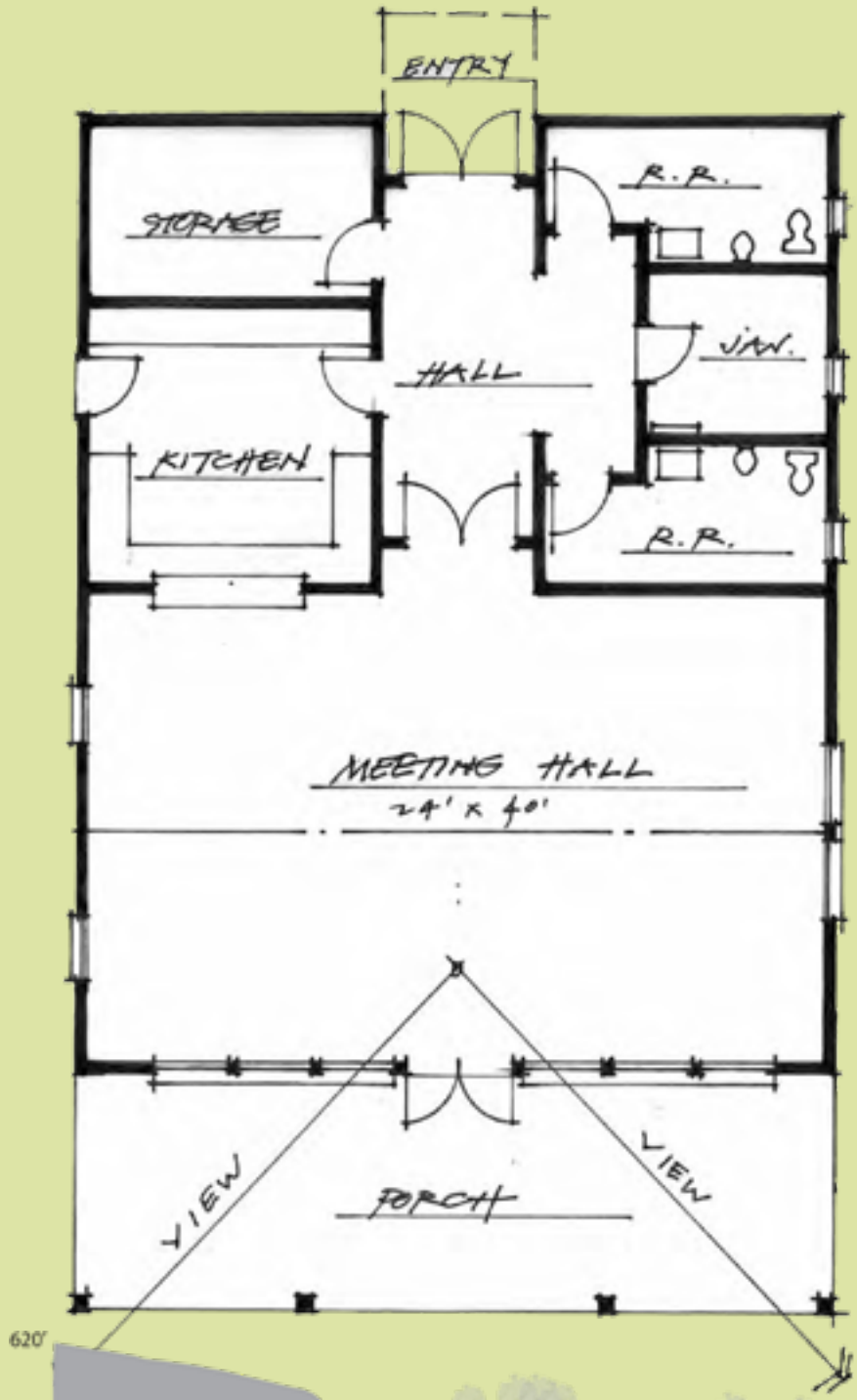
SOUTH ELEVATION (B) WELCOME CENTER 1/8"
COTTONWOOD CANYON STATE PARK 1-11-11

Sections showing design concepts for the new Welcome Center



Welcome Center

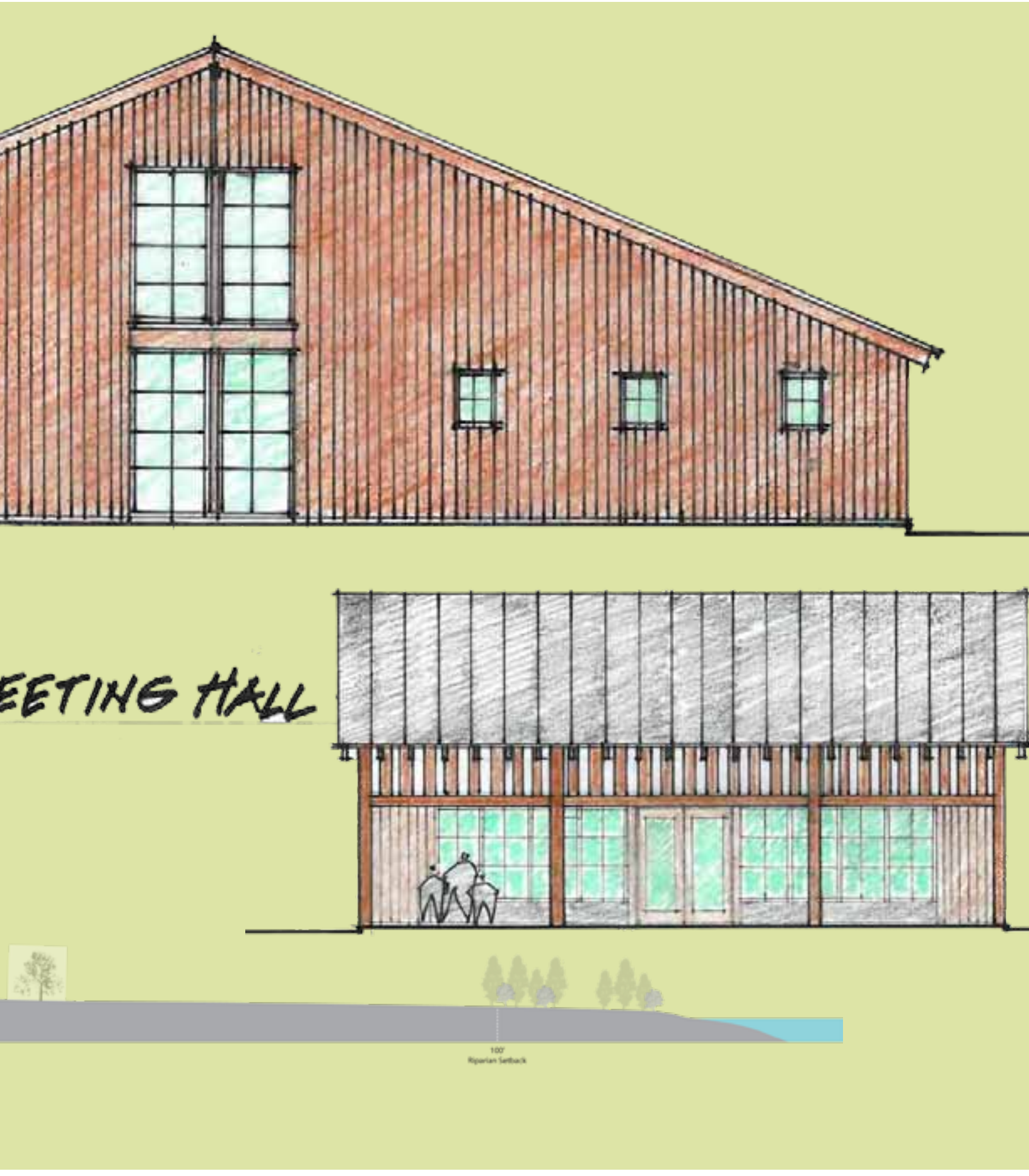
The Welcome Center is the only major proposed new building in the day use area. The existing Red Barn and supporting agricultural structures can be adapted for park use. The Welcome Center has been designed to blend with the other ranch buildings, provide orientation to the park, and be a place for people to gather while also containing the main administration facilities for the park. The main welcome hall will provide excellent views of the John Day River and the adjacent steep canyon walls.



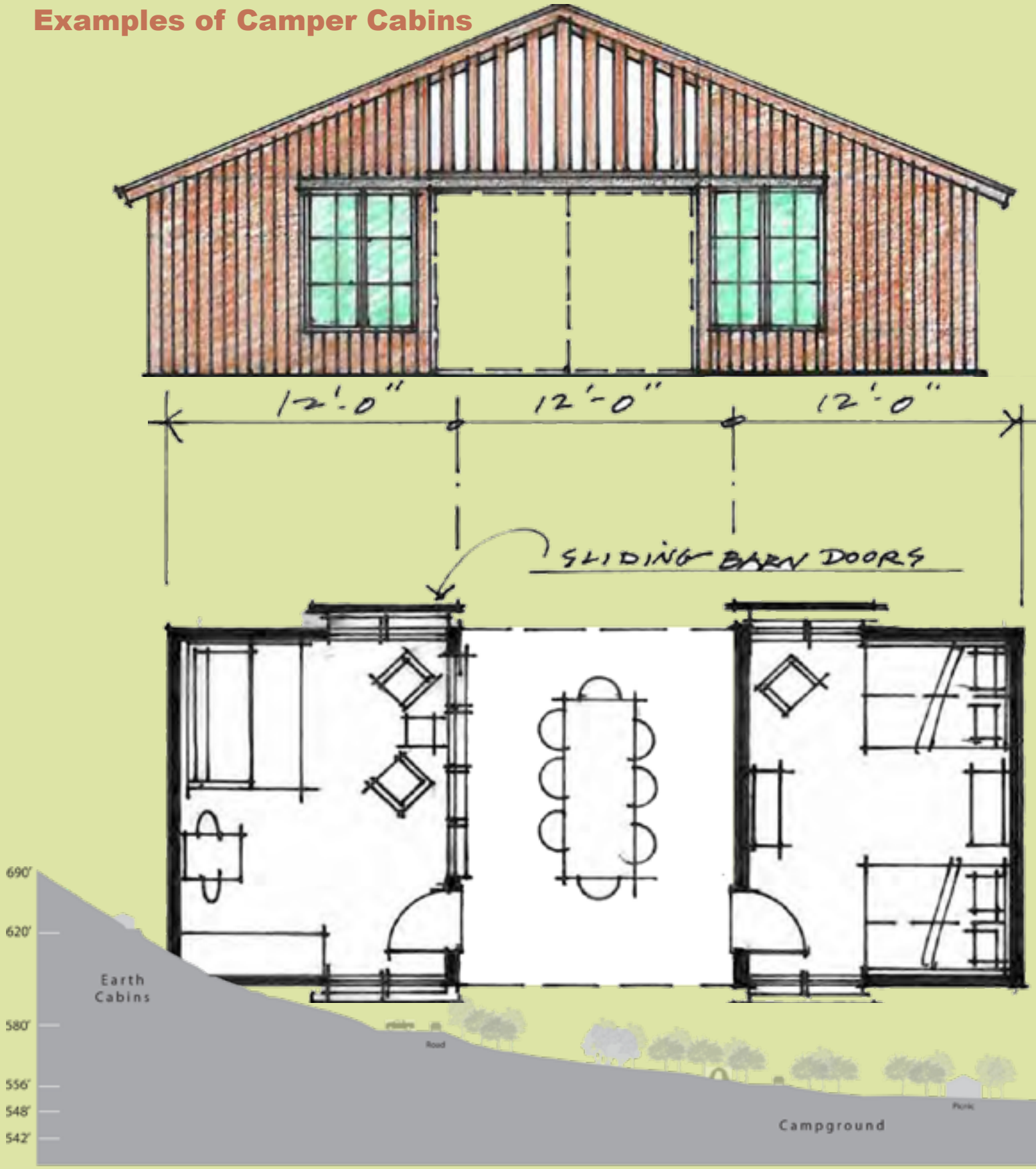
Camper Cabin Area

A group shelter will be the focus of the camper cabin area. This shelter will provide cooking facilities with restrooms and a place for campers to gather in the evening. The camper cabins are set back from the river at the toe of the steep canyonwalls. The section below shows their placement in relation to the river and how tree screening will be provided to blend them into the landscape as well as provide shade.

SECTION B

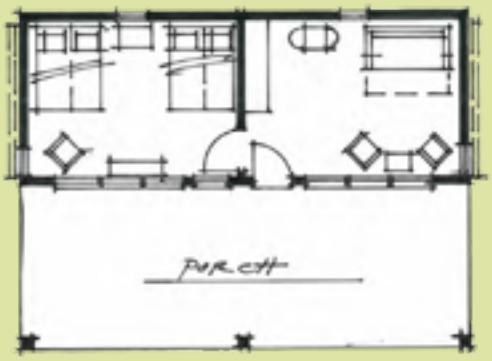

EETING HALL
100'
Riparian Setback

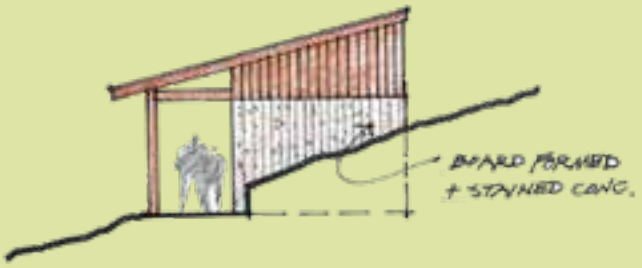
Examples of Camper Cabins



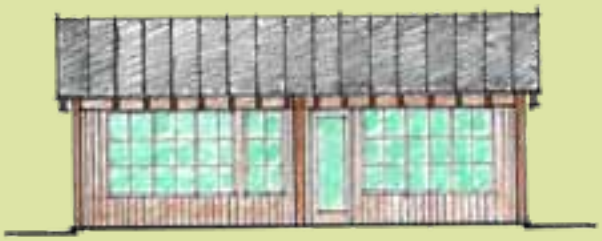
CROSS SECTION

FRONT ELEVATION



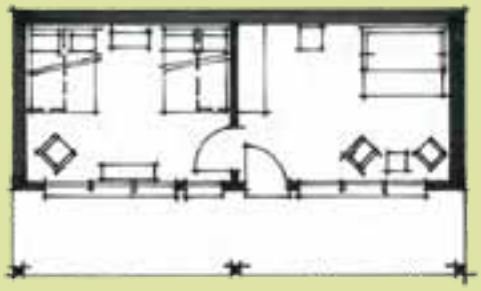


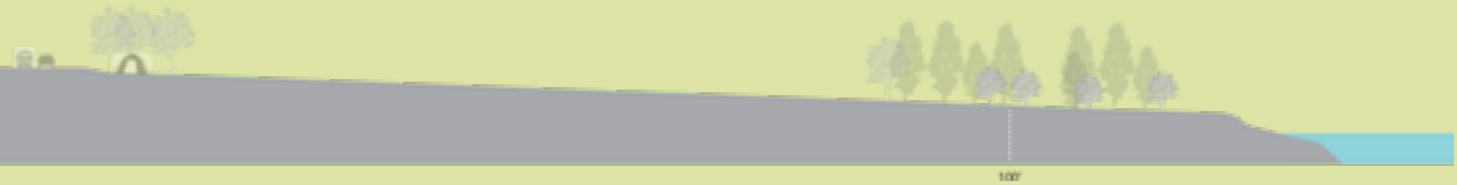
EAST ELEVATION



SOUTH ELEVATION

EARTH CABIN · FLOOR PLAN · 1/8"





