Bates State Park

Master Plan 2010

Bates State Park

Master Plan 2010

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.

Oregon Parks & Recreation Department
725 Summer St. N.E., Suite C
Salem, OR 97301-0792
Info Center: 1-800-551-6949
egov.oregon.gov/OPRD/index.shtml

Title: **Bates State Park: Master Plan**

Prepared by: Mark Davison

Cover Image: Photo of Bates State Park at confluence of Bridge Creek and Middle Fork of John Day River (OPRD 2009).

Table of Contents

List of Maps

Acknowledgements

OPRD Director: Tim Wood, Director
Kyleen Stone, Assistant Director, Recreation Programs and Planning
John Potter, Assistant Director, Operations

OPRD Staff: Mark Davison, Master Planning Coordinator
Larry Miller, Region 4 Manager
Curtis Smith, District Manager
Dennis Bradley, Park Manager
Letha Crawford, Region 4 Program Coordinator
Kathy Schutt, Master Planning Manager
Carrie Lovellette, Division Assistant
Brady Callahan, GIS Program Coordinator
Dave Quillin, GIS Technician
Terry Bergerson, SCORP Planner
Jamie Little, Interpretive Coordinator
Darrell Monk, Engineering Project Manager
Jim Morgan, Natural resource Manager
Noel Bacheller, Natural Resource Specialist / Botanist
Jay Schleier, Natural Resource Specialist / Wildlife Biologist
Danae Whipp, Landscape Designer

Advisory Committee: **Name and Affiliation**
Amy Charette, North Fork John Day Watershed Council
Bart Johnson, University of Oregon
Brian Cochran, Confederated Tribes of Warm Springs
Don Butcher, Oregon DEQ
Doug Gochnour, US Forest Service
Greg Haberly, John Day Polaris
Gregg Smith, Friends of Bates
Hilary Mcnary, Grant County Planning Department
Jeff Neal, Oregon Dept of Fish & Wildlife
Jim Ruzycki, Oregon Dept of Fish & Wildlife
Mark Webb, Grant County Judge
Mayor Bob Quinton, John Day
Mayor Darrell Hale, Sumpter
Mayor Stan Horrell, Prairie City
Scott Truro, Confederated Tribes of Warm Springs
Shannon Springer, Grant County Planning Department
Sharon Mogg, Grant County Chamber of Commerce

Other Contributors: Thanks to other OPRD and SHPO staff who contributed information, insight and ideas including: Nancy Nelson, Ross Curtis, Steve Smith, Tammy Baumann, Rocky Houston, Jan Houck, Ron Campbell, and Roger Roper.

Contacts:

Mark Davison, Master Planning Coordinator	503-986-0744
Larry Miller, Region 4 Manager	541-388-6316
Kathy Schutt, Master Planning Manager	503-986-0745

A Plan Summary: Chapter 1

Vision for the Future

Many Oregonians fondly remember growing up in the town of Bates and working at the Bates Mill. Although the buildings are gone, this is still a very important place for former mill workers, their families and for current Grant County residents. Creating a state park at Bates has been a local focus for years. In 2008, growing recreational need in this region and outstanding local support caused Bates State Park to become a new 131-acre state park when it was purchased by Oregon Parks and Recreation Department (OPRD). The park is best known as the site of the former Bates Mill and is adjacent to the Bates town site. The upper mill pond is the last remaining major feature from the former mill and town.

The new park is located off of Highway 7 in eastern Grant County. It joins Clyde Holliday State Recreation Site and KamWah Chung State Heritage Site as OPRD parks in the county. The park adjoins the Middle Fork John Day River and includes two of its tributaries, Bridge and Clear Creeks. The Middle Fork is a state focus area for enhancing and restoring habitat for native fish and the park offers a great opportunity for OPRD to become a part of that effort. Bates State Park is the only OPRD access on the Middle Fork and complements other OPRD accesses on the main stem and North Fork.

The park will offer a variety of experiences to its visitors, including access to the history and natural history of the place through a system of loop trails. Hikers can learn about the former mill and town, and about the challenge of restoring native fish populations by recreating their habitat along the Middle Fork and the park's creeks and pond. Trails will take visitors around the pond, down to the water and to a picnicking ground at the quiet end of the valley. Additional loops will lead onto the ridges to reach views of the valley and surrounding highlands, to forested meadows and onto neighboring

trails. There will be a place to gather for group events and large picnics, and a small campground at the base of the dam, at Bates Pond and on the low hillside.

This is where the former residents and workers come. Every other year, The Friends of Bates host a gathering below the mill pond to reminisce and renew friendships with former residents, workers and their families. In the summer of 2009, looking to the future, The Friends of Bates reviewed and discussed their hopes for the park at Bates.

Need for a Plan Now

This newly acquired park is scheduled to open as a "Park a Year" in 2011, according to the Governor's 2004 directive to open one new state park each year. To prepare, a master plan will direct the management goals, uses, facilities and interpretive themes for the park. Initial habitat restoration, park cleanup and improvements for public access and use will be completed for the park opening. The rest of the master plan will be implemented, as funds allow, over the typical 20 year horizon for an OPRD park master plan. After the park opens, work will continue on natural resource monitoring and planning, and on interpretive planning.

It will take more time to determine what the full extent of resource management will entail for the park, and many years more before enhancement of this former mill site will make a difference in the way the park looks and how it functions for native fish

Trees on the hillside with Bates Pond in the distance. (OPRD 2009).

and wildlife. With help from friends and partners, the long-term restoration process and park construction will reshape the Bates landscape to meet the vision for its future.

Process and Goals

The Bates State Park Master Plan is the result of a public involvement process that engaged local residents, neighboring agencies, The Confederated Tribes of Warm Springs, natural resource agencies and advocacy groups, The Friends of Bates, recreation advocates and fish habitat advocates in creating a viable long-term vision for the park. OPRD held an advisory committee meeting and public meetings in February and July 2009. The

Oregon Parks and Recreation Commission reviewed plan progress at their July and September 2009 meetings. Following Commission approval, the plan will move to Grant County for their comments and for approval of a land use application for development of the plan facility concepts.

This input, together with the assessments of the park's resources, opportunities and constraints, shaped three broad goals for the plan:

- Protect and improve habitat for native fish and wildlife along the creeks, river, Bates Pond, and in the meadows and forest.
- Provide for recreation access and use in a manner that is compatible with natural and scenic resource protection and enhancement, and to allow for day use, camping, trails and interpretive experiences.
- Interpret the history of the former town, the mill and Bates Pond, and efforts to improve the natural and scenic setting at the park.

Recommendations

The master plan recommendations are an attempt to balance the need for protection and enhancement of the unique natural resources present at the site with the public's use and enjoyment of the place.

The plan sets out Management and Use Goals, Resource Management Strategies and Development Concepts that provide a framework for further planning, design and implementation of habitat restoration and facility construction. Those recommendations are summarized on the following General Park Plan map and listed elements. Facilities are proposed for locations that would not preclude long-term natural resource management options.

In addition, a Natural Resource Management Plan based on the Park Management Zone map and further studies, will be completed over time. A more detailed Interpretive Plan will also be completed. Together, these plans will help guide the habitat management and educational programming for the park.

Former Bates residents annual gathering (OPRD 2009).

Natural Resource Management Strategies:

- Work with resource agencies and others to define a multifaceted approach for park habitat enhancements that identify short-term projects for immediate improvement and a long-term plan;
- Focus initially on increasing riparian vegetation along Bates Pond, creeks and river;
- Assess other options for improving water quality in the creeks, river and Bates Pond to enhance fish habitat; OPRD will work with natural resource agencies in developing a potential mitigation and compliance approach for Bates Pond that can be consistent with water quality standards. (Final decisions about long-term habitat restoration projects will be made after further study, following the approval of the master plan.)
- Protect and improve the native meadow and coniferous forest habitats over time; and
- Improve the scenic qualities of the park.

Recreation Concepts:

- Provide a network of trail loops within the park and potential connections to trails outside of the park, using the day use parking lot as a trailhead;
- Interpretive sites and viewpoints that will be accessed via the trail system, and at day use and camping areas;

- A main day use area and trailhead below the dam with parking, picnic shelter, interpretive hub, and open play area;
- A 35 unit camping loop with showers;
- Up to 12 camper cabins and 10 walk-in camping sites on the hillside;
- A small day use area with a picnic shelter at the upper end of Bates Pond; and
- A sanitary dump station and maintenance area.

Interpretive Themes and Delivery:

- The primary interpretive theme will be:
- "Transforming the Bates Mill site into a park offers a window onto the people who lived and worked there and the place."
- Three other themes will be:
  1. Bates represents the dynamic nature of early natural resource dependent economies in Eastern Oregon.
  2. Although the buildings are gone, Bates is fondly remembered.
  3. The restoration of natural habitats at Bates will encourage the recovery and survival of native plants, fish and wildlife.
- Deliver themes through interpretive panels, tours and a brochure.

Cultural Resource Management Strategies:

- One of the management goals for the park is to retain the pond, due to its strong cultural associations with the former Bates residents and local community and its importance for the setting;
- Confirm whether there are any important prehistoric sites at the park.

The Park Today

The Existing Conditions Map shows the park site in 2008. Bates Pond is clearly visible with its earthen dam and unvegetated mill site below. The dam has a concrete fish ladder. The Middle Fork bounds the north end of the park and the mill site. The remains of the kiln are shown, but will be removed by the opening of the park for safety purposes. The site has a good, gravel, access road from County Road 20 and State Highway 7, to the old mill site and along the east side of the pond. A gravel service road winds along Bridge Creek and up into the National Forest and another runs across the southeast corner of the site. A former quarry lies just outside the northwest corner of the park. Two rental houses stand on the National Forest to the southeast. The park's largest neighbor is the Umatilla National Forest on the west and south. The Confederated Tribes of the Warm Springs own land along the Middle Fork just downstream from the park. Lands to the east and north are privately owned and used for cattle. The park has water from several sources and electric service is available. A small power line crosses the

property. The old dynamite shack and a couple of wooden shacks remain, along with a few broken foundations. The site is otherwise undeveloped. The mill site has been cleared and graded and filled. The creeks, river and Bates Pond are largely devoid of riparian vegetation and have been moved to channels for the mill and town use.

The park is administered by OPRD's Region Four office in Bend, and by the District and Clyde Holliday SRS offices in John Day.

Conclusion

The following master plan is based on careful consideration by the department and Commission of the many views and interests expressed during the planning process. It is meant to present a balanced view of state park management that can bring the greatest public benefit in light of OPRD's mission and mandates.
This master plan is a key step toward responsible management of this resource, while providing the public with a safe, enjoyable experience of this memorable place.

Master Planning Process and Products: Chapter 2

OPRD Master Planning

OPRD plans for its parks through a formal master planning process. The master plan completion and approval process is described and mandated in Oregon Administrative Rule Chapter 736, Division 18 and Chapter 660, Division 34. Every master planning effort involves a process of research, analysis, public involvement and decision-making that is mandated in state rule and department policy.

The master plan outlines goals and strategies for the management of park resources, the desired public experience of the park and any related development. The desired experience is based on the park's intended purpose as a new park acquisition. Bates State Park is intended to offer a mix of extensive, high quality habitats and settings through enhancement projects, and a moderate level and mix of recreational access for day use, trails, camping and interpretation.

Master plans identify and provide for the most appropriate locations for resource protection and enhancement, and for recreational uses through the completion of resource assessments (explained in Chapter 3) and opportunity area analysis (explained in Chapter 7).

The master planning process includes procedures for coordinating with affected local governments to gain their comments on the master plan overall and to assure that the proposed plan improvements are compatible with the local comprehensive plan, zones and overlays.

Note: A master plan may also identify lands recommended for consideration for future acquisition from willing sellers to add to the state park, as well as lands that are under OPRD ownership that should not be part of the state park.

The Planning Process

In the first steps of the planning process, department staff reviews and confirms the department's management intent and vision for the park. For new parks this is often outlined in the previously completed Concept Report for acquisition of the park property. For established parks, the intent is often defined by the park classification (state park, state recreation area, etc.) and by predominant resources and traditional and new uses for the park.