West Entrance: JS Burres

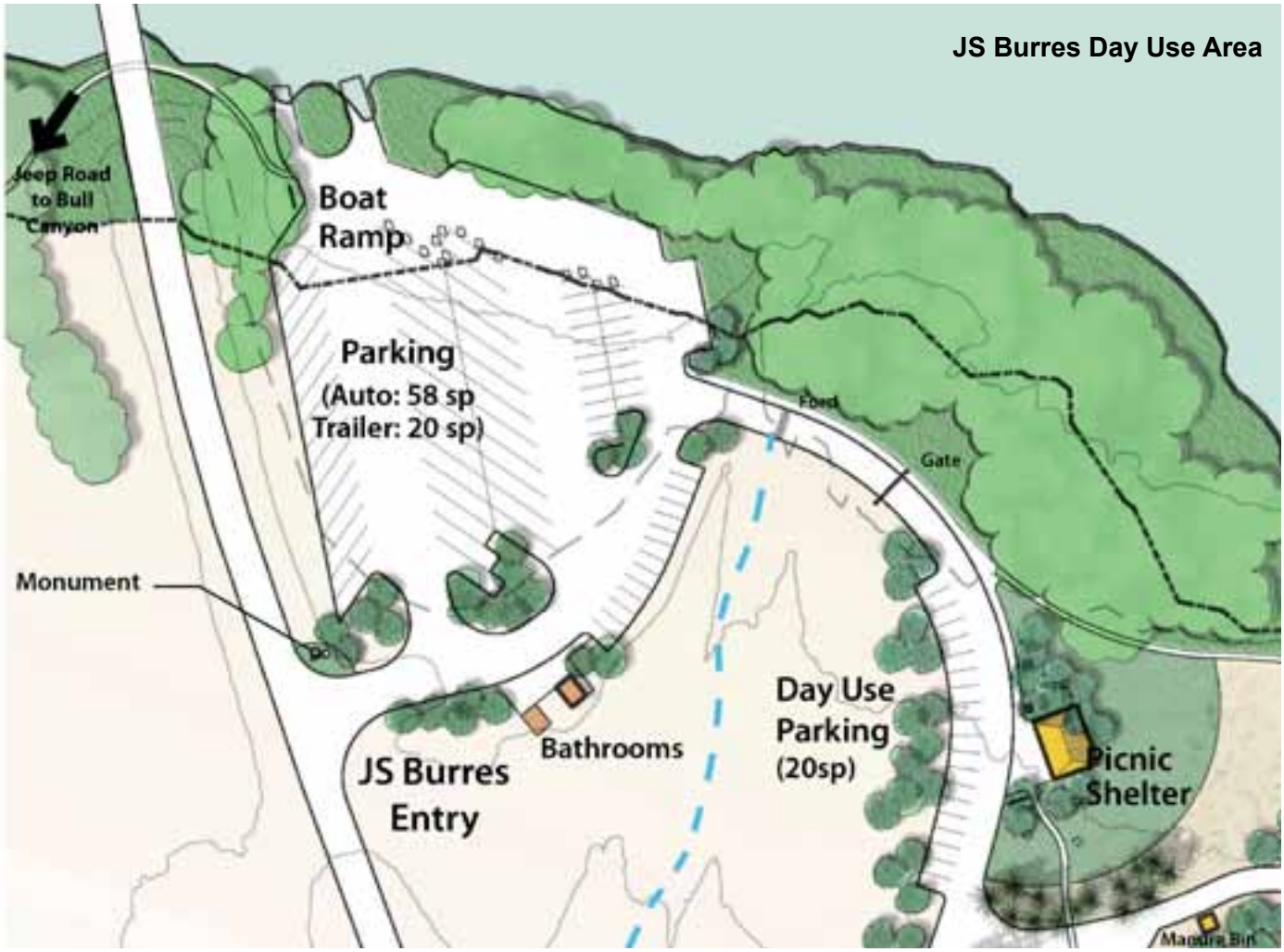
This area is a major egress point for paddlers on the John Day River coming from Clarno upstream. The vast majority of paddlers from upriver will end their trip at JS Burres. This site complements the major day use and overnight area at the Murtha Homestead. It will provide parking and picnicking facilities as well as the major trailhead for the south side of the river. Visitors will be able to hike to Hay Creek, via Esau, from JS Burres and take overnight camping trips.

Day Use: Currently, up to 50 vehicles at peak periods use the parking lot that provides access to the river. This parking lot will be retained and redesigned to provide parking for up to 75 vehicles. The park entrance will be marked by a medium-sized entrance monument and sign that enables the visitor to clearly recognize they are entering the state park. Adjacent to the parking lot, a small picnic area will be added that will include a picnic shelter for shade. The major trailhead on the east side of the parking lot will afford hiking opportunities that lead downriver to Esau and then up Snake Canyon or over to Hay Creek. There is also additional parking proposed to the east of the main parking lot. Seasonally, often around August, there is the potential to ford the river at Hay Creek or Esau, offering an opportunity to access the opposite side of the John Day. There will be a minor trailhead on the west side of the parking lot that will enable visitors to head upstream towards the Wilderness Study Area. This trail terminates after a few miles and only during fording periods is it possible to continue on upriver. A SCAT machine will be situated near the entrance area for paddlers to use when visiting the park.

Overnight: There will also be potential for a small equestrian camp with up to five sites, and parking for visitors who will be hiking into the park and using the backcountry camps at Esau or Hay Creek.

2.4.1.3 West Entrance: JS Burres - River Access and Day Use Area

Action	Description	Status	Size/ Quantity	Reviews / Approvals
10.4.1.3	Park arrival entrance Sequence- Including park entrance signs, native revegetation, view corridors	Rehab	1	Explore possible Gilliam County requirements Explore ODOT County requirements State Scenic review.
10.4.1.3	Roadway improvement: intersection clear sight distance, retaining walls, etc.	Rehab	1	Explore possible Gilliam County requirements Explore ODOT County requirements State Scenic review.
2.4.1.3.1	Main parking area	Rehab	75 (5 ADA)	Possible DEQ grading permit State Scenic review
2.4.1.3.2	Boat access to river	Retain	1	Possible DEQ grading permit State Scenic review
2.4.1.3.3	Vault toilet	Existing	200sf	County building permit State Scenic review
2.4.1.3.4	Scat machine	New	1	
2.4.1.3.5	Hand water pump		1	State Scenic review
2.4.1.3.6	JS Burres East Trailhead	New	1	State Scenic review
2.4.1.3.7	Interpretive signage	New	1	State Scenic review
2.4.1.3.8	Wayfinding and park rule signage	New	1	State Scenic review
2.4.1.3.9	Water trail signage	New	1	State Scenic review
2.4.1.3.10	Site furnishings and gates	New	1	State Scenic review
2.4.1.3.11	Native shade trees	New	110	State Scenic review
2.4.1.3.12	Drip irrigation for shade trees	New	5,500	
10.4.4.2	South River Trail Segment	Rehab	1.8 mile segment	State Scenic review Explore BLM requirements
10.4.2.1	Water Trail	Existing	Mile 40 to 38	



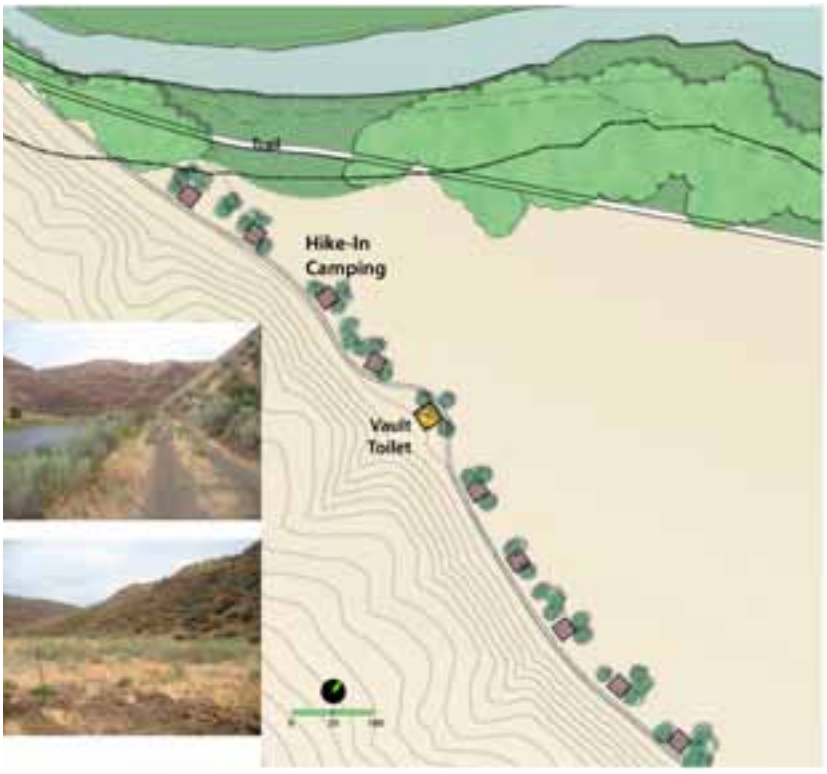
2.4.1.4 West Entrance: JS Burres - Day Use Addition

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.1.4.1	Picnic shelter	New	875 sq ft	County building permit State Scenic review
2.4.1.4.2	Day use parking	New	20 spaces (4,000 sf)	Explore possible Gilliam County requirements Possible DEQ grading permit State Scenic review
2.4.1.4.3	Trail head parking	New	20 spaces (4,000 sf)	Explore possible Gilliam County requirements Possible DEQ grading permit State Scenic review
2.4.1.4.4	JS Burres West Trailhead	New	1	State Scenic review
2.4.1.4.5	Registration drop box	New		State Scenic review
2.4.1.4.6	Day use lawn	New	13,000 sf	State Scenic review
2.4.1.4.7	Native shade trees	New	110	State Scenic review
2.4.1.4.8	Drip irrigation for shade trees	New	5,500	State Scenic review
2.4.1.4.9	Picnicking clusters	New	Misc.	State Scenic review
2.4.1.4.10	Hand water pump		1	
2.4.1.4.11	Wildlife observation blind	New	1	State Scenic review
2.4.1.4.12	Corral fencing	New	400	State Scenic review
2.4.1.4.13	Interpretive signage	New	1	State Scenic review
2.4.1.4.14	Wayfinding signage	New	1	State Scenic review

2.4.2.7 West Entrance: JS Burres - Equestrian Camp

Action	Description	Status	Size/ Quantity	Reviews / Approvals
2.4.2.7.1	Equestrian Camp Loop	New	5 sites	Explore BLM requirements State Scenic review
2.4.2.7.2	Vault Toilet	New	600sf	Explore BLM requirements State Scenic review
2.4.2.7.5	Shade structure	New	1	State Scenic review

Equestrian Camp



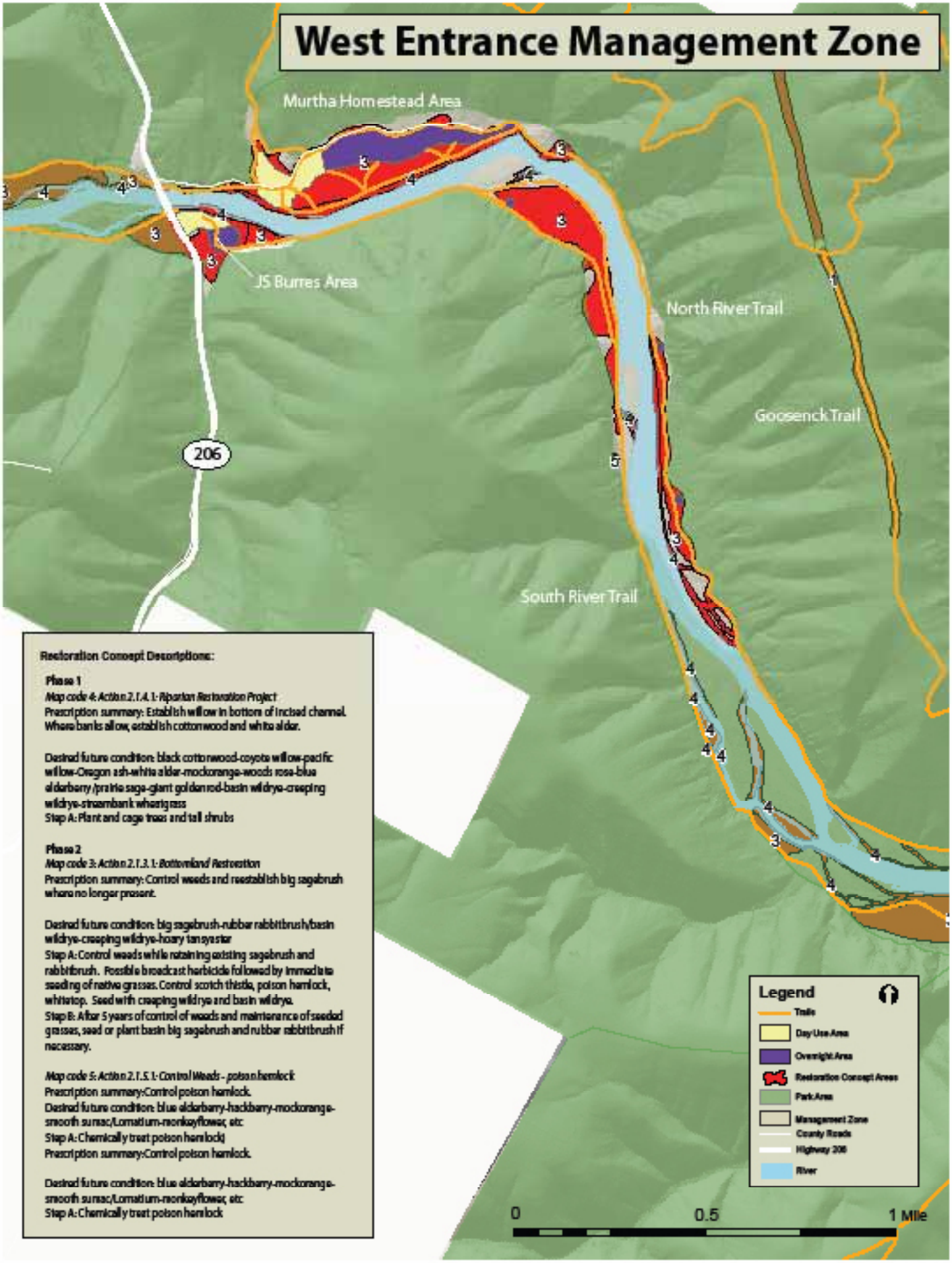
Hike-in Camp

2.5 OPERATIONS

Characteristics of the West Entrance Management Zone which will influence and dictate Operations functions include an ROS category Class III Rural Setting designation, easy access via Hwy 206, riparian zones along the John Day River, some rugged and steep terrain, incredible canyon views, recent agriculture and grazing activities, role as the primary park entrance and headquarters, and the widest scope of recreational activities in the park. Primary recreation is likely to include traditional camping, cabin camping, nearby walk-in camping, hike-in camping, paddling river access, hiking, equestrian riding, equestrian camping, hunting, fishing, wildlife observation, astronomy and scenic viewing. Operations will include:

2.5.3 West Entrance - Park Maintenance

Action	Description
2.5.1.1	Develop trails to protect natural resources from visitor impacts while providing trail connectivity and scenic viewing opportunities.
2.5.1.2	Develop roads to provide safe visitor access while protecting natural resources and complying with scenic requirements.
2.5.2.1	Implement natural restoration strategies focusing on riparian areas.
2.5.2.2	Manage small scale agriculture and grazing activities, through cooperative agreements, to serve as an interim weed management strategy and to model best practices.
2.5.2.3	Manage weeds, especially along the roads, trails and parking lots, as prescribed in the Cottonwood Canyon State Park Vegetation Management Plan, including manual and chemical treatments followed by planting of native or interim species.
2.5.3.1	Maintain park amenities to Oregon Parks and Recreation Department standards, using a park specific Maintenance Management Plan and HUB. Amenities include but are not limited to campgrounds, cabins, RV dump station, day use areas, picnic facilities, restrooms, showers, raft put-in and take-out, raft waste disposal (SCAT) machine, wildlife observation blinds, landscaping, fence, signs, trails, roads, parking lots, potable water systems, septic systems.
2.5.3.2	Operate potable water and septic systems, including required testing, in compliance with state law and Oregon Parks and Recreation Department standards and policies. Provide necessary services while ensuring visitor safety and legal compliance.
2.5.3.3	Maintain interpretive facilities including Welcome Center, auxiliary historic farm buildings (silver barn, red barn, machine shed, chicken coop, utility barn, bunk house, horse stable/tack shed), astronomy area and wildlife observation blinds.
2.5.3.4	Maintain trails to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
2.5.3.5	Maintain roads to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
2.5.4.1	Centralize administration of personnel, budget, processing of revenue, disburse payments, visitor services, interpretation, enforcement, safety, cooperative interagency relations development, public interaction, liaison within department, foster community and neighbor relations and other park-wide functions at the headquarters compound.
2.5.4.2	Daily patrol for rule enforcement, safety, checking permits, collection of revenue and maintenance functions.
2.5.4.3	Collect and process revenue in compliance with Oregon Parks and Recreation Department policy and procedures, specifically the OPRD RRAP manual and Outdoor Recreation Management System procedures.
2.5.4.4	Cooperate with Oregon Department of Fish and Wildlife, supporting their goals to provide safe and positive fishing and hunting opportunities while managing fish and wildlife populations and habitat.
2.5.4.5	Reduce wildfire risk by seasonally restricting open fires, establishing fire breaks, training staff and cooperating with local fire, law enforcement and search and rescue agencies. Staff training should include fire prevention, visitor education, fire fighting, evacuation procedures and thorough familiarity with the park emergency plan.
2.5.5.1	Maintain primary staff headquarters. Headquarters is comprised of a manager residence, park ranger residence, seasonal staff residence, maintenance shop, work yard, equipment and vehicle bays and parking, fueling station, host sites, park horse facilities and storage.
2.5.5.2	Operate staff headquarters year round.
2.5.5.1	Conduct year round interpretation focused on the Cottonwood Canyon State Park interpretive themes.



Restoration Concept Descriptions:

Phase 1

Map code 4: Action 2.1.4.1- Riparian Restoration Project
Prescription summary: Establish willow in bottom of incised channel. Where banks allow, establish cottonwood and white alder.

Desired future condition: black cottonwood-coyote willow-pacific willow-Oregon ash-white alder-mockorange-woods rose-blue elderberry /prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass
Step A: Plant and cage trees and tall shrubs

Phase 2

Map code 3: Action 2.1.3.1- Bottomland Restoration
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.

Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster
Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.
Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

Map code 5: Action 2.1.5.1- Control Weeds - poison hemlock
Prescription summary:Control poison hemlock.
Desired future condition: blue elderberry-hackberry-mockorange-smooth sumac/Lomatium-monkeyflower, etc
Step A: Chemically treat poison hemlock)
Prescription summary:Control poison hemlock.

Desired future condition: blue elderberry-hackberry-mockorange-smooth sumac/Lomatium-monkeyflower, etc
Step A: Chemically treat poison hemlock

3. Esau Management Zone

The focus for this management zone is on conserving and restoring natural resources as well as limited recreation including existing trails along the river bank and small primitive camping areas. The area has a high scenic value. Operational efforts in this area will be of medium intensity compared to other areas in the park with a focus on restoration projects, visitor services, enforcement of park rules and education opportunities.

Zone	Natural	Recreation	Scenic	Cultural	Operations
3. Esau	H	M	H	M	M

3.1 NATURAL RESOURCES

This management zone includes part of the John Day River floodplain and its terraces below the point of the Gooseneck Overlook's ridge; the mouth of the Esau Canyon and Rattlesnake Canyon complex as well as convergent side canyons. The existing habitat types in this zone include weedy fields, big sagebrush shrub-steppe, riparian fringe, off-channel wetlands, and gravel bars. The current overall condition is poor, and this zone contains some of the highest area-wide restoration priorities.

The restoration concepts for this management zone are area-wide-priority 1 or 2. Esau includes the majority of the land formerly used for pasture by the Murtha family. The priority is to control weeds, reestablish the riparian area, and reestablish big sagebrush in the bottomlands. Weed infestations in this area are notably intense and of high priority. As part of this effort, Oregon State Parks is hoping to work with neighbors to continue best-practice grazing opportunities that will assist in controlling weeds and also allow local farmers to continue use of the pastures. In reestablishing the riparian buffer, it is understood an adaptive approach will be undertaken that will allow for changes to occur depending on events, especially those that are river-related.

Phase 1
Action 3.1.4.1: Riparian Restoration (Map code 4)
Prescription summary: Establish willow in bottom of incised channel. Where banks allow, establish cottonwood and white alder.

Desired future condition: black cottonwood-coyote willow-pacific willow-Oregon ash-white alder-mockorange-woods rose-blue elderberry-/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass
Step A: Plant and cage trees and tall shrubs

Phase 2
Action 3.1.3.1Bottomland Restoration (Map code 3)
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.

Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster
Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.
Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

3.1 Esau - Natural Resources

Action	Description	Status	Size/ Quantity	Reviews / Approvals
3.1.4.1	Riparian Restoration Project	1	31 ac	Any grading: County/FEMA, DSL, USACE, USFWS/NOAA fish Water rights: Water Resources Clearing existing veg: Possible County review
3.1.3.1	Bottomland Restoration	2	112 ac	Partners and peers (coordination and sharing)

3.2 CULTURAL RESOURCES

The historic resources in this management zone are not eligible for the National Register. However, the remnants of the ranch landscape including the roads, corral fencing, the advertising slogan on the cliff face, rock jacks and homestead trees should be preserved where possible as they are important to local people who value ranching in the region. In addition, the area should be surveyed and documented to fully understand the history of the ranching operation on this property. The potential for archaeological sites to be found is high. Archaeological surveys and testing will help determine the presence or absence of cultural resources.

3.2 Esau - Cultural Resources

Action	Description	Reviews / Approvals
3.2.1.1	Preserve site structures where possible	SHPO
3.2.3.1	Document ranching operation	SHPO

3.3 SCENIC RESOURCES

At Esau the bottomlands open up to reveal sweeping panoramas of the canyon both up and downriver. The river, including numerous associated ox-bows and secondary channels, forms many small islands that offer excellent opportunities for wildlife viewing. The openness of the canyon at Esau and the few trails that pass through create a very natural setting where only the pasture fields and fence lines indicate any signs of human settlement. Looking down river from Esau, the blade tops of a few wind turbines are visible above the rim of the canyon from the river. Overall, there is a strong sense of quiet in this zone. Visitors are far removed from the park gateway areas and there are few signs of human habitation. This area can be described under the ROS categories as a Class II, Natural Setting.

There is no single viewpoint in the Esau Management Zone, rather it is the openness that allows many panoramic views. However, as the riparian area is restored over time, the panoramic views will begin to disappear and will be replaced by more filtered views.

3.2 Esau - Scenic Resources

Action	Description	Reviews / Approvals
3.3.2.1	Preserve natural character	State Scenic review Federal Wild and Scenic Review
3.3.4.1	Retain filtered views across bottomlands of river	State Scenic review Federal Wild and Scenic Review
3.3.6.1	Screen views of new development	State Scenic review Federal Wild and Scenic Review

3.4 RECREATION

The public will only access the Esau Management Zone by trail from either the north or south side of the river. There is a service road that runs down Esau Canyon that can serve park staff and emergency services. The trails to the west lead to JS Burres and the Murtha Homestead; the trail leading east on the south side of the river leads to Hay Creek. It is only possible to cross the river during the fording season. Small way-finding signs will be located where the North River Trail

connects with the Gooseneck Trail and the South River Trail connects with Rattlesnake and Hay Creek trails. A small picnic area will also be considered at Esau as visitors will often hike into this area, stop for lunch, and then return to the JS Burres trailhead. Due to the remoteness of the location, only two small overnight camps will be located at Esau, for boat-in and hike-in campers.

3.4.1 Esau - Recreation - Day Use

Action	Description	Status	Size/ Quantity	Reviews / Approvals
3.4.1.1	Esau North River Trailhead	New	1	State Scenic review
3.4.1.2	Esau South River Trailhead	New	1	State Scenic review
10.4.4.1	North River Trail Segment	Rehab	2.2 mile segment	Explore possible BLM requirements State Scenic review.
10.4.4.2	South River Trail Segment	Rehab	2.3 mile segment	Explore possible BLM requirements State Scenic review.
10.4.2.1	Water trail	Existing	38 to 35 segment	
3.4.1.3	Picnic area cluster	New	1	State Scenic review
3.4.1.4	Way-finding, information and park rule signage	New	1 Kiosk (2 panels)	State Scenic review
3.4.1.5	Hand water pump	New	1	State Scenic review

3.4.2 Esau - Recreation - Overnight

Action	Description	Status	Size/ Quantity	Reviews / Approvals
3.4.2.1	Boat-in Camp	New	12 sites	State Scenic review
3.4.2.2	Hike-in Camp	New	12 sites	State Scenic review
3.4.2.3	Vault Toilet	New	1	State Scenic review

3.5 OPERATIONS

Characteristics of the Esau Management Zone which will influence and dictate Operations functions include an ROS category Class II Natural Setting designation, remote access by trail and boat-in, staff access by service or emergency road, rugged and steep terrain, scenic views and a variety of recreational activities. Primary recreation is likely to be hike-in camping, boat-in camping, hiking, rafting, hunting, fishing and scenic viewing. Operations will include:

3.5 Esau - Operations

Action	Description
3.5.1.1	Develop trails to protect natural resources from visitor impacts while providing trail connectivity and scenic viewing opportunities.
3.5.2.1	Manage weeds, especially along the service road and trails, as prescribed in Vegetation Management Plan, including manual and chemical treatments followed by planting of native or interim species.
3.5.2.2	Continue implementing natural restoration strategies focusing on riparian areas and sites impacted by agriculture and grazing.
3.5.2.3	Develop a service or emergency road to provide safe staff access while protecting natural resources and complying with scenic requirements.
3.5.3.1	Manage small scale agriculture and grazing activities, through cooperative agreements, to serve as an interim weed management strategy and to model best practices.
3.5.3.2	Maintain trails to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
3.5.3.3	Maintain road to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
3.5.3.4	Maintain park amenities to Oregon Parks and Recreation Department standards, using a park specific Maintenance Management Plan and HUB. Amenities include hike-in and boat-in campgrounds, picnic clusters and signs.

3.5.3.1	Protect known cultural and archaeological resources. Participate in agency provided training. Ensure all projects adhere to cultural clearance request process.
3.5.3.5	Facilitate further professional monitoring and surveying of park land for better identification and inventorying of resources. Conduct park activities and interpretation in a manner that furthers these goals and prevents adverse impacts
3.5.4.1	Regularly patrol for rule enforcement, safety, checking permits, collection of revenue and maintenance functions. Patrols may be on horseback to limit traffic on service road and preserve remote and primitive ambiance.
3.5.4.2	Conduct roving interpretation focused on the view, geology and natural surroundings when encountering visitors.
3.5.4.3	Cooperate with Oregon Department of Fish and Wildlife, supporting their goals to provide safe and positive fishing and hunting opportunities while managing fish and wildlife populations and habitat.

Esau Management Zone

Esau Management Zone is set on a large bend in the John Day River intersected by Esau Canyon. The majority of the bottomland has been heavily grazed and restoring the sagebrush habitat is a priority. Local ranchers may be able to continue grazing this land in order to keep weeds down. The recreation opportunities in this area will be a boat-in camp and a hike-in camp with minimal day use features (signs, hand water pump, picnic tables). Visitors can head over to Hay Creek from here or they can choose to head up Esau Canyon or Rattlesnake Canyon.

Esau Management Zone

Restoration Concept Descriptions:

Phase 1
Map code 4: Action 3.1.4.1: Riparian Restoration
Prescription summary: Establish willow in bottom of incised channel. Where banks allow, establish cottonwood and white alder.

Desired future condition: black cottonwood-coyote willow-pacific willow-Oregon ash-white alder-mockorange-woods rose-blue elderberry-/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass
Step A: Plant and cage trees and tall shrubs

Phase 2
Map code 3: Action 3.1.3.1Botrioniand Restoration
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.

Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster
Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.
Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

Goosenck Trail

North River Trail

South River Trail

Hike-In Camp

To Hay Creek

Boat-in Camp Camp

Legend
- Trails
- Overnight Area
- Restoration Concept Areas
- Park Area
- Management Zone
- County Roads
- Highway 208
- River

0 0.5 1 Mile

4. Gooseneck Overlook Management Zone

The focus for this management zone is conserving high value natural resources and weed management. Recreation is limited to the use of trails with an overlook area. The area has a high scenic value with some of the best views in the park. Operational efforts in this area will be of low intensity compared to other areas in the park with a focus on weed management projects, enforcement of park rules and education opportunities.

Zone	Natural	Recreation	Scenic	Cultural	Operations
4. Gooseneck Overlook	M	L	H	H	L

4.1 NATURAL RESOURCES

This management zone centers on the large ridge that creates a sharp curve in the John Day River canyon. The zone extends from the low-lying floodplain and terraces of the John Day River to the ridgetop, and also includes a strip of sloping land that connects to the site of the old Murtha Homestead. Its natural landscape consists primarily of grassland, rocky slopes and talus, cliffs, sagebrush shrub-steppe, rigid sagebrush dwarf shrub-steppe, and weedy overgrazed areas. The current ecological condition is variable from poor near the bottomlands, to nearly pristine in the rigid sage dwarf shrubland along the cliffs and the inaccessible rocky slopes.

Due to the pristine conditions on the ridgetop, which is easily accessible and currently threatened by encroaching weeds, this management zone contains areas with the highest park-wide conservation priorities. The first priority is to control weeds, and special attention will be given to areas along roads and trails.

Phase 1
Action 4.1.1.1: Control weeds along roads and trails (Map code 1)
Prescription summary: Control weeds along roads and trails. Away from the roads and trail sides weeds are still currently sparse and manageable. Outside of the area of road influence, these areas are some of the most pristine in the study area.

Desired future condition: rigid sagebrush-big sagebrush/sandberg's bluegrass-bluebunch wheatgrass
Step A: Control ingrowing weeds on roadsides, particularly medusahead, tumblemustard, and diffuse knapweed.

4.1 Gooseneck Overlook - Natural Resources

Action	Description	Size/ Quantity	Reviews / Approvals
4.1.1.1	Control Weeds (Roads and Trails)	18 ac	Partners and peers (coordination and sharing)

4.2 CULTURAL RESOURCES

The potential for archaeological sites to be found is high. Archaeological surveys and testing will help determine the presence or absence of cultural resources. There are no significant historic resources in this zone.

4.3 SCENIC RESOURCES

The predominant ridgeline in this management zone is very exposed and the visitor is far removed from the canyon below. Beyond the park, the exposure enables views of the surrounding country including wind turbines, and even distant volcanic peaks. For these reasons the area can be described under the ROS categories as a Class II, Natural Setting.

At the end of the ridge line, the Gooseneck Overlook is named for the 270 degree view it provides of the canyon below where the river forms a distinctive gooseneck bend. The spectacular walk along the ridgeline to get to the overlook affords some of the park's best views of the canyon and John Day River. The views along the ridgeline and at the overlook will be protected as one of the park's most important amenities.

4.3 Gooseneck Overlook - Scenic Resources

Action	Description	Reviews / Approvals
4.3.2.1	Preserve natural character	State Scenic review Federal Wild and Scenic Review
4.3.4.1:	Retain view from Gooseneck Overlook	State Scenic review Federal Wild and Scenic Review
4.3.5.1:	Retain views along ridgeline	State Scenic review Federal Wild and Scenic Review

4.4 RECREATION

Recreation in this zone is limited to hiking due to the fragile, relatively undisturbed habitat. A new trail will be built that leads from the Murtha Homestead up to the canyon rim and connects with an existing trail along the ridgeline to the Gooseneck Overlook. From the overlook, a new trail segment will lead back down to the canyon floor. In order to enhance universal access opportunities in the park, a small parking lot at the beginning of the ridgeline could be considered if road access was made available. The parking lot could provide spaces for between five to ten cars with a vault toilet. Providing the parking area will allow opportunities for universal access to views at the rim into the canyon below.

4.4.1 Gooseneck Overlook - Day Use

Action	Description	Status	Size/ Quantity	Reviews / Approvals
10.4.4.3	Gooseneck trail	Rehab / New	6.3 miles	Explore possible BLM requirements State Scenic review
4.4.1.1	Gooseneck overlook	New	1	Explore possible BLM requirements State Scenic review
10.4.1.4	Gooseneck access road	New	1.5 miles	Explore possible Sherman County requirements State Scenic review.
4.4.1.2	Parking lot	New	5 to 10 vehicles (2 ADA)	Explore possible Sherman County requirements State Scenic review.
4.4.1.3	Vault toilet	New	1 hole	County building permit State Scenic review.
4.4.1.4	Picnicking cluster	New	5 tables	State Scenic review

4.5 OPERATIONS

Characteristics of the Gooseneck Overlook Management Zone which will influence and dictate Operations functions include an ROS category Class II Natural Setting designation, remote access by primitive county road and trail, rugged and steep terrain, the most incredible canyon views in the park, and limited scope of recreational activities. Primary recreation is likely to be hiking and scenic viewing. Operations will include:

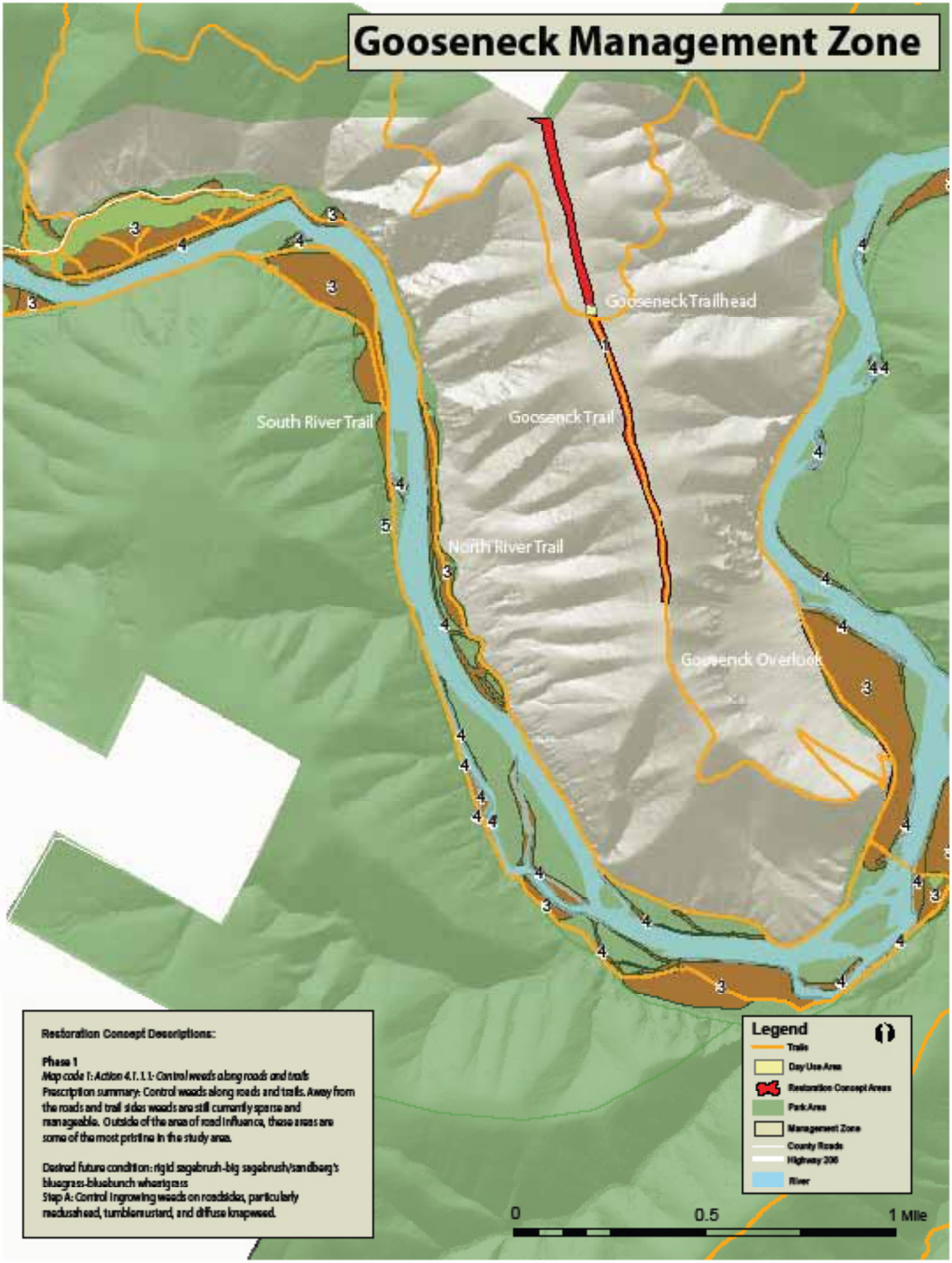
4.5 Gooseneck Overlook - Operations

Action	Description
4.5.2.1	Develop trails to protect natural resources from visitor impacts while providing trail connectivity and scenic viewing opportunities.
4.5.2.2	Develop a minor access road to provide safe visitor access while protecting natural resources and complying with scenic requirements.
4.5.2.3	Develop a small parking lot for convenient and universal (ADA) access to prime viewing location while protecting natural resources and complying with scenic requirements.
4.5.3.1	Manage weeds, especially along the road and parking lot, as prescribed in Vegetation Management Plan, including manual and chemical treatments followed by planting of native or interim species.
4.5.3.2	Maintain trails to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.

4.5.3.3	Maintain road to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
4.5.3.4	Maintain parking lot to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
4.5.3.5	Maintain park amenities to Oregon Parks and Recreation Department standards, using a park specific Maintenance Management Plan and HUB. Amenities include restroom and picnic facilities.
4.5.3.6	Protect known cultural and archaeological resources. Participate in agency provided training. Ensure all projects adhere to cultural clearance request process. Facilitate further professional monitoring and surveying of park land for better identification and inventorying of resources. Conduct park activities and interpretation in a manner that furthers these goals and prevents adverse impacts.
4.5.3.7	Protect areas of pristine soils.
4.5.4.1	Periodically patrol for rule enforcement and safety.
4.5.4.2	Conduct roving interpretation focused on the view, geology and natural surroundings when encountering visitors.

Gooseneck Overlook Management Zone

A trail will lead from the Murtha Homestead area up the canyon side and onto the ridgeline atop this management zone. From this vantage point it is possible to look down to the river on both sides below and view the large bend that curves around the edge of the ridge providing a 270 degree view into the canyon. A total day hike of seven miles will take you back down to the river, which you can follow along the bottomlands back to the Murtha Homestead day use and overnight areas.


Gooseneck Management Zone
Gooseneck Trailhead
South River Trail
Goosenck Trail
North River Trail
Goosenck Overlook
Restoration Concept Descriptions:
Phase 1
Map code 1: Action 4.1.1.1- Control weeds along roads and trails
Prescription summary: Control weeds along roads and trails. Away from the roads and trail sides weeds are still currently sparse and manageable. Outside of the area of road influence, these areas are some of the most pristine in the study area.
Desired future condition: rigid sagebrush-big sagebrush/sandberg's bluegrass-bluebunch wheatgrass
Step A: Control ingrowing weeds on roadsides, particularly medusahead, tumblemustard, and diffuse knapweed.
Legend
Trails
Day Use Area
Restoration Concept Areas
Park Area
Management Zone
County Roads
Highway 200
River
0
0.5
1 Mile

5. Rattlesnake Canyon Management Zone

The focus for this management zone is on conserving and restoring high value natural resources. Recreation is limited to the use of back country trails. Operational efforts in this area will be of low intensity compared to other areas in the park with a focus on restoration projects and enforcement of park rules.

Zone	Natural	Recreation	Scenic	Cultural	Operations
5. Rattlesnake Canyon	H	L	M	L	L

5.1 NATURAL RESOURCES

This management zone includes Rattlesnake Canyon, Esau Canyon and a number of smaller side canyons that all converge at the mouth of Esau Creek. The steep side-canyons and pasture in the Rattlesnake Canyon Management Zone afford varied habitat, including areas of weedy vegetation, sagebrush shrub-steppe, rocky slope, talus, cliffs, grassland, and rigid sagebrush dwarf shrub-steppe. The natural resource condition is largely poor due to past grazing pressure, but there are areas of nearly pristine habitat associated with inaccessible areas and areas of rigid sagebrush.

The priority is to reestablish willow and medium sized shrubs including white alder, hackberry, and cottonwood, especially in the benches formed by seasonal creeks. Bare ground also needs to be seeded with grasses in combination with weed control efforts.

Phase 2
Action 5.1.2.1: Establish willow and shrubs (Map code 2)
Prescription summary: Establish willow and medium sized shrubs. Occasional white alder, hackberry, and cottonwood would be appropriate, especially in wider wetted benches.

Desired future condition: (white alder)(black cottonwood)/coyote willow-mockorange-woods rose-hackberry-big sagebrush/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass

Step A: Plant live stakes of coyote willow. Plant containerized stock of other shrub species. Seed bare ground with native grasses. Control weeds to the extent necessary to establish native shrubs and trees.

Action 5.1.3.1: Control weeds and reestablish big sagebrush (Map code 3)
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.

Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster

Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.

Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

5.1 Rattlesnake Canyon - Natural Resources

Action	Description	Size/ Quantity	Reviews / Approvals
5.1.2.1	Establish willow and shrubs	4.2 ac	Partners and peers (coordination and sharing)
5.1.3.1	Control weeds and reestablish big sagebrush	2.1 ac	Partners and peers (coordination and sharing)

5.2 CULTURAL RESOURCES

The potential for archaeological sites to be found is high. Archaeological surveys and testing will help determine the presence or absence of cultural resources. There are no significant historic resources in this zone.

5.3 SCENIC RESOURCES

The steep-sided canyons of the Rattlesnake Canyon Management Zone have an enclosed and secluded feel. They are difficult to access and act as good migration areas for wildlife. The remoteness and ruggedness of this area with very few signs of human activity mean this area can be described under the ROS categories as a Class II, Natural Setting. With restoration efforts it could be changed to a Class 1, Primitive with Trails Setting.
There is no dramatic overlook in this management zone, rather the canyons reveal close views of geological or natural features like a seasonal waterfall or interesting rock outcropping.

5.3 Rattlesnake Canyon - Scenic Resources

Action	Description	Reviews / Approvals
5.3.2.1	Preserve natural character	State Scenic review Federal Wild and Scenic Review
5.3.5.1:	Retain views up into side-canyons	State Scenic review Federal Wild and Scenic Review

5.4 RECREATION

The Rattlesnake Canyon Management Zone can only be accessed by an existing trail from the proposed Esau Trailhead (there is a trailhead here as this site can be accessed by boat). The Esau Trailhead connects with JS Burres and Hay Creek. There are also excellent opportunities for wildlife viewing and the terrain is popular with hunters.

All of the existing trails leading up the side canyons in this zone eventually return back to the river via Esau. Opportunities in this zone will focus on hiking, biking and equestrian use. The existing trails will be rehabilitated to serve as public trails and new segments will be added to create loops were possible.

10.4.4 Rattlesnake Canyon - Circulation

Action	Description	Status	Size/ Quantity	Reviews / Approvals
10.4.4.4	Rattlesnake Ridge Trail	Rehab/ New	3.1 miles	Explore possible BLM requirements State Scenic review
10.4.4.5	Esau Canyon Trail	Rehab	6.4 miles	Explore possible BLM requirements State Scenic review

5.5 OPERATIONS

Characteristics of the Rattlesnake Canyon Management Zone which will influence and dictate Operations functions include an ROS category Class II Natural Setting designation, rugged and steep terrain, some views and recreation activities. Primary recreation is likely to be hiking, biking, equestrian riding, hunting and wildlife viewing. Operations will include:

5.5 Rattlesnake Canyon - Operations

Action	Description
5.5.2.1	Develop trails to protect natural resources from visitor impacts while providing trail connectivity, scenic viewing opportunities and accommodating multiple uses while minimizing conflicts.
5.5.3.1	Manage weeds as prescribed in Vegetation Management Plan, including manual and chemical treatments followed by planting of native or interim species.
5.5.3.2	Maintain trails to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion
5.5.4.1	Periodically patrol, potentially on horseback due to terrain and access, for rule enforcement and safety.
5.5.4.2	While interpretation will be occasional, it will be a dominant focus for staff when encountering visitors in this management zone to educate on safety and reducing impacts on the land.