Information is gathered and analyzed on the park's natural, cultural/historic and scenic resources, existing uses and facilities, recreation needs and opportunities, interpretive opportunities, and information about the local community and the surrounding region.

Issues involving the use, development and management of the park property are identified through meetings with department staff and other agencies, an advisory committee, affected local government officials and the general public. The process includes several rounds of public meetings, mailings and opportunities for public comment.

Goals and strategies for management of the park resources and for future use and development of the park are determined. Resource management strategies and facility development concepts for the park are formulated and illustrated.

All of the above information is compiled into a draft master plan that is reviewed by the department staff, advisory committee, interested public, the OPRD Director and Oregon Parks and Recreation Commission. Comments are collected and the master plan is edited based on guidance from the Director and Commission.

The draft master plan is checked for compatibility with the state land use goals and local comprehensive plans in consultation with local government planning officials. If the master plan is determined to be compatible, the draft plan is then presented for adoption as a state rule. Additional comments are received from the public in a formal rule-making hearing, which sometimes leads to additional edits prior to adoption.

If the draft master plan development proposals are not compatible with local plans, OPRD takes steps necessary to achieve compatibility, either by making appropriate changes in the master plan or requesting pertinent changes in the local plans through the appropriate land use application process. The master plan cannot be adopted as a state rule until it is compatible with local land use plans.

Planning Products

A state park master plan is written and illustrated as a reference containing summarized information about, and long term plans for, park management and development. It typically serves as a guide

for the park's 20 year future. Contained in the master plan document are summaries of the planning intent and process, existing park facilities, future recreation demand, the suitability of the land for resource enhancement or recreational uses, management and development issues to be addressed by the plan, management and development goals, resource management strategies and facility development concept drawings and descriptions.

Resource maps and reports, prepared as background information for the master plan, depict locations, types and condition of natural, cultural and scenic resources found in the park. These maps are used to determine where opportunities and constraints exist in the park for resource enhancement and development. They can also be used for park interpretation and to guide further research needs.

Resource management goals and strategies present the management intent for the park's natural, cultural and scenic resources. Recreational, interpretive and operational goals and objectives provide a framework for access and facility proposals. Facility development concepts in the master plan show how to fit needed facilities into the park without harming important park resources or precluding desired resource enhancements.

These are the conceptual "blueprints" for intended park improvements. The development concepts reflect the resource constraints and opportunities, and address the goals, opportunities and constraints established in the planning process. The concepts include site plan drawings and written descriptions of the types, locations, sizes and access for proposed facilities, including roads, trails, parking, campgrounds, maintenance and operations areas and interpretative improvements and related buildings and signage.

The master plan is used to accomplish a variety of things including:

- Develop a unified vision for future park management and improvements that all parties and the community can work towards;
- Provide a basis for future resource management, interpretive and facility development projects, budgets and timelines, both short and long term; and
- Outline the basis for obtaining land use approval from local governments for facility improvements according to state rule and local ordinances.

Park Resource Assessments: Chapter 3

An Overview

OPRD prepares park resource inventories and assessments as a basis for resource management and recreation planning. This chapter provides a summary of the key park resource inventories and assessments that were used in completing the master plan. Park resources include a variety of aspects of the park landscape: natural, cultural (historic and prehistoric), and scenic. Detailed mapping of key resources is completed as part of the inventory and assessment process. For planning assessment purposes the "region" discussed in this chapter is Grant County, and the "study area" is within the park boundary.

The following resource inventories, assessments and/or maps were completed for this master plan:

- Historic vegetation;
- Plant communities and conditions;
- Fish and wildlife species lists (Survey work ongoing);
- At-risk plant species;
- At-risk fish and wildlife lists;
- Weed infestations;
- Surface water features and wetlands;
- Flood hazards;
- Soil types;
- Water quality (monitoring work is on-going);
- Restoration concept areas;
- Archeological and historic resources;
- Miscellaneous regional context information; and
- Scenic resources and recreation settings.

Summary maps are included in this document for certain resources and for the Composite Natural Resource Value Assessment and Map. Several other detailed and regional resource maps, and some technical reports are not published in the master plan document but are available for viewing at the OPRD headquarters office in Salem, and will soon be available on the OPRD web site.

Bates is a new state park, therefore some of the surveys and assessments will need a number of years before they are completed. For instance, fish and wildlife surveys, as well as water quality monitoring, will need to run for a number of years before more detailed scientific-based decision-making can occur. However, for master planning purposes, the plant community assessment and the water features and wetlands map area useful. The Plant Communities and Conditions Map outlines the locations and types of currently high to low quality habitats. The Water Features and Wetlands Map shows the locations of creek and river courses, likely wetlands and the pond edge for potential enhancement and protection from intensive uses. The master plan recognizes various options for further study for enhancing target fish species habitat.

With this approach the master plan sets out major park management and use goals and develops concepts for resource stewardship and recreation activities. Some decisions regarding resource restoration strategies cannot be decided in the master plan. For instance, the best way to improve water quality and fish habitat will be decided in further natural resource planning that will follow the master plan.

Natural Resource Values

Regional Overview: Grant County

Eco-Region

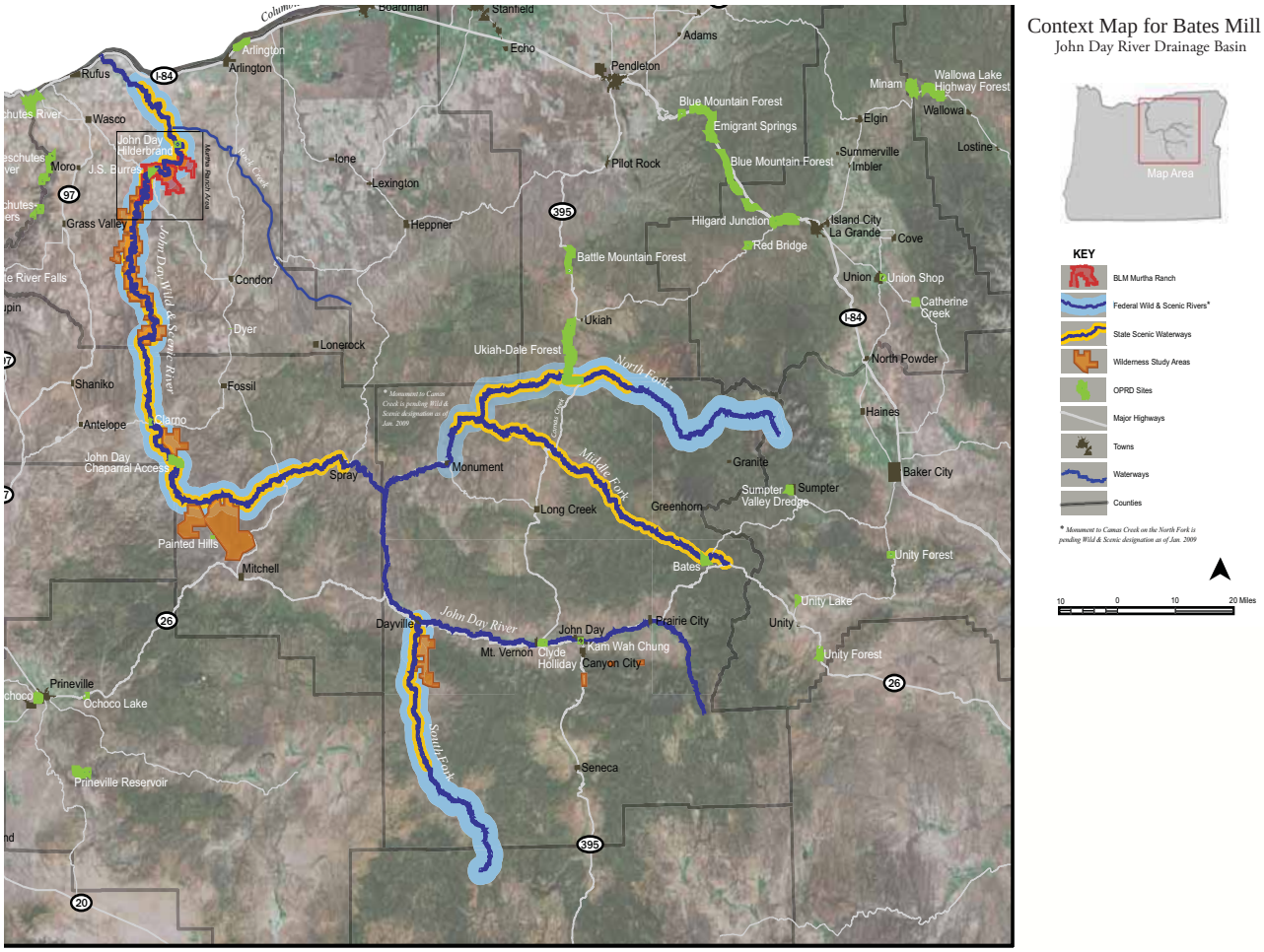
Bates is located at the upper and eastern end of the John Day River watershed system, within the Blue Mountain Ecoregion that crosses several counties in eastern Oregon. This is the largest eco-region in Oregon and includes the state's biggest mountain range, millions of square miles of plateaus and hundreds of miles of the John Day River, Middle Fork, North Fork and South Fork and their tributaries. The park lies in the mountainous portion of the system, about halfway between the John Day Valley at Prairie City and a smaller upper valley near Sumpter.

The county's terrain varies from grassland steppes and rangelands with rolling hills and valleys, to forested mountains in the middle elevations, to rugged, rocky high-alpine landscapes. The county contains wide expanses that are heavily forested with juniper, pine, and fir. The high country has alpine lakes and meadows. Portions of the county are high desert, dominated by sagebrush and sparse grasses. The wide range of habitats in the county are represented in the approximately 1.7 million acres of public lands including the National Forests, the John Day Fossil Beds National Monument, the Strawberry Mountain Wilderness, Bureau of Land Management and state park properties.

Focus Habitats

Bates State Park is located within the "Middle Fork John Day River Conservation Opportunity Area" in the Blue Mountains Eco-region as identified by the Oregon Department of Fish and Wildlife in their *Oregon Conservation Strategy, 2006*. The strategy identifies key native species and habitats in the area that will guide conservation actions at the Bates site. Key species include native freshwater mussels, Columbia spotted frog, Pacific lamprey eel, steelhead and Chinook salmon. Priority conservation actions recommended in the Conservation Strategy for this area include wet meadow and riparian habitat enhancement and restoration; increasing the complexity and conductivity of the streams and river; and restoration and maintenance of Ponderosa pine woodlands.

Stream flow and floodplain enhancement for the Middle Fork has progressed in recent years through a partnership which includes Oregon Department of Fish and Wildlife, Malheur and Umatilla National Forests, Umatilla and Warm Springs Confederated Tribes, Bonneville Power Administration, Oregon Water Trust, John Day Middle Fork Watershed Council, The Nature Conservancy and the Grant Soil and Water Conservation District. Native fish in the region include Pacific lamprey,



redband trout and bull trout. Non-native warm water fish such as bass and perch are found in the lower John Day River; and migratory salmon and steelhead are found in the county seasonally. While salmon and steelhead returns to the John Day Basin experienced a sharp decline during the past 50 years, mainly due to the construction of large dams on the Columbia River, the major watercourses of the basin remain free of physical obstructions, and the number of returning salmon and steelhead have improved in recent years, marking some of the best fish runs recorded in the past half-century.

Physiography

Grant County's geology is quite diverse. Large zones of serpentine, a very ancient metamorphic rock (among the oldest on earth), dating from the early Mesozoic (Triassic) Era are found in numerous locations. Strawberry Mountain (an extinct volcano), the granite peaks of the Elkhorn Mountains, and numerous rim rocks, lava flows and basalt outcrops are evidence of the historic volcanic activity in the region. Hydrothermal resources are still present, with a number of hot and warm springs. Metals, including gold, silver, platinum, chrome, copper and cobalt are found in the region.

The remnants of ferns, semi-tropical and temperate forests, shellfish, saber-toothed tigers, extinct horse and camel species, and giant sloth, among other extinct species found in the John Day Fossil Beds, are a reminder that the flora and fauna of the region has changed significantly over the millennia.