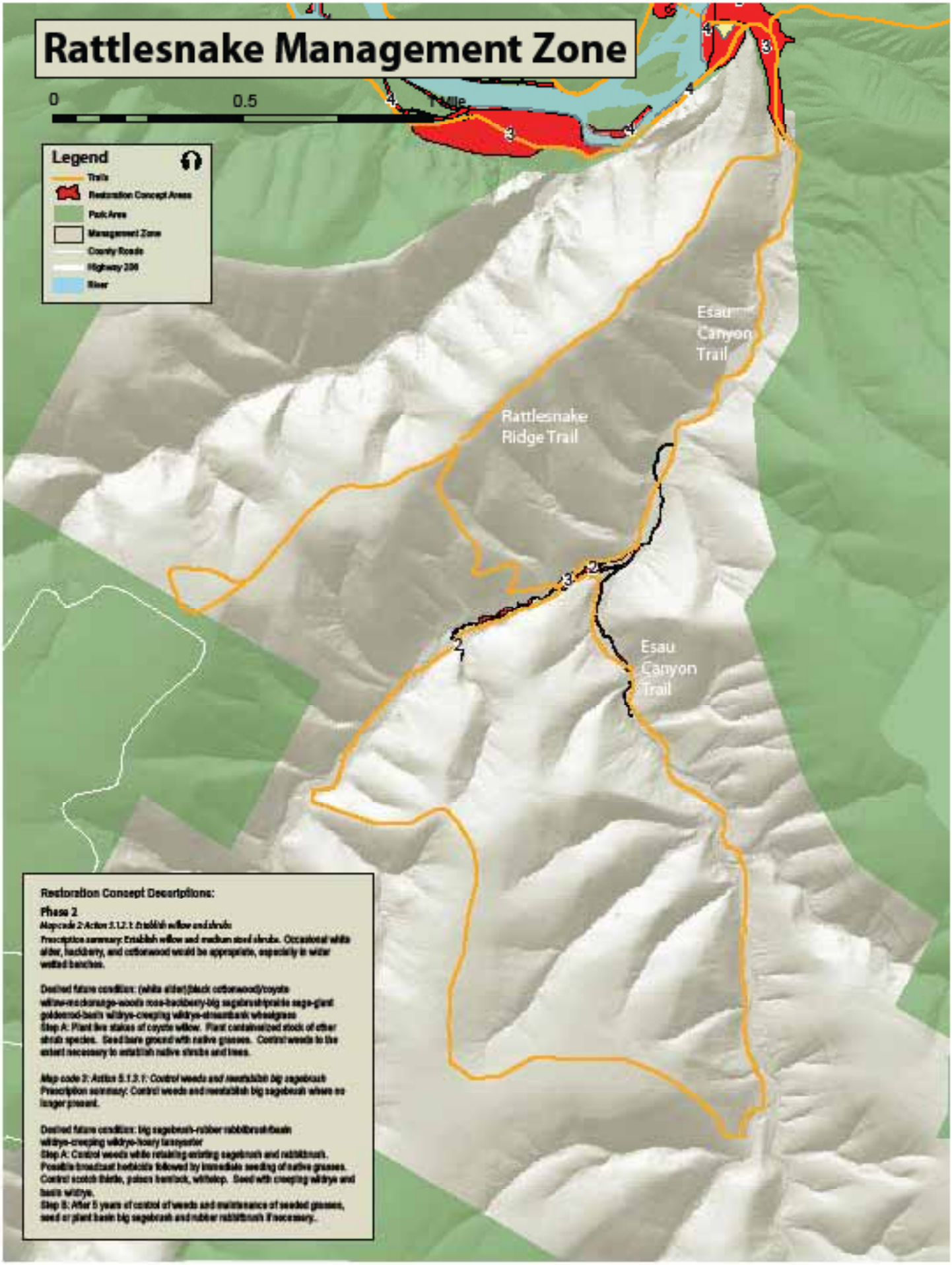

Rattlesnake Management Zone
0
0.5
1 Mile
Legend
Trails
Restoration Concept Areas
Park Area
Management Zone
County Roads
Highway 200
River
Esau Canyon Trail
Rattlesnake Ridge Trail
Esau Canyon Trail
Restoration Concept Descriptions:
Phase 2
Map code 2: Action 5.1.2.1: Establish willow and shrubs
Prescription summary: Establish willow and medium sized shrubs. Occasional white alder, hackberry, and cottonwood would be appropriate, especially in wetter wetland benches.
Desired future condition: (white alder)/black cottonwood)/coyote willow-rocky mountain maple-woods rose-hackberry-big sagebrush/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass
Step A: Plant live stakes of coyote willow. Plant containerized stock of other shrub species. Seed bare ground with native grasses. Control weeds to the extent necessary to establish native shrubs and trees.
Map code 3: Action 5.1.3.1: Control weeds and reestablish big sagebrush
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.
Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster
Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.
Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

Photo 10.6 A view of the John Day River from just below the Gooseneck Overlook, OPRD 2010

6. Mile 33 Management Zone

The focus for this management zone is on conserving and restoring natural resources. The area has a high scenic value with an ROS setting Value of I, Primitive. Operational effort in this area will be low compared to other areas in the park with a focus on restoration projects.

Zone	Natural	Recreation	Scenic	Cultural	Operations
6. Mile 33	M	L	H	M	L

6.1 NATURAL RESOURCES

This management zone covers the floodplain and terraces of the John Day River downstream of Esau and upstream of Hay Creek. It contains riparian fringe, big sagebrush steppe, grassland, off channel wetlands, and gravel bars, as well as severely degraded formerly agricultural or overgrazed land. This zone contains some of the highest planning-area-wide restoration priorities; either area-wide priority 1 or 2. Overall condition is poor, especially on the former pasture. The priority in the area is to control weeds and reestablish the riparian zone as well as big sagebrush in the bottomlands. To reestablish the riparian area, an adaptive approach will be undertaken that will allow changes to occur depending on events, especially those that are river related.

Phase 1
Action 6.1.4.1: Riparian Restoration Project (Map code 4)
Prescription summary: Establish willow in bottom of incised channel. Where banks allow, establish cottonwood and white alder.

Desired future condition: black cottonwood-coyote willow-pacific willow-Oregon ash-white alder-mockorange-woods rose-blue elderberry/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass

Step A: Plant and cage trees and tall shrubs

Phase 2
Action 6.1.3.1: Control weeds and reestablish big sagebrush (Map code 3)
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.

Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster

Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.

Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

6.1 Narrows - Natural Resources

Action	Description	Size/ Quantity	Reviews / Approvals
6.1.4.1	Riparian Restoration Project	11 ac	Any grading: County/FEMA, DSL, USACE, USFWS/ NOAA fish Water rights: Water Resources Clearing existing veg: Possible County review
6.1.3.1	Control weeds and reestablish big sagebrush	13 ac	Partners and peers (coordination and sharing)

6.2 CULTURAL RESOURCES

The potential for archaeological sites to be found is high. Archaeological surveys and testing will help determine the presence or absence of cultural resources. There are no significant historic resources in this zone.

6.3 SCENIC RESOURCES

With no trail on the south side and a private in-holding on the north side, this management zone is very inaccessible. The in-holding is well-screened and this section is scenically the most primitive in the park. It can be described under the ROS categories as a Class 1, Primitive Setting. However, if the in-holding becomes visible from the river, it would be changed from a Class I setting to a Class II, Natural Setting.

The major views in this area are from the river, looking downstream towards Hay Creek. The view is framed by the narrowness of the canyon and its almost vertical rock walls. Passing through this three-mile stretch, the views are upwards to admire the geological rock features and the height of the canyon walls. Protecting the aforementioned views are important as this is one of the most remote and dramatic sections of the park. Restoration of the riparian zone will filter these views, but there will still be enough space through the canopy to enjoy the dramatic setting of the canyon.

6.3 Narrows - Scenic Resources

Action	Description	Reviews / Approvals
6.3.1.1	Preserve primitive character	State Scenic review Federal Wild and Scenic Review
6.3.5.1:	Retain views down river of canyon from river	State Scenic review Federal Wild and Scenic Review

6.4 RECREATION

Access to this area is very limited; there is no access from the south side of the river. The trail on the north side terminates shortly after leaving the Esau Management Zone. The river trail is the only way to access this section of the park. The existing North River Trail terminating shortly after entering the management zone will be retained.

10.4 Narrows - Circulation

Action	Description	Status	Size/ Quantity	Reviews / Approvals
10.4.4.1	North River Trail	Rehab	1 mile	Explore possible BLM requirements State Scenic review.
10.4.2.1	Water Trail	Existing	35 to 31 segment	Explore possible BLM requirements State Scenic review.

6.5 OPERATIONS

Characteristics of Mile 33 Management Zone which will influence and dictate Operations functions include an ROS category Class I Primitive setting designation, the extremely remote nature, rugged and steep terrain, views and the narrow scope of recreation activities. Primary recreation is likely to be rafting (passing through), hiking, and scenic viewing. Operations will include:

6.5 Narrows - Operations

Action	Description
6.5.2.1	Manage weeds as prescribed in Vegetation Management Plan, including manual and chemical treatments followed by planting of native or interim species, especially along trails.
6.5.2.2	Develop a trail to protect natural resources from visitor impacts while providing trail connectivity and scenic viewing opportunities.
6.5.3.1	Maintain trail to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
6.5.4.1	Periodically patrol, potentially on horseback due to terrain and access, for rule enforcement and safety.
6.5.4.2	While interpretation will be occasional, it will be a dominant focus for staff when encountering visitors in this management zone to educate on safety and reducing impacts on the land.

Mile 33 Management Zone

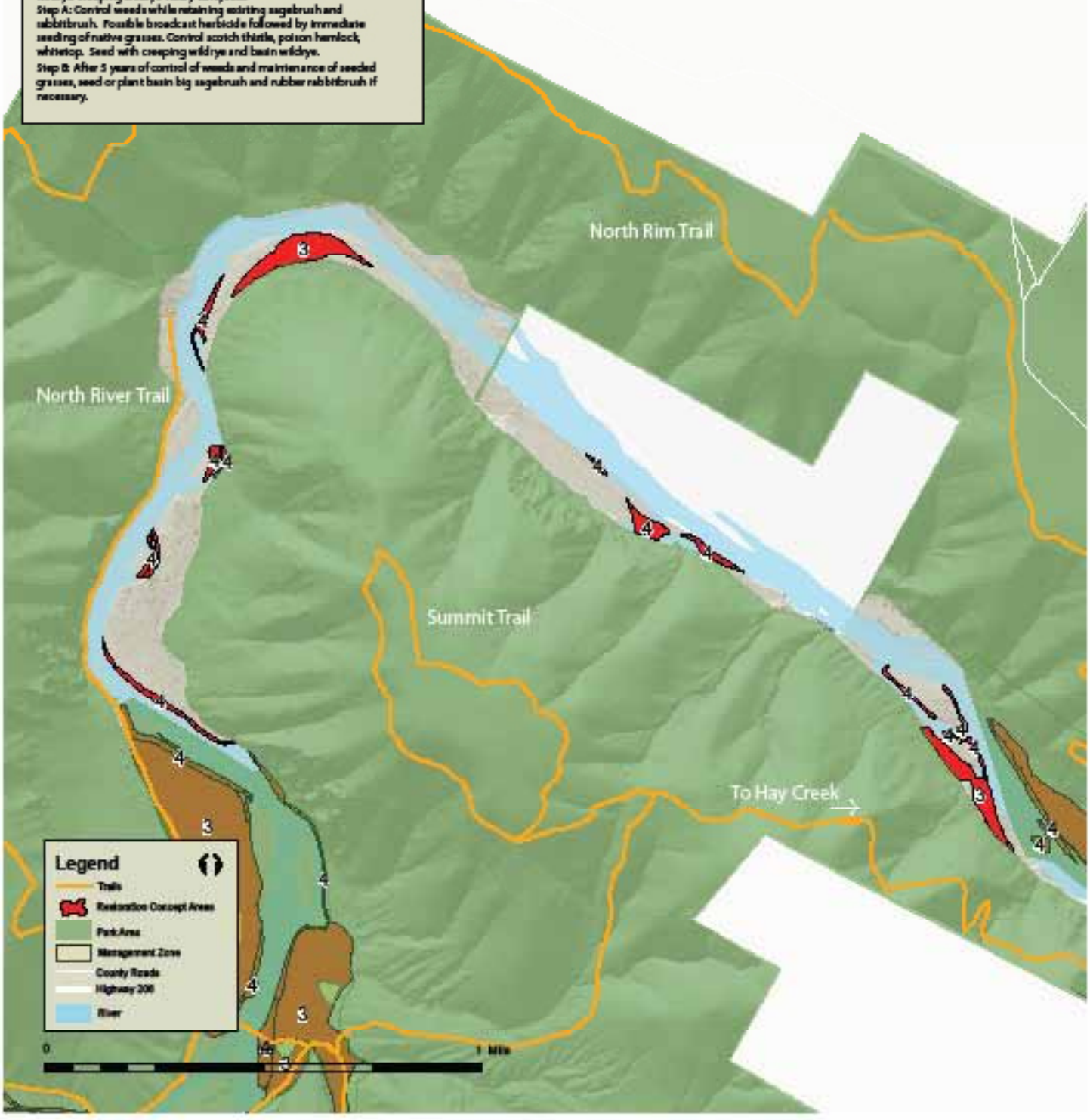
Restoration Concept Descriptions:

Phase 1
Map code 4: Action 6.1.4.1: Riparian Restoration Project
Prescription summary: Establish willow in bottom of incised channel. Where banks allow, establish cottonwood and white alder.

Desired future condition: black cottonwood-coyote willow-pacific willow-Oregon ash-white alder-mockorange-woods rose-blue elderberry/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass
Step A: Plant and cage trees and tall shrubs

Phase 2
Map code 3: Action 6.1.3.1: Control weeds and reestablish big sagebrush
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.

Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster
Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.
Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.



7. Hay Creek Management Zone

The focus for this management zone is a combination of natural resource projects and providing limited day use and overnight opportunities. Conserving, restoring and managing weeds is a priority for this zone along the Hay Creek bottomlands. Operational effort in this area will be high, focusing on restoration projects, visitor services and maintenance operations. The day use and overnight area will be designed to blend with the surroundings and fir scenic regulations.

Zone	Natural	Recreation	Scenic	Cultural	Operations
7. Hay Creek	H	M	H	H	H

7.1 NATURAL RESOURCES

The Hay Creek Management Zone encompasses the floodplain and terrace of Hay Creek and adjacent reaches of the John Day River, in addition to portions of the adjacent canyon slopes. Currently, Hay Creek provides an example and a reference site for other riparian planting in the planning area. It's value extends beyond it's current function as a habitat, to a model and reference for determination of what will grow in similar habitats, what wildlife will use it, what ecological benefits it provides, and what management challenges will arise in riparian forest restoration projects implemented in similar settings. Restoration priority is high, and work has already begun in several areas. These efforts will continue with priority given to controlling weeds, reestablishing the riparian area and restoring big sagebrush in the bottomlands. In reestablishing the riparian buffer it is understood an adaptive approach will be undertaken that will allow for changes to occur dependent upon events, especially river related.