Most of Grant County is drained by the four forks of the John Day River, which have the majority of their headwaters in the county. The John Day River system drains some 7,900 square miles. It is the second longest free-flowing river in the "lower 48". The river system includes the upper 100 miles of the Main Stem, all of the 112 miles of the North Fork, all 75 miles of the Middle Fork, and all 60 miles of the South Fork of the John Day River. From Grant County, the lower John Day River flows another 184 miles to its confluence with the Columbia River. The southeastern corner of the county includes the headwaters of the Malheur and Little Malheur Rivers, which find their way to the Snake River. The elevation of the county varies from 1,820 feet on the John Day River near Kimberly, to 9,038 feet at the summit of Strawberry Mountain.

Climate

Grant County is an arid to temperate region, with average annual precipitation ranging from 9 inches near Picture Gorge, to over 40 inches in the Strawberry Mountains. Annual precipitation in the valleys averages between 12 and 14 inches, and in the uplands between 16 and 24 inches. Grant County averages between 40 and 60 days each year that see more than 0.10 inches of precipitation. Average

temperatures in the county range from the warmest community, Monument, with average daily highs/lows of 90º/50º F in July and 42º/22º F in January; to the coolest community, Seneca, with average daily highs/lows of 80º/38º F in July and 33º/8º F in January. Extreme temperatures in the county show 30-year highs/lows of: 103º/-37º F at Austin and 112º/-23º F at John Day. Grant County enjoys a great deal of sunshine, with an estimated 300 days of clear sunny, mostly sunny, or partly sunny days each year. The county experiences an estimated 65 days of overcast skies, with about 165 days of partly to mostly cloudy days annually.

Study Area: The Park and Its Neighbors

Terrain

Topographically speaking, the study area covers ridges, hills, and flat river bottom valley land. All slope aspects are represented. The majority of the study area is within either valley bottomland or is on the two principal ridge systems that flank Bridge Creek and the mill pond. These ridges run roughly southeast to northwest. The only significant south-facing land is associated with a broad hill or short ridge that is in the northwest portion of the property. The ridges lie between the incised Clear Creek, Bridge Creek, and Placer Gulch drainages. Elevation within the study area ranges from 4,050 to 4,200 feet above sea level.

Historic Vegetation: How It Has Changed and Why

Historic changes in the vegetation patterns are assessed for the master plan. This historic information is used as a reference in forming the natural resource management guidelines discussed and illustrated in the "Strategies for Park Resource Management" chapter.

Historic and prehistoric vegetation cover can be inferred from a variety of sources - including early surveyors' notes, soil types, slope, aspect, elevation, known fire history, known fire return intervals, and other environmental parameters. Several large-scale habitat modeling efforts have assessed environmental parameters in conjunction with early vegetation accounts to characterize pre-settlement vegetation. The broad vegetation types speculated to be on the site prior to and soon after European-American settlement are reported in the 2008 GAP, the ORNHIC Historic Vegetation GIS data, and the three Forest Service models.

The vegetation types were believed to be historically dominated by several types of coniferous forest - each composed of various combinations of Ponderosa pine, lodgepole pine, western larch, and grand fir. Riparian vegetation characterized by broadleaf trees is reported for the riparian valley bottom areas in two of the models. The other models either report the area as having been prairie or conifer forest. None of these models field-checked the data accuracy at the Bates site itself, and

all obviously under-represent the historic diversity of the study area due to the inevitability of missing smaller inclusions of habitats such as shrubland, grassland and riparian forest given the scale at which they were operating.

Surveyors' notes taken in 1881 support the broad habitat types suggested in the models. For the section lines around the Bates property, the surveyors recorded that the terrain was mountainous and heavily timbered with Ponderosa pine, lodgepole pine and western larch, and that there were areas of dense, small lodgepole pine undergrowth. Thickets of lodgepole pine indicate the forest had regenerated fairly recently from fire, or that it was subject to repeated cycles of fire during the late 19th century.

The best approximation of pre-Euro-American settlement vegetation patterns across the Bates State Park study area can be inferred through comparison of the 1881 surveyors' notes with the previously mentioned vegetation models and on-site examination of current conditions. Overall, pre-Euro-American settlement patterns of vegetation and anthropogenic change are best broken out into two sub-areas: flat bottomlands and uplands.

Currently, the valley bottom contains areas of disturbed ground, riparian grassland, marsh, and shrub-scrub wetland. Riparian forest is absent in the bottomlands. Essentially all of the flat valley-bottom land within the study area has been extensively and actively modified by past land use including those uses associated with the mill, pond creation, and the construction and removal of the town site infrastructure, as well as more recent modification for grazing. The large mill pond that is currently present on the property was created out of bottomland by the construction of an earthen dam. Below, in the midst of the mill and town site, there was once another mill pond, which was filled in the 1970's and 1980's. Roads, stream diversions, railroads, and possibly dredging for gold have also modified the bottomland landscape.

Part of the bottomland within the study area, on the banks of Clear Creek, was probably never actively modified for infrastructure. This area is probably the closest thing left within the study area to what was present in the bottomlands prior to Euro-American settlement. Even here, however, change is detectible in that larger cottonwoods are absent and that non-native pasture species are present. This area was likely managed for domestic grazing over the last 100 years.

Outside the study area, the effects of Euro-American settlement on bottomland habitat stretch up and down the Middle Fork of the John Day River, and this provides an important landscape-level context for the assessment of study area condition and importance. One of the most striking changes to the bottomland landscape is the relative absence of trees. Much of the

bottomland was likely cottonwood or aspen woodland or forest prior to Euro-American settlement. Any areas without strong tree components were likely, at least partially to mostly, vegetated with woody shrub species such as mountain alder, willows, black hawthorn, currants, and Woods' rose.

In the last 150-200 years the modifications of settlement outside of the study area have resulted in drastic changes to the entire bottomland system. Sources of change include grazing, dredging for gold, stream stabilization and canalization, railroads, agricultural crop production and forest clearing. Grazing has likely had the largest impact on the bottomland habitat outside of dredging. Cottonwood and aspen are highly palatable to both native and domestic grazing animals, and small saplings and seedlings are quickly consumed under active grazing regimes. This in itself does not explain the rapid loss of larger trees, but it does account for lack of revegetation. Since there are areas of dense woody shrubland at various locations along the river system, and even areas with established cottonwoods, it is certain that the seed source is available for revegetation.

Initial loss of the riparian trees and forest may have been a result of land clearing by ranchers seeking to improve pasture for their livestock. Some ranchers and farmers may have also tilled soils in addition to simply clearing woody vegetation. Cottonwoods generally do not live exceptionally long, and natural decline due to age, coupled with grazing inhibition of reestablishment may account for the loss as well. Increases in grazing damage by native ungulates such as elk and deer is possible. This effect has been reported in Montana as a result of wolf removal, but may or may not be true of this area, depending on past hunting pressure.

There is also a possibility that these bottomlands were maintained open through Native American burning in order to encourage certain food plants such as camas. No camas or other common prairie food plants were observed in the bottomlands. It seems likely that camas would have been prominent in the nearby pastureland if burning to promote camas were the cause for the area's lack of bottomland forest. There are certainly many bottomland areas in central and eastern Oregon in which cattle grazing and camas persistence are compatible, and camas is very evident and abundant.

The majority of the study area's landscape outside of the valley bottom is characterized by Ponderosa and lodgepole pine forest interspersed with areas of grassland or shrub-steppe. The uplands are less obviously modified than the valley bottom, but do show evidence of past logging and grazing. The canopy condition and composition of the forested upland portions of the park are probably substantially similar to those present in the 1800's. Forest density might have increased slightly in response to fire suppression, but in many portions of the study area fuels reduction thinning has taken place,

mimicking the effects of low-intensity fire on tree canopy cover. Understory composition has likely changed much more significantly in response to grazing and fire suppression.

There is very little information available on successional trajectories of forested communities in this area with respect to grazing and fire suppression. General susceptibility of certain understory plant species to both grazing and fire are known, and from these parameters coupled with the current abundance of species known to increase in abundance under intensive grazing regimes, it seems likely that the understory composition was significantly different from conditions 200 years ago. Generally speaking, it is probable that bunchgrasses and bitterbrush were more abundant in the past, and have now been replaced to various extents across the study area with higher-than-historic stocking of elk sedge, snowberry, and grouse whortleberry.

Non-forested uplands have probably changed in a similar way to the understory environment as a result of changed grazing pressure and fire suppression. Much of what was probably bluebunch wheatgrass and Idaho fescue dominated bunchgrass prairie has been converted to western needlegrass, threadleaf sedge and prairie junegrass because of lesser palatability to grazing animals.

Past fire regime is also a major ecological variable that has influenced plant community structure in the study area. Fire return intervals were probably fairly frequent. Lightening-caused fires were probably significant. Native Americans may have historically burned the area, either intentionally (to encourage forage production for game or horses, or to encourage important staple root crops like biscuit root and yampah) or unintentionally through escaped campfires. Regardless of fire cause, periodic fires have definite effects on vegetation composition.

Most of eastern Oregon has historically been adapted to fire in that species composition is weighted towards either sun and fire tolerance, or shade and fire-intolerance depending on fire regime. In areas that were previously adapted to more frequent fires that are later subject to fire suppression, plant communities and forest structure move towards the shade tolerance/fire-intolerance end of the spectrum because of changing niches and competitive disadvantages in the new environment. This often encourages shrub growth and increases in relative abundance of thin bark/non resprouting species, sometimes totally changing the environment. This has likely taken place to a mild to moderate extent in the study area. Some of the assumed shift in understory species from bitterbrush, bunchgrasses, and open-site forbs to grouse whirtleberry and snowberry may be the result of changes in fire regime, although these effects could also be explained by increased grazing pressure on the bunchgrasses from livestock.

Fire suppression has probably also resulted in increased shrub and tree presence in what was formerly grassland. Grasslands that are subject to frequent fire are often maintained as grassland only by fires killing emerging shrubs and trees but sparing grasses because of their underground root sprouting and surviving root crowns. Once fires are no longer part of the balance, shrubs and trees are able to gain a foothold and increase their abundance, eventually gaining ground over, and even suppressing the previous vegetation. Fire suppression can also result in development of woodland, and eventually forest, in areas that were previously maintained in grassland habitats for millennia.

Existing Plant Communities: Conditions and Locations

The master planning process included a study of the plant communities that now occur in the park. The inventory was completed by the department botanist in 2009. Plant communities were mapped and described by their species composition and conditions. These maps, titled "Plant Communities and Conditions," and the companion report titled "Vegetation Inventory and Mapping, Bates State Park" are included with the background documentation for the master plan.

There are no pristine areas within the study area, but much of the forested area and the herbaceous ridge tops are in remarkably good ecological condition. Some areas merit protection for their ecological value.

Almost all of the forested land in the study area is outside of the former mill and town sites, and has probably been similar in composition and structure for millennia. Some of what is now forested may have been grassland or woodland in the past, but has become forest through ecological succession, possibly due to fire suppression. Forest, as opposed to woodland, is characterized by dense cover of trees with substantial to abundant shade in the understory. Within the present study area forest cover falls within three series: ponderosa pine, lodgepole pine, and grand fir/mixed conifer.

Forested Plant Associations: Many of the forest types in this study area are transitional between lodgepole pine-Ponderosa pine-larch and later successional mixes that include grand fir. General forest types include Ponderosa pine forest, lodgepole pine forest and mixed conifer forest. The forests are generally characterized by a shady understory of low growing shrubs, forbs and grasses.

Woodland Associations: The woodland plant communities described in the study area are essentially lower density varieties of equivalent forested communities. Ponderosa pine and lodgepole pine are the dominant tree species. Bitterbrush and snowberry are dominant shrubs species. Tree density is often lower because of disturbance, although some woodland polygons have lower tree density due to soils and aspect. Woodland plant

communities were likely more prominent on the property prior to European-American fire suppression. Many of the forested communities on the landscape have evidently been increasing in tree density, a fact illustrated by the fuels-management thinning that has been done on the property to reduce fire risk. The study area's woodlands may be on a trajectory to succeed to forest in the absence of a regular fire regime or forestry treatment.