Habitats present include degraded old fields, partially restored fields, riparian forest, riparian fringe, big sagebrush shrub-steppe, weedy and disturbed areas, and a former house site. Canyon slopes include areas of rock, cliffs, talus, grassland, sagebrush, and rigid sage dwarf shrub-steppe. Canyon slopes are in much better ecological condition than the bottomlands. Most of the bottomland would be characterized as being in poor ecological condition. The slopes contain areas of nearly pristine conditions in addition to the spectrum of other condition classes. The mouth of Hay Creek (as well as a newly planted strip of riparian vegetation along the creek extending to the property line upstream) provides an important forest habitat that is relatively rare in this portion of the John Day River canyon. The pacific willow forest at the mouth of Hay Creek is already mature, and appears to be spreading. Riparian forest benefits include shading of off-channel salmon habitat, wood recruitment for the river, and important habitat for birds and other wildlife. Management in this area should consider the option of fostering the expansion of forest habitat in the area, possibly through planting of additional trees and tall shrubs. Forest composition and diversity of species, age, and structure will need to be evaluated to inform forest management strategy for this area, as well as any other forest (reestablishment actions that might be implemented at Cottonwood Canyon State Park.

Phase 1
Action 7.1.4.1: Riparian Restoration Project (Map code 4)
Prescription summary: Establish willow in bottom of incised channel. Where banks allow, establish cottonwood and white alder.

Desired future condition: black cottonwood-coyote willow-pacific willow-Oregon ash-white alder-mockorange-woods rose-blue elderberry-/prairie sage-giant goldenrod-basin wildrye-creeping wildrye-streambank wheatgrass

Step A: Plant and cage trees and tall shrubs

Phase 2
Action 7.1.3.1: Control weeds and reestablish big sagebrush (Map code 3)
Prescription summary: Control weeds and reestablish big sagebrush where no longer present.
Desired future condition: big sagebrush-rubber rabbitbrush/basin wildrye-creeping wildrye-hoary tansyaster

Step A: Control weeds while retaining existing sagebrush and rabbitbrush. Possible broadcast herbicide followed by immediate seeding of native grasses. Control scotch thistle, poison hemlock, whitetop. Seed with creeping wildrye and basin wildrye.

Step B: After 5 years of control of weeds and maintenance of seeded grasses, seed or plant basin big sagebrush and rubber rabbitbrush if necessary.

7.1 Hay Creek - Natural Resources

Action	Description	Size/ Quantity	Reviews / Approvals
7.1.4.1	Riparian Restoration Project	62 ac	Any grading: County/FEMA, DSL, USACE, USFWS/ NOAA fish Water rights: Water Resources Clearing existing veg: Possible County review
7.1.3.1	Control weeds and reestablish big sagebrush	152 ac	Partners/peers (coordination/sharing)
7.1.8.1	Monitoring	214ac	Share results with Partners

7.2 CULTURAL RESOURCES

The historic resources in this management zone are not eligible for the National Register. However, the remnants of the ranch landscape including the roads, stone walls, corral fencing, rock jacks and homestead trees should be preserved where possible as they are important to local people who value ranching in the region. In addition, the area should be surveyed and documented to fully understand the history of the ranching operation on this property. The potential for archaeological sites to be found is high. Archaeological surveys and testing will help determine the presence or absence of cultural resources.

7.2 Hay Creek - Cultural Resources

Action	Description	Reviews / Approvals
2.2.1.1	Preserve site structures where possible	SHPO
2.2.3.1	Document ranching operation	SHPO

7.3 SCENIC RESOURCES

The main cultural effects on the landscape in this zone are the road down Hay Creek canyon and paddlers passing through here who can take out and exit via the road. Some of the pasture will be used for grazing through agreements with adjacent land owners. The limited recreation and ranching opportunities in this zone will be balanced against ensuring the restoration work and existing resources at Hay Creek are preserved. The restoration work underway, agricultural history, continued use for traditional recreation activities and road access mean this area can be described under the ROS categories as a Class II, Natural Setting.

From the site of the former Murtha House there is an outstanding view up and downriver as it is one of the few locations where the canyon opens out and a broad panoramic view of the bottomlands is possible. From this vantage point it is possible to see Hay Creek run down a side canyon before opening up at the confluence with the John Day River. A walk along the edge of the John Day River affords views upriver into the Narrows management zone, one of the most remote and rugged areas of the park.

7.3 Hay Creek - Scenic Resources

Action	Description	Reviews / Approvals
7.3.1.1	Preserve rural character	State Scenic review Federal Wild and Scenic Review
7.3.4.1:	Retain filtered views of river from former Murtha house	State Scenic review Federal Wild and Scenic Review
7.3.6.1:	Screen any new recreation development projects	State Scenic review Federal Wild and Scenic Review

7.4 RECREATION

This area was the original family homestead of the Murtha family and the existing foundation of the former home is a good location for a small day-use area that can be accessed via Hay Creek Canyon Road. This day use and overnight area will be marked by a park entrance sign on the eastside of Hay Creek. Also, on the east side of the creek, a ranger residence and host site will be located. Visitors arriving at the gateway will be able to check in with the ranger or host. The day use area will have up to 20 parking spaces, a picnic shelter, bathroom, and drinking water. The day use area and overnight camping areas will be seasonally closed. Initially this closure is expected to be between the months of October and April. Signage information at the day-use area will be provided on the park ranging from backcountry exploring to crucial safety advice. From the day-use areas vehicles will be able to drive to the boat take out point to retrieve their boats. A small interpretive loop trail will encircle the Hay Creek area and the major trailhead at the day use area will also lead up to the canyon rim and to Esau.

Overnight camping will consist of a group camp, equestrian camp (5 sites) and hike-in camps that will be seasonally furloughed to protect resources (12 sites). Bathrooms at the equestrian camp and near the hike-in camp should also be considered. The design of the day use and overnight areas will reflect the appearance of the ranch style deployed at the West Entrance to the park and will blend into the canyon bottomlands.

10.4.1 Hay Creek: East Entrance - Circulation

Action	Description	Status	Size/ Quantity	Reviews / Approvals
10.4.1.5	Roadway Improvement: passing places, intersection clear sight distance, retaining walls, etc. Park Arrival Entrance Sequence- Including park entrance sign	New	1	Explore possible Gilliam County requirements Possible DEQ grading permit required State Scenic review.

7.4.1 Hay Creek: Day Use

Action	Description	Status	Size/ Quantity	Reviews / Approvals
7.4.1.1.1	Main parking lot	New	20 spaces (2 ADA)	Explore possible Gilliam County requirements State Scenic review
7.4.1.1.2	Vault toilet	New	2 holes	Gilliam County building permit State Scenic review
2.4.1.3.2	Boat access to river with short-term parking spaces	Retain	1 access point (5 spaces)	Possible DEQ grading permit State Scenic review
7.4.1.1.3	Gathering area	New		State Scenic review
7.4.1.1.4	Picnic shelter	New	875sf	Gilliam County building permit 1200C storm water management permit and erosion sediment control plan State Scenic review
7.4.1.1.5	Picnic area clusters	New	Misc.	State Scenic review
7.4.1.1.6	Medium monument sign and associated landscape features	New	1	State Scenic review
7.4.1.1.7	Way-finding, information and park rule signage	New	1 Kiosk (2 panels)	State Scenic review
7.4.1.1.8	Interpretive panels	New	1 or 2 kiosks (Four Panels)	State Scenic review
10.4.4.2	Interpretive loop trail	New	1.4	State Scenic review
10.4.4.6	Side canyon trail	New	3.8 miles	Explore possible BLM requirements State Scenic review

10.4.2.1	Water trail	Existing	Mile 31 to 30	
7.4.1.1.9	Site amenities and gates		1	State Scenic review
7.4.1.1.11	Corral fencing	New		State Scenic review
7.4.1.1.12	Water pump	New		State Scenic review
7.4.1.1.13	Native shade trees	New	110	Work with local Watershed Council, ODFW and DEQ State Scenic review
7.4.1.1.14	Drip irrigation for shade trees	New	5,500 sf	Work with local Watershed Council, ODFW and DEQ State Scenic review

7.4.2.1 Hay Creek - Camping

Action	Description	Status	Size/ Quantity	Reviews / Approvals
7.4.2.1.1	Equestrian camp	New	5 sites	Development approval by County Possible DEQ grading permit State Scenic review
7.4.2.1.2	Vault toilet	New	1	Development approval by County Possible DEQ grading permit State Scenic review
7.4.2.1.3	Group camp	New	10 sites	Development approval by County Possible DEQ grading permit State Scenic review
7.4.2.1.4	Vault toilet	New	1	Development approval by County Possible DEQ grading permit State Scenic review
7.4.2.1.5	Fire pits	New	6	Development approval by County State Scenic review
7.4.2.1.6	Interpretive signage	New	1	State Scenic review
7.4.2.1.7	Site furnishings and gates	New	Misc.	State Scenic review
7.4.2.1.8	Corral fencing	New	Misc.	State Scenic review
7.4.2.1.9	Water pumps	New	2	State Scenic review
7.4.2.1.11	Landscaping	New		Work with local Watershed Council, ODFW and DEQ State Scenic review
7.4.1.1.13	Native shade trees	New	100	Work with local Watershed Council, ODFW and DEQ State Scenic review
7.4.1.1.14	Drip irrigation for shade trees	New	5,000 sf	Work with local Watershed Council, ODFW and DEQ State Scenic review

7.4.2.2 Hay Creek - Hike-in Camping

Action	Description	Status	Size/ Quantity	Reviews / Approvals
7.4.2.2.1	Hike-in camp	New	8 sites	Development approval by County Possible DEQ grading permit State Scenic review
7.4.2.2.2	Hike-in camp	New	8 sites	Development approval by County Possible DEQ grading permit State Scenic review
7.4.2.2.3	Hike-in camp	New	8 sites	Development approval by County Possible DEQ grading permit State Scenic review

7.4.2.2.4	Vault toilet	New	2 holes	Development approval by County State Scenic review
7.4.1.1.13	Native shade trees	New	60	Work with local Watershed Council, ODFW and DEQ State Scenic review
7.4.1.1.14	Drip irrigation for shade trees	New	3,000 sf	Work with local Watershed Council, ODFW and DEQ State Scenic review

7.4.3 Hay Creek - Maintenance and Staff

Action	Description	Status	Size/ Quantity	Reviews / Approvals
7.4.3.1.1	Shop building (attached to house)	New	400 sf	County building permit State Scenic review
7.4.3.1.2	Work yard	New	800 sf	Explore possible Grant County requirements Possible DEQ grading permit required State Scenic review
7.4.3.1.3	Storage area	New	400 sf	State Scenic review
7.4.3.1.4	Staff parking	New	2 spaces	State Scenic review
7.4.3.1.5	Host site	New	1	Explore possible Grant County requirements State Scenic review
7.4.3.1.6	Park ranger residence	New	1,600 sf	County building permit State Scenic review State Scenic review
7.4.3.1.7	Drain field	New	2	Development approval by County Possible DEQ grading permit required State Scenic review
7.4.1.1.13	Native shade trees	New	50	Work with local Watershed Council, ODFW and DEQ State Scenic review
7.4.1.1.14	Drip irrigation for shade trees	New	2,500 sf	Work with local Watershed Council, ODFW and DEQ State Scenic review

7.5 OPERATIONS

Characteristics of the Hay Creek Management Zone which will influence and dictate Operations functions include an ROS category Class II Natural Setting designation, access by primitive county road, relative isolation from the rest of the park, riparian zones of Hay Creek and the John Day River, some rugged and steep terrain, incredible canyon views, recent agriculture and grazing, and a wide scope of recreational activities. Primary recreation is likely to include traditional camping, hike-in camping, boat-in camping, rafting, raft take-out, hiking, equestrian riding, equestrian camping, hunting, fishing and scenic viewing. Operations will include:

7.5 Hay Creek - Operations

Action	Description
7.5.2.1	Manage small scale agriculture and grazing activities, through cooperative agreements, to serve as an interim weed management strategy and to model best practices.
7.5.2.2	Develop trails to protect natural resources from visitor impacts while providing trail connectivity and scenic viewing opportunities.
7.5.2.3	Develop roads to provide safe visitor access while protecting natural resources and complying with scenic requirements.
7.5.3.1	Maintain park amenities to Oregon Parks and Recreation Department standards, using a park specific Maintenance Management Plan and HUB. Amenities include but are not limited to campgrounds, day use area, picnic facilities, restrooms, raft take-out, landscaping, fence, signs, trails, potable water system, septic system.

7.5.3.2	Operate potable water and septic systems, including required testing, in compliance with state law and Oregon Parks and Recreation Department standards and policies. Provide necessary services while ensuring visitor safety and legal compliance.
7.5.3.3	Protect known cultural and archaeological resources. Participate in agency provided training. Ensure all projects adhere to cultural clearance request process. Facilitate further professional monitoring and surveying of park land for better identification and inventorying of resources. Conduct park activities and interpretation in a manner that furthers these goals and prevents adverse impacts.
7.5.3.4	Manage weeds, especially along the roads, trails and parking lots, as prescribed in the Cottonwood Canyon State Park Vegetation Management Plan, including manual and chemical treatments followed by planting of native or interim species. Continue implementing natural restoration strategies focusing on riparian areas and sites impacted by agriculture and grazing.
7.5.3.5	Maintain trails to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
7.5.3.6	Maintain roads to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion
7.5.3.7	Reduce wildfire risk by seasonally restricting open fires, establishing fire breaks, training staff and cooperating with local fire, law enforcement and search and rescue agencies. Staff training should include fire prevention, visitor education, fire fighting, evacuation procedures and thorough familiarity with the park emergency plan.
7.5.4.1	Maintain staff headquarters auxiliary to main headquarters at West Entrance Management Zone. Headquarters is comprised of a Park Ranger residence, maintenance shop, work yard, host site, and storage year-round.
7.5.4.2	Daily patrol for rule enforcement, safety, checking permits, collection of revenue and maintenance functions.
7.5.4.3	Collect and process revenue in compliance with Oregon Parks and Recreation Department policy and procedures, specifically the OPRD RRAP manual and Outdoor Recreation Management System procedures.
7.5.4.4	Cooperate with Oregon Department of Fish and Wildlife, supporting their goals to provide safe and positive fishing and hunting opportunities while managing fish and wildlife populations and habitat.
7.5.5.1	Operate staff headquarters seasonally, except occupation of residence year-round.

Hay Creek Management Zone

Hay Creek day use area will be open seasonally. The day use area is an important trail head to connect with Esau Canyon and is also a good spot for paddlers to take out after a day trip from Cottonwood or multi-day trip from further up river. Restoration efforts are well underway along the banks of Hay Creek and in the bottomlands. Further restoration work will be to replant a native forest around the delta where Hay Creek meets the John Day River

7.5.5.2	Regularly and seasonally conduct interpretation focused on the Cottonwood Canyon State Park Interpretive Themes.

8. Canyon Overlook Management Zone

The focus for this management zone is on conserving high value natural resources and weed management. Recreation is limited to the use of trails with an overlook area. The area has a high scenic value with some of the best views in the park. Operational efforts in this area will be of low intensity compared to other areas in the park with a focus on weed management projects, enforcement of park rules and education opportunities.