Shrubland Associations: Shrubland communities are prominent within the study area, especially in areas with the harshest or wettest growing conditions. Riparian areas are often characterized by willow and alder shrublands. The driest and rockiest slopes are often characterized by shrubs that include bitterbrush, rabbitbrush, and snowberry. The powerline corridor is an artificially maintained shrubland composed of species found in the adjacent forested communities, but with the trees removed and regeneration of tree species prevented.

Herbaceous Associations: The herbaceous plant communities present in the study area fall within three broad categories: bunchgrass meadows, human-disturbed areas, and wet meadows. The bunchgrass meadows present in the study area are generally the communities of highest conservation ranking within the study area. Although most are somewhat degraded by either weeds or succession, they are highly significant for scenic, historic, biodiversity, and wildlife habitat reasons. The main weeds infesting degraded bunchgrass habitats are annual grass species such as the annual bromes. Successional changes to these habitats are perhaps more cryptic, but no less significant. Because of the suppression of fire, shrub species have been able to become established, which has shifted plant communities that would have been present 200 years ago. Likely grazing has also had significant impacts to these habitats through increasing the abundance of less palatable or more grazing-tolerant species. The most obvious impact of past grazing is the presumed decreased abundance of the highly palatable bunchgrasses, Idaho fescue and bluebunch wheatgrass.

Human-disturbed herbaceous areas are primarily found in close association with the former developed areas of the mill and town site, although roads and pastures are also represented under this category in some cases. Human-disturbed areas are characterized by non-native plant species and weeds, and usually have compacted soils or off-site fill soils.

Wet meadows are highly variable across the study area, but can generally be described as a mixed sedge and forb dominated meadow type. Grasses are present, but are generally of lesser abundance. Some of these wet meadows have a substantial or emerging shrub component as well, and in many (if not most) cases, they are an early seral stage of what would likely become willow-alder, or willow-alder-cottonwood riparian

shrubland or forest if left to develop naturally under current ecological variables and trends. Wet meadows were likely prominent under pre-European-American ecological conditions due to fire, river dynamics, and erosional processes – but not as prominent as under the conditions of intensive grazing and lack of large predators that have characterized much of the post-settlement era. With grazing excluded, these meadows can be expected to become increasingly shrub-dominated.

Developed Areas: This land cover type within the park is characterized by roads and other graveled or artificially constructed areas with non-native vegetation. Non-native vegetation includes emerging disturbed-site vegetation (mostly weeds) on former building or intensive use sites, as well as currently landscaped areas such as lawns. Most of the area coded as developed in this study consists of roads, which are either graveled or native surface. Some of the roads are overgrown with weeds, forage grasses, and other non-native vegetation.

Disturbed Areas: Disturbed areas include wide roadsides, informal parking, and areas cleared of vegetation that are dominated by pioneering species of mostly weedy vegetation. Although these areas contain plant communities, they are primarily pioneers and leftover landscaping of formerly developed or heavily disturbed work zones. Soils in these sites are heavily impacted by human activities and are left in a raw condition, such as the result of grading and filling. Rather than describe these communities in terms of their emerging habitat types, it seemed more appropriate to underline their linkage to development and disturbance.

At Risk Plants: Where They Occur and Potentially Occur

No species of listed or at-risk plants were previously known from the property, nor were any found during the course of the present assessment. The study area appears to contain suitable, but unoccupied, habitat for a number of at-risk species. Thelypodium eucosmum, a state-listed threatened species and federal species of concern with potential to occur in the study area, is known from Austin Junction. There is no habitat for other state or federally listed species in the study area; however, there is habitat for a number of at-risk, but unlisted plant species including Achnatherum hendersonii (Fed. SOC, State Candidate), Botrychium crenulatum (Fed. SOC, State Candidate), Botrychium paradoxicum (Fed. SOC, State Candidate), Botrychium pedunculosum (Fed. SOC, State Candidate), Calochortus longebarbatus var. peckii (Fed. SOC, State Candidate), Carex parryana ssp. idahoa (Syn. Carex idahoa, Fed. SOC), and Phacelia minutissima (Fed. SOC, State Candidate). None of these species was found in the course of the vegetation assessment.

There are a number of other rare or at-risk species known from the Blue Mountains. Appendix 2 lists species tracked by

ORNHIC that are known to occur within the Blue Mountains "Melange" ecoregion. Survey timing may not have been appropriate for optimum surveys for all of these species. The list has not been filtered for only those species for which habitat is present on the park's property.

Invasive Plants and Where They Occur

OPRD maps weed infestations that were encountered during their field investigations. This information is used as a reference in recommending and prioritizing management and restoration projects for the parks.

Exotic plants are abundant on the property, especially in areas that have been developed. Some areas of forest are without any exotic plants even though they have been logged and grazed. The majority of the study area is infested with weeds to various degrees.

Portions of the study area that were formerly developed and industrial are dominated by Dalmatian toadflax, yellow toadflax, spotted knapweed, diffuse knapweed, weedy grasses (such as cheatgrass, bulbous blue grass, and quackgrass), and an array of common pioneer species such as dandelions and prickly lettuce. Forage grasses such as Kentucky bluegrass are also prominent. Cheatgrass and annual bromes are abundant throughout the study area and are the principal weeds of the less disturbed areas.

Forty-nine out of 271 plant species found in the course of this assessment were non-native (18%). Of the 49 non-native species found, 7 are listed as noxious weeds by the Oregon Department of Agriculture. These species are generally widespread and unmappable in the study area. These species and the other 43 non-native species

State listed and high priority noxious weeds found in the study area:

Common Name	**Scientific Name**	**ODA List(s)**
Quackgrass	Agropyron repens	B
Spotted knapweed	Centaurea stoebe (maculosa)	B&T
Diffuse knapweed	Centaurea diffusa	B
Canada thistle	Cirsium arvense	B
Bull thistle	Cirsium vulgare	B
Reed canarygrass	Phalaris arundinacea	
Dalmatian toadflax	Linaria dalmatica	B
Yellow toadflax	Linaria vulgaris	B

"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 designated by the Oregon State Weed Board

present are listed in the study area plant list of the vegetation report for the park, and denoted with a superscript asterisk plus any relevant Oregon Department of Agriculture noxious weed category (List A, B, and T).

Fish and Wildlife Habitat Types and Where They Occur

Bates State Park habitat types include forested, open meadow, wetland, open water, and riverine habitats. Forested habitats occur primarily on the ridges and there are open meadows interspersed within the forested areas. The wetlands occur primarily in what was the old footprint of the mill and other buildings associated with the development. Much of this flat ground has been highly disturbed and is marginal wildlife habitat due to non-native invasive plant species. The pond is the only open water habitat on the property. Riverine habitats include the Middle Fork, Bridge Creek and Clear Creek. These areas are used by a number of open grassland bird species and small mammals for foraging. Habitat type mapping is represented by associations or groupings of native and non-native plant communities from the vegetation inventory mapping.

Fish and Wildlife Habitat Connectivity: Important Connective Features and Gaps

The forested area of the park provides forage and shelter for a number of wildlife species. Mule deer and elk use the forested area as hiding cover and use it as a migratory corridor to and from winter range. Lack of riparian vegetation likely limits the movements of some species between habitat types. Riparian habitat is missing on the property but would provide connectivity between habitats, provide shade to help cool river waters, and improve water quality by filtering pollutants. Bridge and Clear Creeks provide connectivity between spawning grounds for anadramous and resident fish species and the Middle Fork of the John Day River.

At-Risk Fish and Wildlife Species: Where They Occur and Potentially Occur

A number of state sensitive species and federal species of concern and one federal candidate species could potentially inhabit the park for at least a part of their lifecycle. The Columbia spotted frog is a federal candidate species that if present would inhabit the pond and wetlands as would the Western toad and the tailed frog. The white-headed woodpecker, Northern goshawk, flammulated owl and the great gray owl occupy the forested habitats. The great gray owl would use the open meadow habitat to forage in. Bat species forage over water and in the forest and open meadow habitats depending on species. Some may use the forested habitats for daytime roosting. Anadromous fish occupy the riverine systems as do resident species such as bull trout and redband trout. Steelhead and bull trout are federally listed. Spring Chinook use the riverine habitat for migration, spawning and rearing. There are no warm water fish species documented by the Oregon Department of Fish & Wildlife in the pond.

Fish and Wildlife Species Typically Found at the Park

With OPRD only recently purchasing Bates State Park, further work is needed to understand fish and wildlife species that are resident or pass through the park property. OPRD is therefore working on developing surveys and monitoring projects that will reveal more information about fish and wildlife composition. Based on regional data, wildlife species that would commonly be found in the park include; western kingbird, Townsend's solitaire, California quail, red-tailed hawk, northern flicker, Columbian ground squirrel, yellow pine chipmunk, mule deer and Rocky Mountain elk, western terrestrial garter snake, western fence lizard, Pacific chorus frog, and the Great Basin spadefoot toad.

Invasive Fish and Wildlife Species

There are no non-native and/or invasive animal species known to inhabit the property.

Threats and Risks to Fish and Wildlife

All of the streams in the park have little riparian vegetation which is likely to result in seasonal increases in water temperature. The pond may be contributing to the warming of the water in Bridge Creek, and to some degree in the Middle Fork, by allowing warming of the water prior to release into the creek below the dam. Cold water entering Bridge Creek is needed during the critical period of mid-July through September.

Unauthorized release of warm water fish into the pond may impact native salmonids. Non-native warm water fish such as large-mouth bass and walleye pike predate on juvenile salmonids and efforts should be made to keep these predatory species from being introduced into the pond.

The biggest risks to wildlife species include habitat degradation from non-native plant species and habitat fragmentation from development of currently intact habitats.

Sensitive Species Listed In Ecoregion for Bates Mill State Park:

Common Name	**Scientific Name**	**State Status**	**Federal Status**
Birds			
Mountain Quail	Oreortyx pictus	SV	SOC
Northern Goshawk	Accipiter gentilis	SV	SOC
Greater Sandhill Crane	Grus canadensis tabida	SV	
Flammulated Owl	Otus flammeolus	SV	
Great Gray Owl	Strix nebulosa	SV	
Common Nighthawk	Chordeiles minor	SC	

Sensitive Species Listed In Ecoregion for Bates Mill State Park (Cont'd):

Common Nighthawk	Chordeiles minor	SC	
White-headed Woodpecker	Picoides albolarvatus	SC	SOC
Olive-sided Flycatcher	Contopus cooperi	SV	SOC
Mammals			
Preble's Shrew	Sorex preblei		SOC
California Myotis	Myotis californicus	SV	
Western Small-footed Myotis	Myotis ciliolabrum		SOC
Long-eared Myotis	Myotis evotis		SOC
Fringed Myotis	Myotis thysanodes		SOC
Long-legged Myotis	Myotis volans	SV	SOC
Hoary Bat	Lasiurus cinereus	SV	
Silver-haired Bat	Lasionycteris noctivagans	SV	SOC
Spotted Bat	Euderma maculatum	SV	SOC
Townsend's Big-eared Bat	Corynorhinus townsendii	SC	SOC
Fisher	Martes pennanti	SC	C
American Marten	Martes americana	SV	
Amphibians			
Western Toad	Bufo boreas	SV	
Coastal Tailed Frog	Ascaphus truei	SV	SOC
Cascades Frog	Rana cascadae	SV	SOC
Northern Leopard Frog	Rana pipiens	SC	
Columbia Spotted Frog	Rana luteiventris		C
Fish			
Trout, Redband	Oncorhynchus mykiss ssp.	SC	SOC
Bull Trout	Salvelinus confluentus		T
Steelhead	Oncorhynchus mykiss		T
Chinook	Oncorhynchus tshawytscha		
State Status Codes:			
SC = Sensitive/Critical	SV = Sensitive/Vulnerable		
Federal Status Codes			
SOC = Species of Concern	C = Candidate Species		
T = Threatened			

Potential threats to fish include pollution from drainfield effluents entering the shallow ground water table and polluting the riverine systems, if not designed and installed to avoid this problem.

Wetlands, Ponds, Rivers and Streams

Riparian areas along the Middle Fork, Bridge Creek, Clear Creek, Bates Pond, and an unnamed tributary to Bridge Creek/ Bates Pond account for the majority of the wetland coverage of the study area. Additional areas contributing to total wetland coverage include several minor wetlands along the county road between Clear Creek and the former mill site, several minor wetlands within the former mill site itself, and a number of potential vernal pools in the meadow areas in the higher portions of the property. The water quality of the water bodies is currently unknown, OPRD has recently partnered with the watershed council to begin monitoring water quality in order to better understand functionality and condition of the creeks, river and pond. This process will take a number of years before the data can be collected, compiled and scientifically assessed.

Wetland conditions in the formerly developed portion of the study area have changed radically over the years. The most evident change is in the bottomland where the town and mill were built. Development of the town and mill involved construction of dams, channelization of the river, rerouting of Bridge Creek and Clear Creek, ditches, grading and fill. Wetlands were both created and destroyed. When the town and mill were removed, additional fill and modification was done changing hydrology and wetland distribution. It is difficult to assess whether there has been a net increase or decrease in wetlands in the last 100-150 years. It seems likely that much of the site's bottomland was once wetland, as it is on the other side of the county road. Under this assumption it is very likely that a large amount of wetlands have been lost. On the other hand, the dam and Bates Pond have likely dramatically increased the amount of wetland acreage in their vicinity.

A number of wetlands present in the study area are artificial, having been created both intentionally and passively. Bates Pond itself was obviously actively created. The current locations of the Middle Fork and lower Bridge Creek might also be considered somewhat artificial in that they were essentially moved to the side. Passively created wetlands within the study area include low spots within the filled and graded mill site, roadside swales and areas with culverts that are too high to allow complete drainage of the area behind them, an unused flowing artesian well that is excessively irrigating a fallow pasture, and several vernal pools resulting from soil compaction and road construction on the upper slopes.

Although it is unknown whether total wetland acreage has increased or decreased within the study area, it is certain that

the type and quality of wetland habitat has suffered. Whereas there are now steep-banked riverine marshland fringe, lacustrine fringe, and scattered isolated emergent marsh and vernal pool wetland types, the complex and interconnected structure that was once present is now virtually absent. The channelized Bridge Creek and Middle Fork were likely braided and meandering 150 years ago, resulting in large amounts of wetland habitat accessible to and important for fish during their various life stages. Most of this type of riverine, backwater, and floodplain/stream terrace, marsh wetland habitat has been lost, and is extremely lacking within the study area in its current condition.

Because of changes to hydrology and topography over the last 20-30 years, the wetlands mapped in the National Wetlands Inventory (NWI) are mostly inaccurate. Features that are no longer present due to relatively recent grading and fill show up in the mapping as wetlands – this is exemplified in the case of the lower log pond. NWI shows the pond still to be present. Because of this type of discrepancy, the NWI data should not be used to guide resource management decisions.

Of the wetlands present in the study area, those adjacent to Clear Creek are in the best apparent condition. Although the Clear Creek habitat is the best present on the Bates property, it falls short of ideal. Lack of trees and shade are major detriments, but the shallow banks, wide emergent marsh adjacent to the braided channel, shrub presence and diversity, and overall plant diversity are all important positive aspects.

Composite Natural Resource Value Analysis

OPRD rates the value of certain natural resource aspects of the park landscape (plant community, at-risk plant species and water features), maps their occurrence in the park and overlays the mapping to obtain a Composite Natural Resource Value Map to guide planning decisions for the park. Weed infestations are only included if they are extensive enough to affect the native plant community value ratings.

A values rating system is used that has four levels ranging from those that are highly valued (1) to those that have very low value as functioning ecosystem elements (4). Each of the four value ratings (1-4) indicates an appropriate level of park facility development that could be considered for corresponding mapped areas of the park. Areas of the highest recorded resource value (1) also have the highest level of protection from intensive development and use. 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 parks, these sites were assigned a value rating of "1" as indicated in the table below.

Composite Natural Resource Value Rating and Map

The list 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). The Composite Natural Resource Value Map shows the result of overlaying the three layers. Polygons with higher value ratings on one layer prevail over any corresponding polygons with lower value ratings on another layer. For example, a wetland with a value of "1" will prevail over its poor plant condition.

Natural Resource Value Rating Table

Feature/Condition	**Value Rating**
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	3
-Marginal to poor condition or Developed or unvegetated / or rare but in poor condition	4

- 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.

Hazards

OPRD 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 Bates State Park is the 100 year flood plain. No detailed modeling has been completed for this area and the FEMA mapping is based on distance from assumed creek alignments based on old air photo interpretation. The mill site was filled many years ago and does not reflect what would have been the natural topography along the creek and river. There are no records of flooding in this area since settlement. The FEMA 100 year flood zone extends up into the old mill site to the base of the hills and nearly to the dam. Since this is a regulatory map that directs how permits are issued for development, it is important even though evidence of flooding is lacking. OPRD will work with Grant County to ensure that the master plan proposals comply with flood permit requirements.

Cultural Resource Values

Historic Overview

Bates Mill was constructed by the Oregon Lumber Company in 1917. The facility included a double-sided mill, mill ponds, a hotel, dance hall, and other facilities. There was the adjacent community of Batesville or Bates which was the home of up to 400 people who worked at the mill. The Bates Mill continued to be a thriving lumber mill through the 1950s and 1960s, but began to decline in the 1970s as a result of competition from more modern milling facilities in the region. In 1975 Oregon Lumber Company built a modern sawmill in John Day and decided to close down their facility at Bates Mill.

In the years that followed, the mill was dismantled and many of the building moved to communities in the area. Several of the homes in Bates were sold to employees and others for a nominal fee and the homes were moved to Prairie City, John Day, and other communities. Other buildings located at the complex were salvaged on contract. Keith Bradley and Ramone Bradley had contracts with the Oregon Lumber Company to salvage the hotel, dry kiln, and other buildings between 1976 and1982. When OPRD recently purchased the property for park development, the agency acquired the mill complex. The community of Bates to the east of the mill and is not within the 131 acre parcel currently owned by OPRD. The only remnant features that remain at

the site are the pond, the earthen dam, various roads, rail and trail segments, a dynamite shack, two storage buildings and remnants of a dry kiln building constructed in the 1940s.

Historic Significance

Due to the demolition of virtually all of the structures and the extensive clean-up of the site in the 1970s and 1980s, it was determined that the neither the town site nor the mill property would be eligible for listing in the National Register, and therefore would not qualify as significant cultural resources.

There is a very remote chance, upon further archaeological investigation or discovery during construction, that there may be small pockets of the mill site that have intact below-ground remnants that may have the potential to yield important insights into the history of the site. That outcome is very doubtful though. If evidence is found OPRD will document these feature in order to record their location, the materials and function, if known.

Ongoing work is underway to determine if there is any evidence of significant prehistoric human activity in the park. If any sites are located, they are subject to certain protocols under federal or state laws administered by the State Historic Preservation (SHPO), which is part of OPRD.

While extensive background research on Bates Mill has not been conducted, there are likely corporate records and other information existing in local historical societies that could provide additional more detailed information on the history of Bates. At some point conducting additional historic research on Bates Mill would be useful to help interpret the site for future visitors. There are still former workers from the mill who retain knowledge about the mill, and it would be useful to interview these individuals to get more information on the operation of the facility.

Industrial Landscape

From a industrial landscape perspective the site lacks integrity to convey its function as a lumber mill. Many of the key components of the mill such as the lower mill pond, mill building, and related facilities have been completely removed. The upper pond, dam and dynamite shack are the only major features left that convey integrity from the lumber mill period. In addition, there are numerous building foundations remains that are associated with the mill facilities, and some scattered domestic plantings, but these features in isolation do not convey the sites function as a lumber mill. While the mill was a very important regional hub for the logging industry in the early 20th century and significant to the local historic development of this part of Grant County, the site no longer conveys this history in the physical resources of the site.

Dry Kiln

The dry kiln at Bates Mill is not a significant architectural feature, has been partially dismantled, and has suffered from 30 years of neglect and deterioration. The remaining portion of the building represents only about one-third of the facilities original extent. What remains of this building is difficult to interpret and does not convey the original function of the building well. The remaining components that comprised the sawmill complex have been removed leaving this as the isolated standing feature. The building does not have integrity because of these factors, and would not be eligible for inclusion in the National Register of Historic Places. The building could be interpreted through photographs and other media, but the building remnant itself need not be preserved to tell the story of Bates Mill.

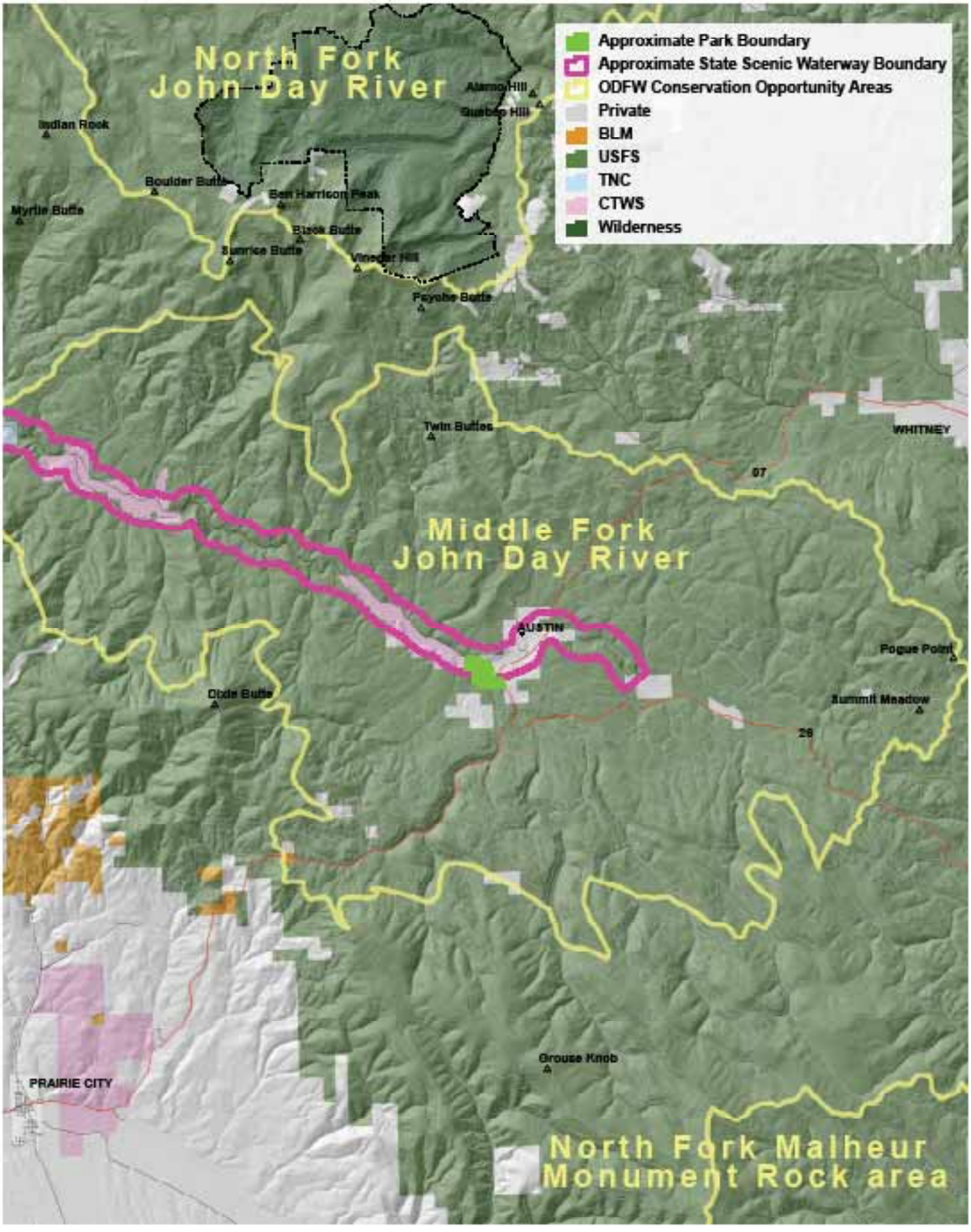
In summary, the park has no known significant cultural resources. The most prominent remaining feature is the pond and its dam.