Zone	Natural	Recreation	Scenic	Cultural	Operations
8. Canyon Overlook	M	M	H	L	L

8.1 NATURAL RESOURCES

This management zone is mostly centered on a large ridge overlooking the John Day River Canyon upstream of Cottonwood Bridge. It contains grassland, rocky slopes, cliffs, sagebrush shrub-steppe, rigid sagebrush dwarf shrub-steppe, and weedy overgrazed areas. The ecological condition is variable; poor at lower elevations on deeper soils and near agricultural fields, to nearly pristine in portions of the rigid sage dwarf shrubland on top of the ridge as well as in the cliffs and inaccessible rocky slopes. Because of the pristine conditions on the ridgetop, which is easily accessible and currently threatened by encroaching weeds, this management zone contains some areas of the highest park-wide restoration priority.

Phase 1

8.1.1.1 Control Weeds Along Roads and Trails (Map code 1)

Prescription summary: Control weeds along roads and trails. Outside of roads and trail sides weeds are still currently sparse and manageable. Outside of the area of road influence, these areas are some of the most pristine in the study area.

Desired future condition: rigid sagebrush-big sagebrush/sandberg's bluegrass-bluebunch wheatgrass

Step A: Control ingrowing weeds on roadsides, particularly medusahead, tumblemustard, and diffuse knapweed.

8.1 Canyon Overlook - Natural Resources

Action	Description	Size/ Quantity	Reviews / Approvals
8.1.1.1	Control Weeds (Roads + Trails)	40 ac	Partners and peers (coordination and sharing))

8.2 CULTURAL RESOURCES

The potential for archaeological sites to be found is high. Archaeological surveys and testing will help determine the presence or absence of cultural resources. There are no significant historic resources in this zone.

8.3 SCENIC RESOURCES

The Canyon Overlook is named for the spectacular views it provides into the BLM Wilderness Study Area. Walking along the top of the ridge, there are three overlooks that allow views into deep segments of the canyon, highlighting interesting geology along the John Day River. It is a spectacular ridgeline that affords some of the park's best views of the canyon and its wild surroundings. These views will be protected as an important to the character of the landscape.

The ridgeline is very exposed and the visitor is far removed from the canyon below. Beyond the park, the exposure enables

views of the surrounding country including wind turbines, and even distant volcanic peaks. For these reasons the area can be described under the ROS categories as a Class II, Natural Setting.

8.3 Canyon Overlook - Scenic Resources

Strategy	Description	Reviews / Approvals
8.3.2.1	Preserve natural character	State Scenic review Federal Wild and Scenic Review
8.3.4.1:	Retain views from three natural overlooks of canyon below	State Scenic review Federal Wild and Scenic Review

8.4 RECREATION

Recreation in this zone is limited due to the fragile relatively undisturbed habitat. An access road off Hwy 205 and small parking lot at the top of the rim could be considered in the future if a better road access was made available making an excellent location for a small day use area. This small day use area could provide parking for 5 to 10 vehicles and would offer universal access to the three natural overlooks of the canyon below. A 1-mile ADA accessible interpretative trail will lead from the parking lot to the overlooks. Providing this parking area would enhance universal access opportunities in the park by creating one of only two potential locations for accessible views from the rim of the canyon.

8.4 Canyon Overlook - Day Use

Action	Description	Status	Size/ Quantity	Reviews / Approvals
10.4.8.3	Canyon Overlook Trail	Rehab / New	6 miles	Explore possible BLM requirements State Scenic review.
8.4.1.1	Canyon Overlooks	New	3	Explore possible BLM requirements State Scenic review.
10.4.1.6	Canyon Overlook access road	New	2 mile	Explore possible Sherman County requirements State Scenic review.
8.4.1.2	Parking Lot	New	5 to 10 vehicles (3 ADA)	Explore possible Sherman County requirements State Scenic review.
8.4.1.3	Picnic area cluster	New	Misc.	State Scenic review

8. 5. OPERATIONS

Characteristics of the Canyon Overlook Management Zone which will influence and dictate Operations functions include an ROS category Class II Natural Setting designation, the convenient access to the highway, visual isolation from the rest of the park, rugged and steep terrain, incredible canyon view, and limited scope of recreational activities. Primary recreation is likely to be scenic viewing. Operations will include:

8.5 Canyon Overlook - Operations

Action	Description
8.5.2.1	Develop a trail to protect natural resources from visitor impacts while providing trail connectivity and scenic viewing opportunities.
8.5.2.2	Develop a minor access road to provide safe visitor access while protecting natural resources and complying with scenic requirements.
8.5.2.3	Develop a small parking lot for convenient and universal (ADA) access to prime viewing location while protecting natural resources and complying with scenic requirements.
8.5.3.1	Manage weeds, especially along the road and parking lot, as prescribed in Vegetation Management Plan, including manual and chemical treatments followed by planting of native or interim species.
8.5.3.2	Maintain trail to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
8.5.3.3	Maintain road to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.

8.5.3.4	Maintain parking lot to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.
8.5.4.1	Periodically patrol for rule enforcement and safety.
8.5.4.2	Conduct roving interpretation focused on the geology and natural surroundings when encountering visitors.

9. Uplands Management Zone

The focus for this management zone is on conserving and restoring natural resources. The area has a high scenic value with an ROS setting Value of I, Primitive. Operational effort in this area will be low compared to other areas in the park with a focus on restoration projects.

Zone	Natural	Recreation	Scenic	Cultural	Operations
9. Uplands	L	L	M	L	L

9.1 NATURAL RESOURCES

This is one of the largest and includes some of the most remote zones of the park. It includes all the terrain above the floodplain and the terraces of Hay Creek and the John Day River except those that are within other zones such as the Gooseneck Overlook, Canyon Overlook, Rattlesnake Canyon, or the slopes surrounding lower Hay Creek. This zone is made up of rocky slopes, cliffs, grassland, sagebrush shrub-steppe, and rigid sagebrush dwarf shrub-steppe, and small seeps, draws and intermittent streams. Conditions within the zone vary according to location. Some areas are pristine or nearly pristine, constituting the highest priority for weed control and eradication. Wetland types are extremely important wildlife habitats within this zone. Overall, however, management within this zone is lower in priority than many other areas within the planning area. This zone has restoration work rated as priority 3 under the area-wide priority assessment scheme.

Phase 3
9.1.1.1 Control Weeds Along Roads and + Trails (Map code 1)
Prescription summary: Control high priority weeds along roads and trails, as these are the main vectors of infestation. Where weeds are currently sparse and condition is excellent, control all weeds as they are discovered.

Desired future condition: Varies by location. See historic vegetation maps.
Step A: conduct vehicle-based weed surveys on road system. Map and control weed infestations as they are found.

9.1 Uplands - Natural Resources

Action	Description	Size/ Quantity	Reviews / Approvals
9.1.1.1	Control Weeds (Roads + Trails)	10396 ac	Partners and peers (coordination and sharing)

9.2 CULTURAL RESOURCES

The potential for archaeological sites to be found is high. Archaeological surveys and testing will help determine the presence or absence of cultural resources. There are no significant historic resources in this zone.

9.3 SCENIC RESOURCES

The steep side-canyons and uplands make up the major backdrop of the park. These areas are the most difficult to access. There is no single viewpoint in this management zone, rather the steep canyons frame views of geological or natural features like a seasonal waterfall or interesting rock outcropping. From the uplands, there are many views from the canyon rim to the bottomlands below.

The ruggedness of the landscape with few signs of human activity mean this area can be described under the ROS categories as a Class II, Natural Setting.

9.3 Uplands - Scenic Resources

Strategy	Description	Reviews / Approvals
9.3.2.1	Preserve natural character	State Scenic review Federal Wild and Scenic Review
9.3.4.1	Retain views of canyon	State Scenic review Federal Wild and Scenic Review
9.3.4.2	Retain views of natural features	State Scenic review Federal Wild and Scenic Review

9.4 RECREATION

The uplands management zone can only be accessed by trail from the Murtha Homestead, JS Burres or Hay Creek Trailheads. The trails therefore lead up the side canyons from the bottomlands or carry along the rim of the canyon eventually returning back to the river. Opportunities in this zone will focus on hiking, biking and equestrian use. There are also excellent opportunities for wildlife viewing, and the terrain is popular with hunters. The focus will be on retaining the existing trails and only adding new trails where other trail opportunities don't exist in the park. This includes a new trail along the north rim, east of the Gooseneck Overlook and a new trail that will connect Hay Creek with Esau. The existing trails are located in the southwest section of the park, upriver from the Bull Canyon Management Zone.

10.4 Uplands - Circulation

Action	Description	Status	Size/ Quantity	Reviews / Approvals
10.4.4.7	Summit Trail	Rehab	2.3 miles	Explore possible BLM requirements State Scenic review
10.4.4.8	North Rim Trail	New	8.7	Explore possible BLM requirements State Scenic review
10.4.4.9	South Rim Trail	New	8.8	Explore possible BLM requirements State Scenic review

9.5 OPERATIONS

Characteristics of the Uplands Management Zone which will influence and dictate Operations functions include an ROS category Class II Natural Setting designation, the vast size, remote nature, rugged and steep terrain, numerous viewpoints and the comparatively lower volume of recreation activities. Primary recreation is likely to be hiking, biking, equestrian riding, hunting and wildlife viewing. Operations will include:

9.1 Uplands - Operations

Action	Description
9.5.2.1	Manage weeds as prescribed in Vegetation Management Plan, including manual and chemical treatments followed by planting of native or interim species.
9.5.2.2	Develop trails to protect natural resources from visitor impacts while providing trail connectivity, scenic viewing opportunities and accommodating multiple uses while minimizing conflicts.
9.5.3.1	Maintain trails to Oregon Parks and Recreation Department standards to ensure safety and prevent erosion.

9.5.4.1	Periodically patrol, potentially on horseback due to terrain and access, for rule enforcement and safety.
9.5.4.2	While interpretation will be occasional, it will be a dominant focus for staff when encountering visitors in this management zone to educate on safety and reducing impacts on the land.

10. Circulation

The focus for circulation is on recreation. Circulation ensures visitors can have access to the most scenic areas in the park. There is also a high value on natural resources to ensure weed management strategies are in place to prevent their spread. Operational efforts in this area will be of high intensity compared to other areas in the park with a focus on maintenance operations and visitor safety. Development of a day use and overnight area will require scenic regulations are focused in this zone.

Zone	Natural	Recreation	Scenic	Cultural	Operations
10. Circulation	H	H	H	L	H

10.4 ROADS

There are two public roads in the park, two major intersections and one service road. The main park road is the Murtha Homestead access road off Hwy 205 at Cottonwood Bridge. This is a short road leading to the Murtha Homestead day use and overnight areas. There are currently two options being considered for the Hwy 205 intersection. Option A uses the existing intersection that provides access to the former Murtha Ranch. This intersection will be upgraded to accommodate park traffic, provide a formal entry way to the park, and create a safe driving experience. Option B follows sections of the former county road, leading under Cottonwood Bridge towards the new park day use area. Option B provides the most scenic entry to the park with excellent views up-river. Either approach to the park from the Highway 205 intersection will have the standard state park shield a ¼ mile and ½ mile from the park entrance. The second intersection provides access to the JS Burres day use area.

The second public road is Hay Creek Canyon Road. This road leads down Hay Creek canyon from the bridge crossing Hay Creek, ending at the Hay Creek day use and overnight Area. Due to an expected low volume of traffic on this road, it can remain at its current width of 14'. Strategically located passing places will need to be installed, and a couple of sections of road will need to be realigned to avoid the 100' riparian set-back. The service road in the park runs down Esau Canyon to the John Day River. This road will be used for emergency purposes only and as a park service road.

10.4 Circulation - Roads

Action	Description	Status	Reviews / Approvals
10.4.1.1	West Entrance Junction	Rehab	Explore possible County requirements Explore ODOT County requirements Possible DEQ grading permit required Explore possible BLM requirements State Scenic review.
10.4.1.2	West Entrance Park Road	Rehab	
10.4.1.3	JS Burres Park Entrance	Rehab	
10.4.1.4	Gooseneck Access Road	Rehab	
10.4.1.5	Hay Creek Road	Rehab	
10.4.1.6	Canyon Overlook Access Road	Rehab	

10.4 TRAILS

The trails and associated overlook areas provide a series of short and long loops that will pass through a wide variety of terrain and habitats. They are designed in a cohesive but distinctive style that enables the visitor to identify where they are

in the park, and what they can do at each of the trailheads and overlooks. Some new trails and viewpoints will be added and the existing ones will be redesigned to fit the park setting. The trail segments vary between a quarter of a mile to 12 miles in length. The total length of trail mileage in the park is approximately 59 miles. The majority of the trails are set aside for hiking, mountain biking, and horse riding.

10.4 Circulation - Trails

Action	Description	Status	Size/ Quantity	Reviews / Approvals
10.4.4.1	North River Trail	Rehab	5.5 miles	Explore possible BLM requirements State Scenic review
10.4.4.2	South River Trail	Rehab	4.9 miles	
10.4.4.3	Gooseneck Trail	New	3.6 miles	
10.4.4.4	Rattlesnake Ridge Trail	New/ Rehab	3.1 miles	
10.4.4.5	Esau Canyon Trail	New/ Rehab	5.9 miles	
10.4.4.6	Side Canyon Trail	New	3.8 miles	
10.4.4.7	Summit Trail	New/ Rehab	1.9 miles	
10.4.4.8	North Rim Trail	New	5.7 miles	
10.4.4.9	South Rim Trail	New	6.8 miles	
10.4.4.10	Bull Canyon Trails	Existing	7.5 miles	
10.4.2.1	Water Trail	Existing	12 miles	
[illegible]	[illegible]	[illegible]	[illegible]	

Circulation Management Zone

The trails cut through all of the nine other management zones. They cross BLM, Western Rivers and Oregon State Park land. Some trails exist, especially those along the river, others like the Gooseneck Trail, The North and South Rim Trails will need to be built. This process will take many years, but it is the partnerships between the various entities and their willingness to make this a seamless experience for the public that typifies the approach to Cottonwood Canyon State Park.

Review and Approvals
Chapter 11

In this chapter: County Land Use Compatibility and Permitting - Land Use Compatibility - Development Permits for State Park Projects - Variations from the Master Plan - Rehabilitation of Existing State Park Uses - Environmental Assessment on BLM lands - State Scenic Review - Cultural Resource Review and Approvals - Emergency Management

Photo 11.1 Google Earth image of John Day River at Cottonwood Canyon looking west, Google Earth 2011

County Land Use Compatibility and Permitting

Development of the park uses and facilities described in this master plan is governed by Gilliam and Sherman Counties under the provisions of each of the Countiy Comprehensive Plans. The counties Comprehensive Plans are acknowledged by the Land Conservation and Development Commission (LCDC) pursuant to the statewide land use goals, statutes and related administrative rules.

This plan has been formulated through the planning process described under OAR 736 Division 18 and OAR 660 Division 34. The planning process includes procedures for coordinating with affected local governments to assure that the park master plan is compatible with the local government comprehensive plan.

Land Use Compatibility

Prior to OPRD's adoption of a state park master plan, land use approval of the master plan by the affected local government is required unless all of the planned park projects are determined by the local government to be compatible with the local comprehensive plan and zoning ordinance. "Compatible" means that development permits may be approved for all of the planned park projects without first amending the local government's comprehensive plan or zoning ordinance, or that the master plan language specifically states that a local plan or ordinance amendment will be needed prior to construction of any project that is not compatible. Before adopting a master plan, OPRD requests that the affected local government planning agency review the draft master plan for land use compatibility.