Scenic Resource Values

OPRD conducts a general assessment of the settings of the park, and potential views and viewpoints. The setting for the park is currently mostly Roaded Modified and Roaded Natural. Views and viewpoints are explained in the Opportunity Areas chapter.

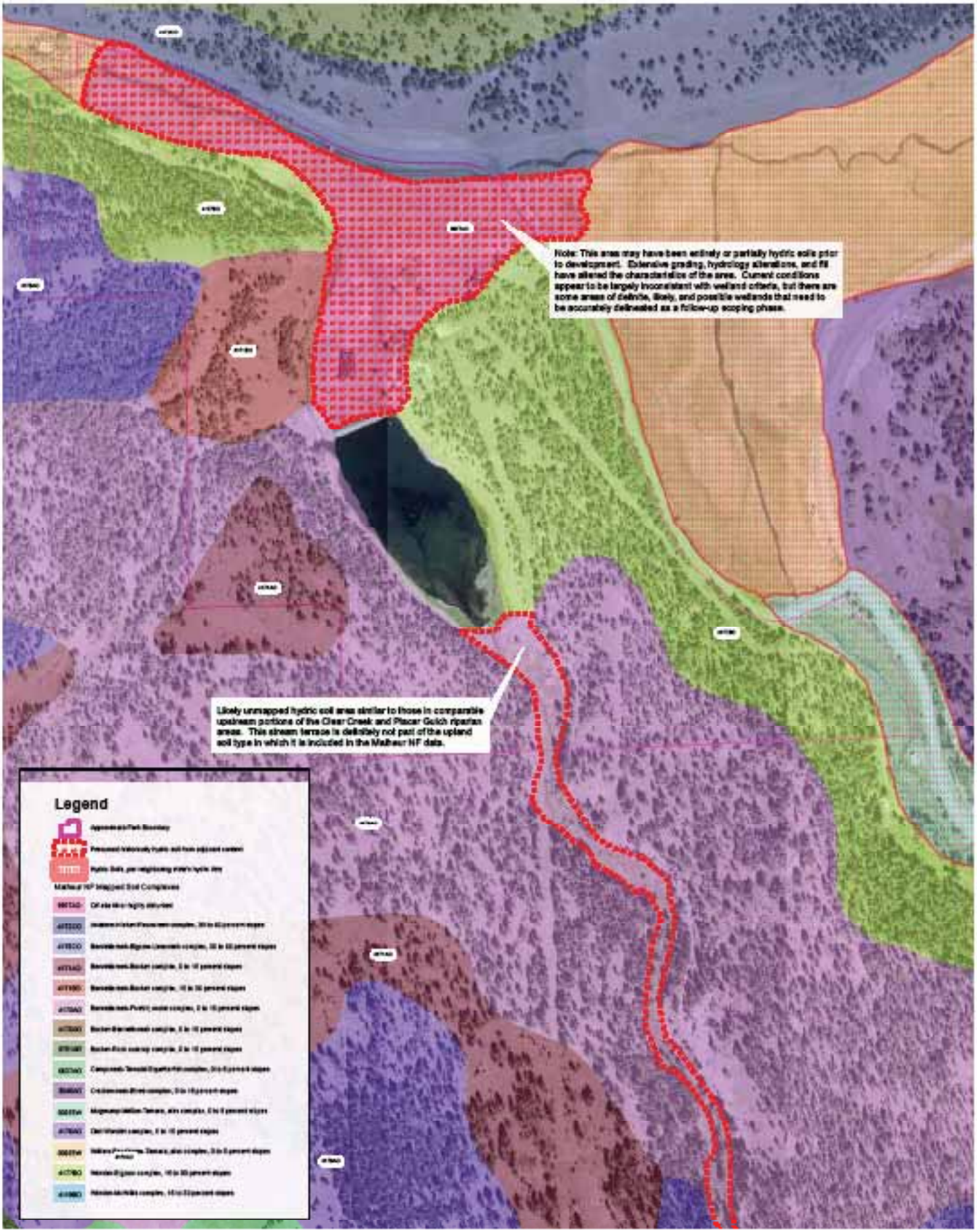
The greater John Day River including the North, Middle and South Forks is the longest Oregon State Scenic Waterway. Development along the river is subject to the restrictions for that portion of river. Master plan proposals will be in keeping with these restrictions. Portions of the river are also designated Federal Wild and Scenic Rivers, but this does not include the Middle Fork Segment that passes through Bates.

Historic Photo of Active Bates Mill and Town (OPRD 2009).

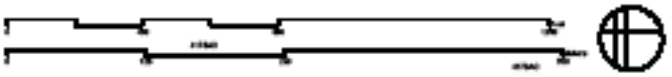


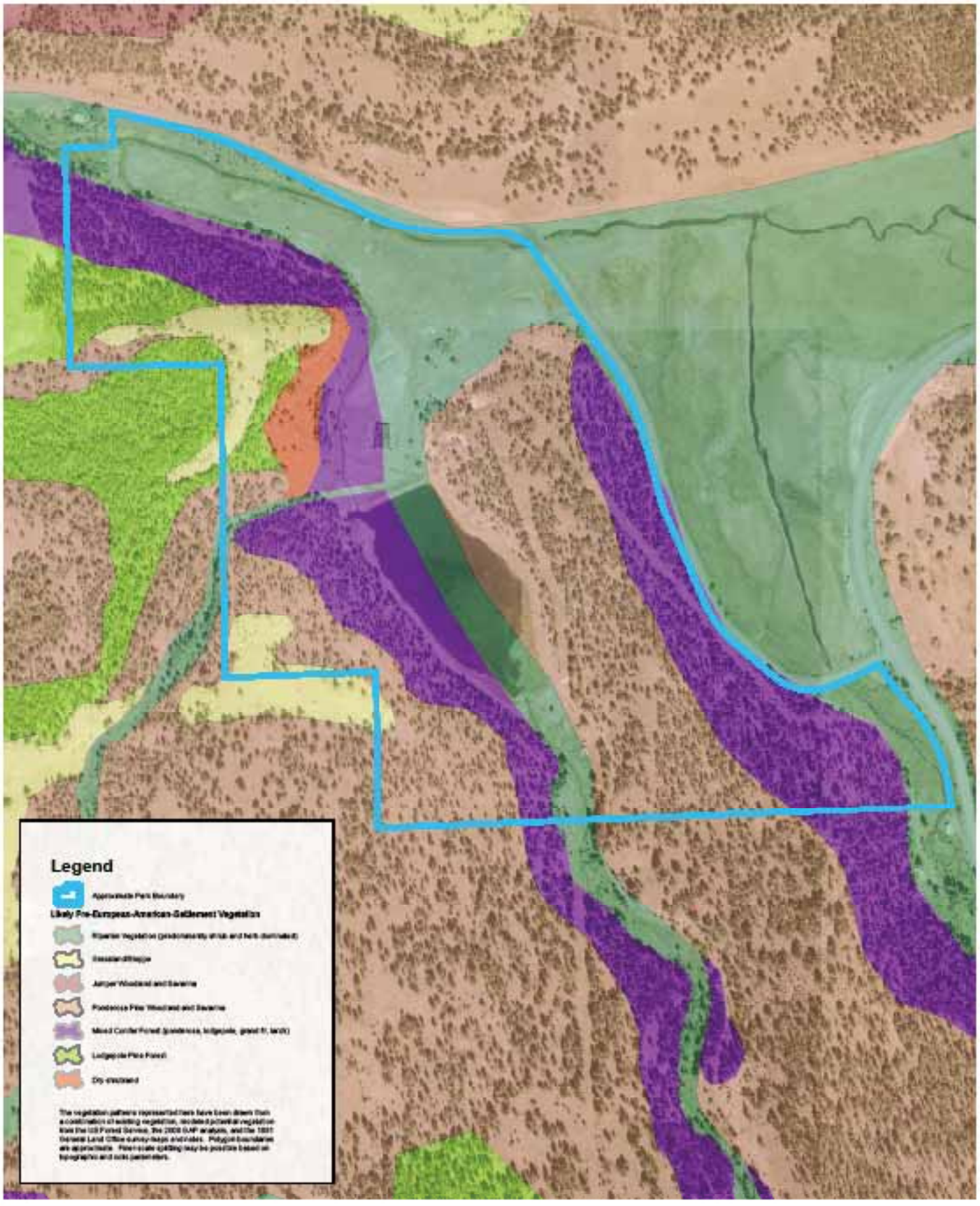
Map 4: Context Plan

0 1.25 2.5 5 7.5 10 Miles

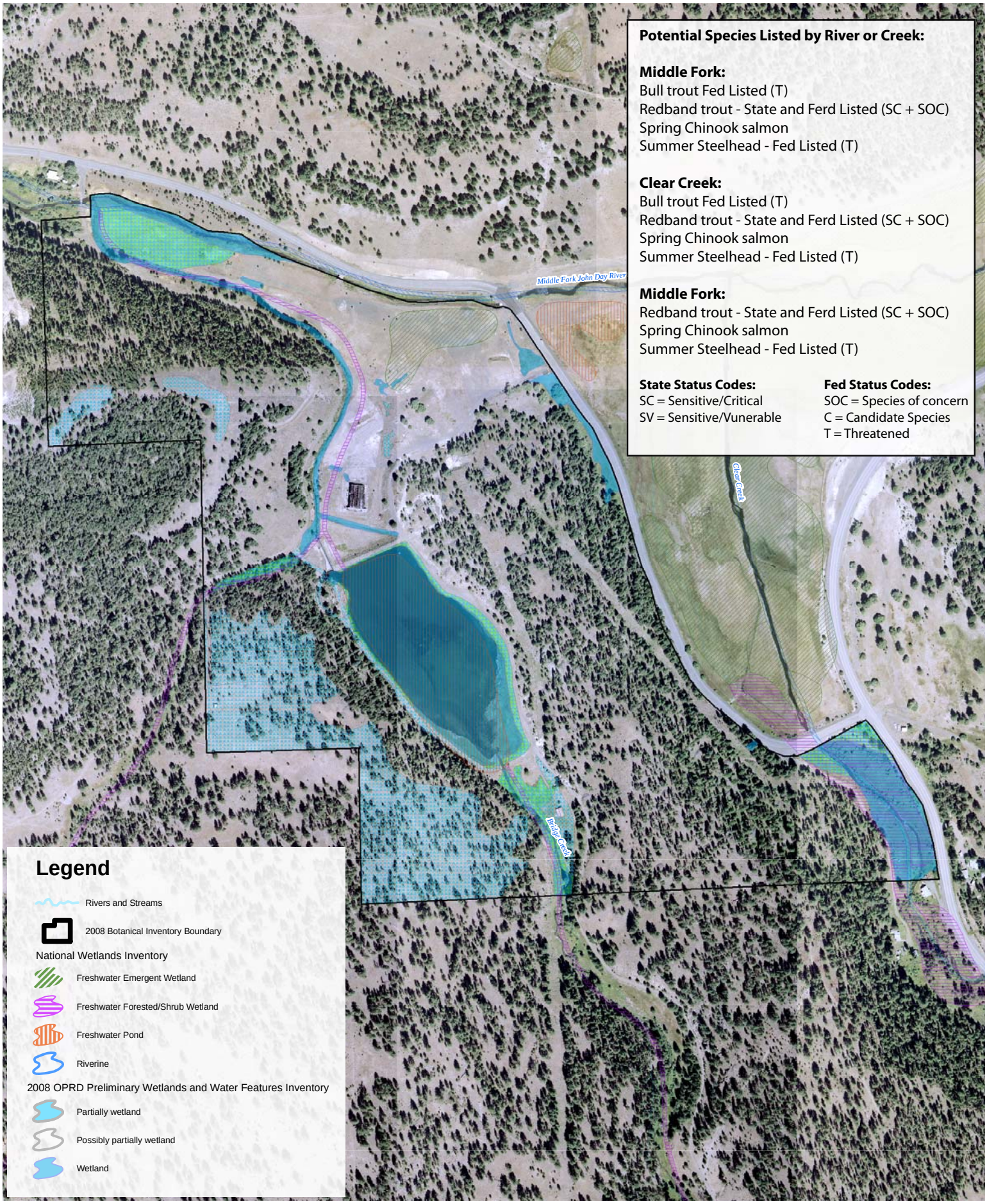

Note: This area may have been entirely or partially hydric soils prior to development. Extensive grading, hydrology alterations, and fill have altered the characteristics of the area. Current conditions appear to be largely inconsistent with wetland criteria, but there are some areas of definite, likely, and possible wetlands that need to be accurately delineated as a follow-up scoping phase.
Likely unmapped hydric soil areas similar to those in comparable upstream portions of the Clear Creek and Placer Gulch riparian areas. This stream terrace is definitely not part of the upland soil type in which it is included in the Malheur NF data.
Legend

Map 6: Soils





Map 7: Historic Vegetation



Potential Species Listed by River or Creek:

Middle Fork:
Bull trout Fed Listed (T)
Redband trout - State and Ferd Listed (SC + SOC)
Spring Chinook salmon
Summer Steelhead - Fed Listed (T)

Clear Creek:
Bull trout Fed Listed (T)
Redband trout - State and Ferd Listed (SC + SOC)
Spring Chinook salmon
Summer Steelhead - Fed Listed (T)

Middle Fork:
Redband trout - State and Ferd Listed (SC + SOC)
Spring Chinook salmon
Summer Steelhead - Fed Listed (T)

State Status Codes:
SC = Sensitive/Critical
SV = Sensitive/Vunerable

Fed Status Codes:
SOC = Species of concern
C = Candidate Species
T = Threatened

Legend

- Rivers and Streams
- 2008 Botanical Inventory Boundary

National Wetlands Inventory

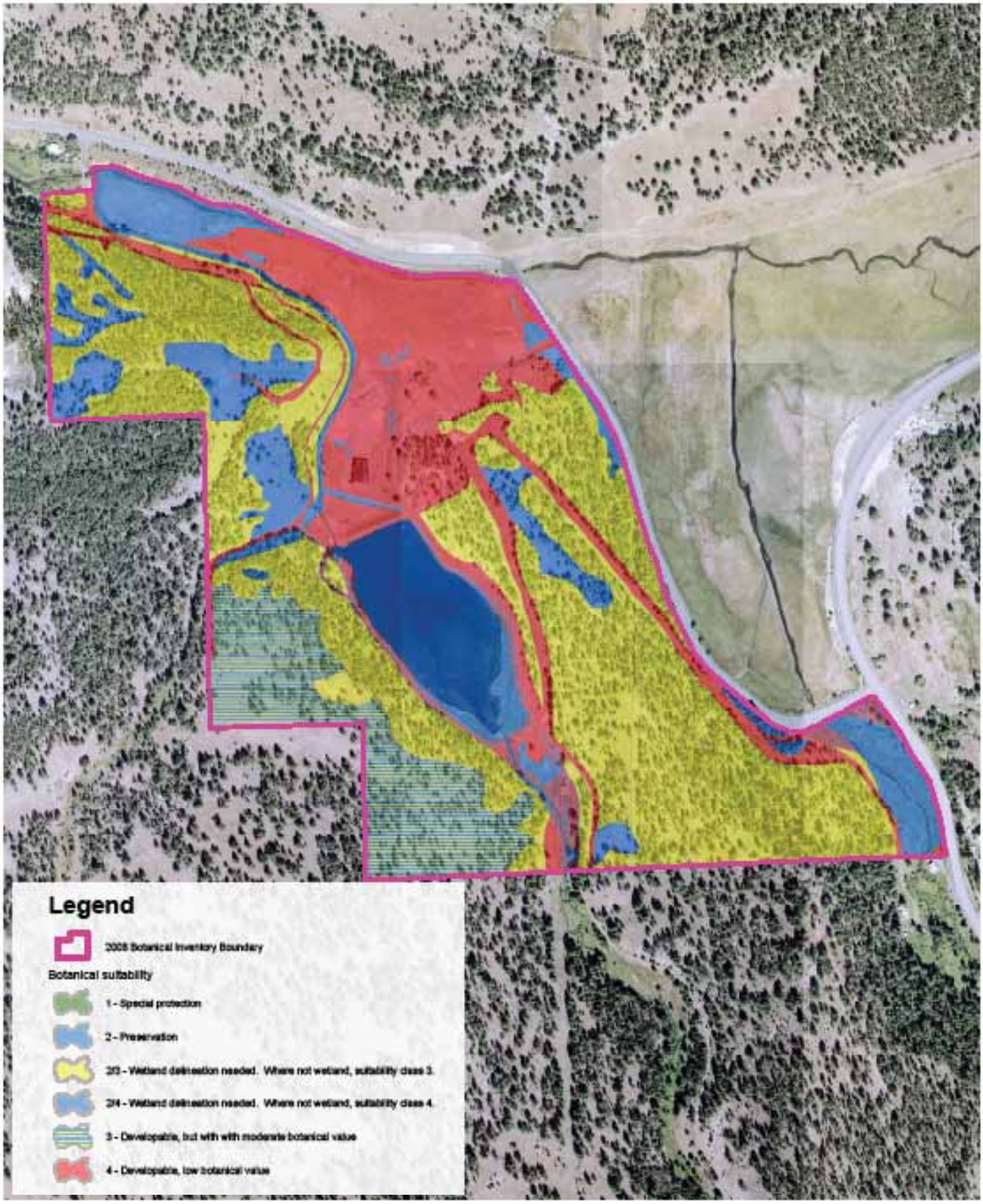
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

2008 OPRD Preliminary Wetlands and Water Features Inventory

- Partially wetland
- Possibly partially wetland
- Wetland

Map 9: Wetlands and Water Features

0 400 800 1,600 Feet
0 125 250 500 Meters



Map 10: Composite Natural Resource Value Map

Regional Recreation and the Park: Chapter 4

Regional Context

Bates State Park is located in a region that is rich in natural resources, scenery, history and recreational opportunities. The region attracts tourists year-round for scenic driving, visiting historic sites and enjoying the many public lands and parks.

This chapter provides an overview of the social aspects of the region including the scenic setting as seen by the travelling public, travel routes, historic sites, natural attractions and recreation opportunities that are available to the public. It also summarizes recreational demand, trends and needs for the region, based on extensive survey work that has been completed by the department. Based on the regional context there is also a description of how Bates State Park can contribute to and complement what is already offered in the region.

The Region and the Travelling Public

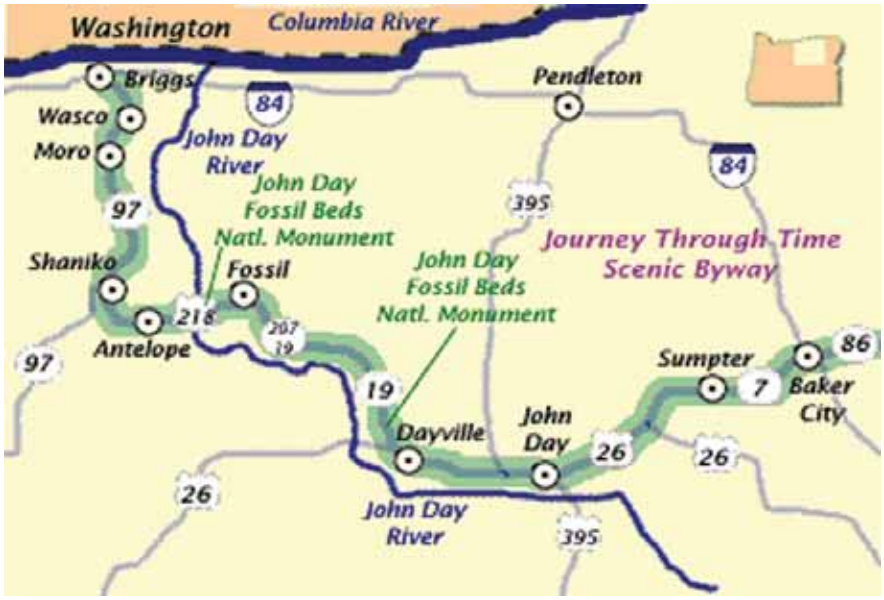
Almost all visitors to Bates State Park travel along the state highways, from local or more distant origins by car, truck or motorcycle, and sometimes by bicycle. Tour bus trips are currently not common in this area. State Highway 26 runs from Redmond and Prineville, east through Crook and Wheeler Counties and passes through the town of John Day in Grant County on its way to its intersection with Highway 7. Highway 7 passes by the park, continuing on to Sumpter, Baker City and Interstate 84. Sections of these highways are recognized by ODOT's State Scenic Byway program as the Journey Through Time Scenic Byway. The Byway connects with the nearby Elkhorn Drive and Blue Mountain Scenic Byways. Bates State Park can provide an opportunity for a rest area along the Journey Through Time Scenic Byway, to get out of the car and experience beautiful setting first hand.

From the perspective of the travelling public, the major town in the area is Baker City, about 50 miles to the east of the park, with access to Interstate 84. The city of John Day, about 40 miles to the west of the park, offers full-service tourist accommodations and is the information center for travelers coming into the John Day Valley. Prairie City is about 20 minutes drive from the park and also offers tourist accommodation.

Portions of three National Forests lie within this area, including the Umatilla, Malheur and Wallowa-Whitman National Forests. Just a few miles east of Sumpter, the U.S. Forest Service offers full service camping with over 100 camping sites on Phillips Reservoir, along with boating and fishing opportunities. The Strawberry Mountain Wilderness, just south of John Day, offers primitive camping and extensive hiking opportunities. There is a small, primitive U.S. Forest Service campground not far to the south of Bates State Park, on Highway 26, and many other small primitive federal camps and a few small private RV parks throughout the region. Downstream from Bates State Park, about 40 miles of the Middle Fork John Day are accessible by road from Highway 7 to Highway 395. The entire Middle Fork is designated as a State Scenic Waterway.

OPRD's Role in the Region as a Park Provider

OPRD's role in Grant County started many years ago by providing full service camping and river access at Clyde Holliday State Recreation Site (SRS) , on Highway 26 near John Day. OPRD has provided other river access sites for many years on the John Day River system including J.S. Burres and Clarno on the lower John Day and Ukiah Dale State Scenic Corridor (SSC) on the North Fork. Over the last 20 years, the department has taken on the stewardship,



Journey Through Time Scenic Byway Route (National Scenic Byways/ U.S. Department of Transportation).

management and interpretation of two important regional historic sites; Kam Wah Chung State Historic Site, in John Day, offering interpretation of a National Historic Landmark for Chinese settlement; and Sumpter Valley Dredge State Historic Site to the north of Bates, offering interpretation and exploration of an historic gold dredge in a preserved dredge setting, with trails and creek access.

Clyde Holliday SRS is currently the only state park campground in Grant County. The capacity of Clyde Holliday's campground has been reached in recent years during the summer season. The department has acquired adjacent property with the intention of expanding the small existing campground in the next few years. Unity Lake SRS, just to the east in Baker County, and Ukiah Dale SSC just to the north in Umatilla County, also provide camping to support tourism in the region. All of these OPRD sites, except Ukiah-Dale and Unity Lake, are planned for expansion in coming years to meet some of the growing interest in John Day River access. The goal is to alleviate some of the crowding at existing state and federal access sites, abate the shortage of camping sites, provide more interpretation and offer a larger natural setting for OPRD's parks with enhanced habitat values.

The addition of Bates State Park to the state park system supports OPRD's intention to expand and distribute state park access along the John Day River system, which was recently designated as a navigable river with public access rights. Providing publicly-owned river access, staging areas and visitor hubs at strategic locations is important for guiding visitors away from crossing and using private lands along the river. The park is also intended to be a travelers' hub for the eastern portion of Grant County to complement Clyde Holliday SRS. Bates State Park could be a featured location in marketing associated with all three Scenic Byways, while OPRD promotion of the new park could make a strong connection to the nearby Scenic Byways and other important attractions and recreational sites. Bates State Park will benefit travelers by providing much needed restrooms, picnicking and camping facilities in Grant County and along the Scenic Byway. The development of Bates State Park will expand the interpretation offered by the department and other providers on the John Day River system and in the region and county.