The Cottonwood Canyon State Park plan will be reviewed for local land use compatibility by Gilliam and Sherman County planning staff. County staff confirm all of the planned park projects are allowed under the existing provisions of both County's plan and ordinance.

Under Sherman County Ordinance Article 3, section 3.1.3(O) "Public or Private Parks, Playgrounds and Campgrounds," as defined in OAR 660-33-(10), park uses described in the plan are allowable as "Conditional Uses" in this zone. Sherman County "Flood Hazard Combining Zone" overlays the EFU zone in the area of the park mapped as 100-year floodplain by FEMA (Check with County re: other overlay zones). Buildings planned within this overlay must comply with the applicable development standards specified under Sherman County Ordinances in addition to the standards of the underlying zone.

Under Gilliam County Ordinance Article 3, section 4.020.1. (D) 11 "Public Parks and Playgrounds and Campgrounds," as defined in OAR 660-34-0035, park uses described in the plan are allowable as "Conditional Uses" in this zone. Gilliam County "Flood Hazard Combining Zone" overlays the EFU zone in the area of the park mapped as 100-year floodplain by FEMA. Buildings planned within this overlay must comply with the applicable development standards specified under Gilliam County Ordinances in addition to the standards of the underlying zone.

Development Permits for State Park Projects

Development permits will be required for most of the development projects described in the plan. Prior to beginning construction of any project, the project manager is responsible for consulting with the affected local government planning department and obtaining the necessary development permits. The specific requirements for obtaining development permits for a project, and the kind of local permitting process required will vary from one project to another. The time required for completing the development permitting process will also vary, so the project manager will consult with the local government planning department to assure the permitting process is completed prior to the target date for beginning construction. Prior to issuance of development permits the local government will review the project plans and specifications to assure the project proposed for construction is consistent with the description of the project in the park plan and with any applicable development standards in the local government's ordinances.

Variations from the Master Plan

Under the provisions of OAR 736-018-0040, OPRD may pursue development permits for a state park project that varies from a state park master plan without first amending the master plan provided that the variation is minor, unless the master plan language specifically precludes such variation. Any specific project design elements that cannot be changed by applying the "Minor Variation" rule are indicated in the design standards for the projects in the master plan.

The OPRD Director must determine that a proposed variation from the master plan is "minor" using the criteria in OAR 736-018-0040. A minor variation from the master plan, which is approved by the Director, is considered to be consistent with the master plan, contingent upon the concurrence of the affected local government.

Rehabilitation of Existing State Park Uses

State laws allow OPRD to continue any state park use or facility that existed on July 25, 1997. (See ORS 195.125 and OAR 660-034-0030(8).) The laws allow the repair and renovation of facilities, the replacement of facilities including minor location changes, and the minor expansion of uses and facilities. Rehabilitation projects are allowed whether or not they are described in a state park master plan. These projects are subject to any clear and objective siting standards required by the affected local government, provided that such standards do not preclude the projects.

Prior to applying for development permits for a project involving a minor location change of an existing facility or minor expansion of an existing use or facility, the OPRD Director must determine that the location change or expansion is "minor" using the criteria in OAR 736-018-0043. A determination by the Director that a proposed location change or expansion is minor is contingent upon the concurrence of the affected local government.

Environmental Assessment on BLM Lands

An environmental assessment (EA) will consider potential impacts to the project area covering BLM fee title lands.
The process for projects proposed on BLM lands will require an EA under the National Environmental Policy Act (NEPA) which will: consider the impact of rehabilitating existing trails, building new trails, considering natural resource impacts (especially weed issues), and cultural resource impacts; describe the existing conditions and assesses the impacts of the proposed action and no-action alternative; the impacts will be analyzed for long-term and short-term consequences and cumulative impacts; have a public comment period; and a BLM decision regarding whether or not the projects will go forward. Some of the proposed projects may not be in conformance with the BLM land use plan for the area, in which case they would not be permitted, or would require a BLM plan amendment to be allowed.

State Scenic Review

The State Scenic River Areas act is administered consistent with the standards set by OAR 736-040-0035 and OAR 736-040-0040(1)(b)(B). In addition to these standards, all new development in resource zones (i.e. farm related dwellings) shall comply with Sherman County and Gilliam County land use regulations.

New structures and associated improvements shall be substantially screened by topography and/or native vegetation, except as provided under OAR 736-040-0030(5), and except for those minimal facilities needed for public outdoor recreation or resource protection. If inadequate topographic or vegetative screening exists on a site, the structure or improvement may be permitted if native vegetation can be established to provide substantial screening of the proposed structure or improvement within a reasonable time (4–5 years). The condition of "substantial screening," as used in Section (2) of this rule, shall consist of adequate topography and/or density and mixture of native, evergreen and deciduous vegetation to substantially obscure (at least 75%) the viewed structure or improvement.
Natural Resource Review and Approvals
OPRD staff in consultation and coordination with local, state, and federal agencies and partners has determined the need for natural resource stabilization and restoration. Under the authority of OPRD Commission Policy 20-0 Natural Resource, and OP 50-09 Invasive Species Management, natural resource projects will be undertaken to manage and restore the landscape to benefit the local resources of the John Day Watershed.

Generally, scenic resource issues fall outside the purview of local planning agencies. OPRD staff work with local partners such as watershed councils, soil and water conservation districts, and surrounding land owners to implement specific resource projects. Projects are developed and implemented by park management, as budget and staff allow.

Cultural Resource Review and Approvals

OPRD recognizes that the preservation and protection of cultural resources is an important aspect of land management. Management of historic and archeological resources are managed in accordance with OPRD Commission Policy 20-02. OPRD has worked with tribal interests and local heritage organizations to identify how the proposed park development may affect cultural resources. Where possible the potential impacts to known cultural resources have been minimized or mitigated.

OPRD works with the State Historic Preservation Office to secure approval for any project that may have impacts on cultural resources. Cultural resource considerations are generally outside the approval authority of local planning agencies. OPRD will continue to work with tribal and local interests to ensure the cultural resources of Cottonwood Canyon State Park are preserved and protected.

Emergency Management

OPRD strives to provide a recreation experience that is safe for staff, visitors, and the surrounding community. The life-safety aspects of facility and infrastructure development are reviewed during the county land use permitting process. OPRD has additional responsibility beyond the local planning jurisdiction. Park management is responsible for the development of an emergency management plan under OPRD policy 70-04. The development of this emergency management plan will occur after county land use is complete to ensure that the plan is in accordance with allowable park uses. Development of the emergency management plan is done with consultation and coordination with state and local service providers to ensure that roles and responsibilities are understood.

Appendices

Appendix A: Supporting Documents and Reports

OPRD Background Reports and Documents:

- OPRD, Vegetation Inventory and Mapping: Cottonwood Canyon State Park. Oregon State Parks, Salem, 2010
- OPRD Draft Cottonwood Wildland Fire Plan, 2010
- OPRD Draft Wildlife Plan. 2011
- OPRD, Draft Historic Report: Cottonwood Canyon State Park. Oregon State Parks, Salem, 2010
- State Trails Plan OPRD
- SCORP Regional Recreation Survey
- 1881 surveyors' notes;
- An Oregon Natural Heritage Information Center (ORNHIC) interpretation of early surveyors' notes;
- The 2008 GAP analysis project;
- The IMAP Potential Natural Vegetation model;
- The US Forest Service LANDFIRE Biophysical Settings model; and
- Natural vegetation associations reported in Natural Resources Conservation Service's NASIS soils data.

The above documents are available for viewing at:
Oregon Parks and Recreation Department
North Mall Office Building
725 Summer Street NE, Suite C

Supporting BLM Plans

1993 Draft John Day River Management Plan and Environmental Impact Statement
A draft John Day River Management Plan and EIS was released for public review and comment in 1993. Work on the final plan was suspended until more data on grazing evaluations was completed.

Publication of Proposed Action in Federal Register
An initial proposed action was developed in response to the issues identified in the planning process. a description of that proposed action was published in the Federal Register January 8, 1992. The proposed action detailed in the Federal Register was refined during the analysis process and became Alternative 3 in draft plan and EIS.

Second Draft Environmental Impact Statement and Management Plan (DEIS)
Provides comparison of different management alternatives for the John Day Wild and Scenic River and State Scenic Waterway as well as non-designated reaches of the river that are outside of surrounding national forests. This document identified a preferred alternative.

Decision Record : John Day River Study Environmental Assessment (EA)
The BLM prepared and circulated the John Day River Study Environmental Assessment (EA) to analyze a range of alternatives to reduce crowding on Segment 2 (Clarno to Cottonwood) and Segment 3 (Service Creek

to Clarno) of the John Day Wild & Scenic River by spreading the number of daily launches more evenly between May 20 and July 10, when the majority of boating use occurs.

Appendix B: OPRD Statewide Natural Resources Policies & Objectives

OPRD Natural Resource Policy

As stewards of the natural resources entrusted to the Oregon Parks and Recreation Commission, it shall be the policy of Oregon Parks and Recreation Department to:

- Proactively manage the natural resource base for its contribution to the regional landscape, as well as, its function within a site specific planned landscape.
- Actively cooperate and communicate with our public and private neighbors to promote compatible programs and practices.
- Inform, involve and educate the public in significant planned management actions, including the scientific and practical aspects of current management techniques and strategies.
- Consider the significant ecological, recreational and aesthetic qualities of our resources to be the highest priority.
- Develop and follow management programs and action plans which exemplify excellence in resource stewardship, fulfill the agency mission, are guided by the management intent of our property classification system and meet or exceed federal, state and local laws and regulations.

Statewide Natural Resource Management Objectives

OPRD's natural resource management guidelines for state parks are based on system-wide objectives, on the mapping of natural resource conditions in the park, and on ecosystem patterns. A summary of the natural resource conditions in the planning area is included in Chapter 3, Park Resource Assessments. Detailed resource maps for the park are available for viewing at the OPRD Salem headquarters office and the Regional State Park office in Bend.

The following objectives have been established by OPRD to guide natural resource management decisions for OPRD's properties statewide. These statewide objectives were considered in combination with the particular resource conditions at Cottonwood Canyon State Park to determine specific objectives for the park. The statewide objectives are listed below:

1. Protect all existing high value, healthy, Native Oregon ecosystems found within OPRD-managed properties. (Based on Oregon Natural Heritage ecosystem types and OPRD definition of high quality.)
    a. Allow successional processes to proceed without intervention except as may be needed in particular circumstances.
    b. Identify and monitor existing high quality ecosystems for the presence of threats to desired ecosystem types or conditions. Determine whether there are changes desired in ecosystem types or conditions based on consultation with Oregon Department of Fish and Wildlife, the Oregon Natural Heritage Information Center, the Oregon Department of Agriculture Protected Plants section, natural resource interest groups and any affected federal resource management agencies.
    c. Manage the resources to eliminate any unacceptable threats or to attain desired ecosystem conditions and types.
    d. Following a natural or human-caused catastrophic event, such as a major fire, wind throw, landslide or flooding; determine what Management actions are needed, if any, to attain a desired ecosystem condition or type.

2. Where appropriate, restore or enhance existing low quality resource areas to a higher quality or desired ecosystem types or conditions based on consultation with natural resource agencies as to what a desired ecosystem should be for the planning area and for the region. Identify areas of low resource significance to consider for future

recreational use and development, as identified in the park master plan.

3. Manage all OPRD properties to protect existing occurrences of state or federally listed or candidate species to the approval of jurisdictional agencies:
   a. Integrate species management plans into ecosystem management plans that include the monitoring and management of indicator species.
   b. For selected lands, in consultation with natural resource regulatory agencies, determine how best to manage for protected species recovery and related desired ecosystem types and conditions.

4. Manage all OPRD lands and uses to minimize erosion, sedimentation, and other impacts on important resources.

5. Identify and acquire additional lands from willing landowners, or enter into management partnerships with landowners, to provide long term viability for important natural resources within OPRD-managed properties, as needed. Consider connectivity of resources across properties.

6. In areas of high quality ecosystems or habitats, endeavor to provide opportunities for the public to experience the following:
   a. Sights, sounds, smells and feeling of ecosystems representative of Oregon and the region;
   b. Understanding of the ecosystem structure, composition and function;
   c. Larger views of the landscape of which the ecosystem is a part.

7. In selected areas of low quality natural resources, manage for:
   a. Popular or attractive native plants or animals that are appropriate to the local ecosystem;
   b. Desired views or settings;
   c. Desired cultural landscape restorations for interpretation.

8. Locate, design and construct facilities that provide public access to high quality ecosystems or habitats in a manner that avoids significant impacts on the ecosystems.

9. For those OPRD properties or sites which are historically significant and which have been identified by the Department as priority sites for emphasizing cultural resource protection, management and interpretation, manage the natural resources in the cultural resource areas to support cultural resource interpretation, unless this would result in unacceptable conflicts with protected species or areas of special natural resource concern.

10. Manage OPRD natural resources to protect visitors, staff, facilities and neighboring properties from harm.

11. Manage OPRD natural resources to protect them from threats from adjacent or nearby properties or their use.

12. Limit the use of non-native plants to developed facility areas or intensive use areas, and as is needed to withstand intensive use and to provide desired amenities such as shade, wind breaks, etc. Wherever possible, use native species in landscaping developed sites.

Appendix C: Master Plan Variations and Amendments

Once the park master plan is adopted as a state rule, any development in the park must be consistent with the master plan. Minor variations from the adopted master plan may be allowed if such variations are determined by the OPRD Director and the affected local government to be consistent with the master plan in accordance with OAR 736-018-0040. Any use that is not consistent with the master plan requires a master plan amendment. Master plan amendments must follow the same process used to adopt the master plan, which includes re-adoption as a state rule and a determination of compatibility with local government comprehensive plans.

Park master plans are amended when changes in circumstances are significant enough to warrant plan changes. The OPRD Director considers the recommendations of OPRD staff and outside interests in prioritizing the park master plans to be adopted or amended each biennium. The director's decisions are based on considerations of various factors, such as:

- Recreation demands that affect the park, and opportunities in the park to help meet the demands;
- The need for significant changes in park uses or facilities to improve park functions;
- Significant changes in the conditions of, or threats to, natural, cultural or scenic resources within or surrounding that park where a master plan amendment is needed to address the changed conditions or threats;
- Conflicts or potential conflicts between park uses and neighboring land uses where a master plan amendment is needed to address the conflicts;
- Opportunities to establish partnerships to implement previously unplanned projects that fit the park setting; or
- Alternatives to amending the master plan that would adequately address needed changes, such as interagency management agreements, partnerships, and so forth.

Appendix D: Historic Vegetation Models and Sources

Historic vegetation information or modeling available for Cottonwood Canyon:

- 1881 surveyors' notes;
- An Oregon Natural Heritage Information Center (ORNHIC) interpretation of early surveyors' notes;
- The 2008 GAP analysis project;
- The IMAP Potential Natural Vegetation model;
- The US Forest Service LANDFIRE Biophysical Settings model; and
- Natural vegetation associations reported in Natural Resources Conservation Service's NASIS soils data.