Regional Recreation

To help park providers know what kind of new facilities and parks might be needed in a region studies are undertaken to understand recreation trends and demands. These can include assessment of the future recreational demand for different types of activities, how that demand changes over time, and surveys of public opinion about future recreational activities they want to participate in. This section outlines regional recreational use estimates, trends and needs for the planning region that includes Grant, Baker, Union and Wallowa Counties,

and for the larger northeast quarter of the state as determined by OPRD through the *2003-2007 and 2008-2011 Oregon Statewide Comprehensive Outdoor Recreation Plans (SCORP),* and other related surveys and reports. Understanding the regional needs provides a broad picture among all parks, public lands and park providers of the type of activities that will be needed to meet public demand in the region. The regional demand for Grant County indicates the wish for a higher amenity level the regionally prevalent primitive amenity level. Oregon State Parks is well placed to provide for this type of demand, which can include full service campgrounds and well-cared-for day-use areas with a mixture of short and long loop trails.

Bates State Park has been assessed relative to its location along travel routes and in relation to other parks. The potential for providing for some of the recreational needs, that may be appropriate at Bates State Park, were assessed against the known resource values, and physical and infrastructure constraints at the site. Final recommendations about what OPRD should provide at Bates State Park are outlined in the Goals Chapter, and are described conceptually in the Development and Resource Management Chapters of this plan.

Regional Recreation Participation Estimates

The Oregon Outdoor Recreation Survey was conducted over a one-year period from February 2001 to January 2002 by Oregon State University for OPRD to estimate annual participation levels, by recreation activity, for each of the eleven SCORP planning regions and statewide. (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 map below shows the boundaries for SCORP Planning Region 10 which includes Grant, Baker, Union and Wallowa Counties, where Bates State Park is located.

SCORP Planning Region 10, where Bates State Park is located.

The table below lists those outdoor recreation activities that had the top 2002 annual participation estimates for SCORP Planning Region 10. High levels of use were interpreted to imply how popular the activity is among the region's population. The most popular activities in this region were hunting, walking for pleasure, running/walking for exercise, fishing, RV/trailer camping, and wildlife observation.

2002 Recreation Demand in Grant, Baker, Union and Wallowa Counties (Region 10)

Recreation Activity	Annual User Occasions
Hunting	1,101,423
Walking for pleasure	842,486
Running/Walking for exercise	818,898
Fishing	648,832
RV/trailer camping	619,521
Wildlife observation	547,186
Bird watching	491,699
Four-wheel driving	398,848
ATV riding	395,191
Sightseeing/driving for pleasure	265,997
Using playground equipment	169,616

Popular activities to consider for Bates State Park include:

- Walking for pleasure (842,486 annual user occasions);
- Running/Walking for exercise (818,898 annual user occasions);
- RV/trailer camping (619,521 annual user occasions);
- Wildlife observation (547,186 annual user occasions);
- Bird watching (491,699 annual user occasions); and
- Sightseeing/driving for pleasure (265,997 annual user occasions).

Hunting and fishing will not be strongly supported at Bates State Park due to the limited size of the park and termination of fish stocking in the pond due to federal protection of listed native fish species.

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 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 map below shows the boundaries of the area of comparison which includes SCORP Planning Regions 6, 7 and 10.

The table to the right includes the five outdoor recreational activities with the largest increase over time in participation (growth activities). The second table includes those five outdoor recreational activities with 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 Bates 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 Bates State Park site include:

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

Combined SCORP Planning Regions 6, 7, & 10.

Includes Wasco, Gilliam, Morrow, Umatilla, Jefferson, Wheeler, Crook, Deschutes, Grant, Baker, Union and Wallowa Counties.

Most Significant Participation Growth Activities in Planning Regions 6,7 & 10 (1987-2002).

Recreation Activity	1987-2002 User Occasion	% Change
Nature/Wildlife Observation	+1,426,880	+161%
RV/Trailer Camping	+1,132,740	+96%
Fishing From a Boat	+704,639	+190%
Golf	+616,793	+173%
Big Game Hunting (Rifle)	+588,521	+93%

Most Significant Participation Loss Activities in Planning Regions 6,7 & 10 (1987-2002).

Recreation Activity	1987-2002 User Occasion	% Change
Decrease	% Change	+161%
Day Hiking	-664,177	-48%
Horseback Riding	-613,923	-66%
Baseball	-447,643	-56%
Downhill Skiing	-414,280	-42.7%
Swimming in an Outdoor Pool	-330,072	-31%

Four of the five growth activities could be considered as opportunities for Bates State Park, including nature/wildlife observation, RV/trailer camping, sight-seeing for pleasure and hunting, although the park would only serve as a staging area and gateway for hunting on adjacent lands. Many hunters may be looking for a campground that can offer showers. Horseback riding is popular in the region, but the small size of Bates State Park makes it difficult to accommodate horseback riders. Day hiking could still be considered as the likely proposed trail system would consist of several short trail loops in a park not far from the local towns. SCORP follow up research has shown there is a large demand for this kind of hiking, walking or jogging opportunity.

Regional Recreation Needs Assessment

Other methods to understand recreational needs than the participation rate assessment were used in the *2008-2012 Oregon SCORP* planning effort. This included a county-level analysis to identify priority projects for grant funding, and an assessment of the needs of the state'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.

Bates 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 Grant County 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. Bend, Redmond and Prineville were identified as high growth relocation destinations for Baby Boomers. As a result, Grant County could become a destination for more retired travelers taking short trips out of the Bend/Redmond/Prineville area.

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:

- 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; and
- RV/trailer camping was a top activity between the ages of 65-74.

Respondents also forecasted how many days they would participate in each activity ten years from now. The table below shows the top ten activities in terms of future participation intensity, as well as the change in the number of days relative to the

present. For example, 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. Of the top ten, only bird watching was forecast to have a decrease in participation intensity.

- These survey findings indicate that providing additional non-motorized trails (walking, jogging, hiking, bicycling), sightseeing opportunities and RV/trailer camping facilities, if provided at Bates State Park, could serve the needs of an aging Oregon population. Fishing was not included due to the fish stocking ban at the park.

Future Participation For Those Expecting Overall Increase in Recreational Activity
(during mean days per year).

Recreation Activity	Future	Change
Walking	83.1	17.7
Bicycling (Road/Path)	17.5	6.9
Jogging	16.9	0.4
Bird Watching	15.6	-2.4
Day Hiking	14.1	8.1
Sightseeing	13.1	4.4
RV/Trailer Camping	12.8	7.7
Children/Grand Children to Playground	12.0	6.8
Fishing From a Boat	11.7	7.2

Regional Trail Issues

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, meeting participants voted to identify top priority issues. The following top issues were identified for the Northeast Trails Planning Region which includes Wallowa, Union, Grant and Baker Counties.

Non-motorized Trails:

- Need for connectivity between community trail systems, greenways, outlying state park and federal trails within the region.; 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.

This work fits with the emerging interest by the U.S. Forest Service and the Confederated Tribes of Warm Springs to work with OPRD to create trail connections to and from Bates State Park.

Recreation Needs Summary

Based on the various reviews of regional and county needs, trends and priority issues, several potential activities have emerged for consideration at Bates State Park and have been further reviewed in the master planning process and chapters that follow. Ultimately, the plan goals, concepts and strategies determine which activities will be pursued at the park.

Interpretive Assessment: Chapter 5

Introduction

The primary purpose of interpretation is to make an emotional and intellectual connection from the park resources to each visitor's experience so that visitors will understand, appreciate, and help preserve the park. Interpretation is communication that goes beyond information. It reveals what things mean and why they matter. Good interpretation connects people to a place. It can lead to a sense of ownership of both natural and historic resources. Beyond ownership, visitors can become stewards of our park resources. That can translate into lower maintenance costs, increased revenue due to longer and more frequent stays, and 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 options can include programs presented by staff or volunteers and non-personal interpretation such as signs and brochures.

The interpretive plan that will follow the master plan will further develop the themes and media for Bates State Park that are proposed here. Each theme will be supported with sub-themes, with the sub-themes further expressed by supporting stories. The media prescription will be further developed beyond the initial concepts proposed in the master plan. The sub-themes and supporting stories that are developed in the interpretive plan will be connected to specific interpretive panels and other media. The interpretive plan will be created in partnership with the Friends of Bates State Park as well as other agencies and other interested parties.

This interpretive assessment was developed using an adaptation of the "5-M" model of interpretive planning endorsed by the National Association for Interpretation (NAI). The 5-M interpretive planning method involves first considering the management issues, intended messages, markets, and mechanics of the site before selecting the media used to deliver the messages. This interpretive assessment provides an overview of significant features of the park to be interpreted, the current program, markets and audiences, physical limitations for interpretation, themes, orientation and wayfinding, and the recommended interpretive service level. Chapter 11 describes the interpretive goals and media that will be used to communicate the themes.

Park natural, historic, cultural or recreational features for interpretation

Natural Features:

- Watershed ecology of Bridge Creek, Clear Creek and the Middle Fork,
- Natural setting and view shed,
- Local geology including views of mountains,
- Pond, fish migration, riparian/wetland areas, and
- Noxious weeds.

Historic/Cultural Features:

- Pre-history,
- Bates town, pond, and mill site,
- Newtville,
- Old West Federal Credit Union story,
- Stories of former residents,
- Historic photograph archive(s),
- Sumpter Valley Railroad,
- Austin House, and
- local communities.

Recreational Features:

- Camping,
- Picnicking,
- Mountain biking,
- Winter sports,
- Paddling,
- Hiking,
- Photography, and
- Nature studies.

Proposed interpretive program

None currently.

Visitor marketing & audience identification

Bates State Park is expected to attract the following types of visitors:

- General family groups participating in summer camping vacations.

- Overflow campers from Clyde Holiday State Park.
- Hunters from late August through November.
- Participants in area activities (such as Sumpter flea market, special events in Prairie City and John Day) looking for camping sites.
- In spring, provide a hub for visitors looking to explore area attractions.

Physical interpretation limitations

The General Plan shows how the Master Plan has sorted out areas for different types, levels and locations of use, trails, viewpoints and interpretive stops.

Themes

Primary Theme:
- "Transforming the Bates Mill site into a park offers a window onto the people who lived and worked there and the place."

Theme 1:
- Bates represents the dynamic nature of early natural resource dependent economies in Eastern Oregon.

Theme 2:
- Although the buildings are gone, Bates is fondly remembered.

Theme 3:
- The restoration of natural habitats at Bates will encourage the recovery and survival of native plants, fish and wildlife.

The interpretive plan that will follow the master plan will further develop the themes for Bates State Park. Each theme will be supported with sub-themes, with the sub-themes further expressed by supporting stories.

Interpretive capture and sequencing

Visitors will be able to receive initial orientation information from the OPRD web site or on site. On site orientation will include two orientation panels with maps of the park and an interpretive brochure to aid in a self-guided tour of the park and trails. The orientation panels could be located in the picnic shelter in the day use area and in a kiosk located in the center of the campground. A brochure dispenser placed next to each orientation panel would offer the interpretive self-guided brochure. After becoming familiar with the park through the orientation panel and/or brochure, visitors will be able to travel the Creek Trail, Meadow Trail, or Dixie Mountain Trail.

Recommended interpretive service level

OPRD has developed five levels of interpretive service to help guide park development. For Bates State Park, the recommendation is for an Interpretive Service Level of Three, which reflects the seasonal nature of visitation at the park. The following definition is from the OPRD Regional Interpretive Framework, published in June 2005:

Interpretive Service Level Three:

Generally would not include a dedicated interpretive building with interior access. It may include outside interpretive structures and offers only seasonal programs and tours. These can be provided by dedicated staff, other staff, area support, volunteers or may be self-guiding.

Issue Scoping: Chapter 6

Overview

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 members and members of the general public. The following summary represents comments made at meetings with these groups and correspondence received during the written comment periods in addition to issues raised in the resource assessment process and the preparation of the master plan.

Issues that can be addressed in the master plan are reflected in the master plan strategies, development concepts and/or resource management guidelines. While most issues deserve consideration in the master planning process, some cannot reasonably be addressed as a master plan strategy, development concept or resource management guideline. Therefore, the reader should not assume that all of the issues are addressed in this plan. Many issues are more appropriately addressed in other OPRD plans for the park that accompany or follow the master plan, such as the park operations and management plan, resource management and monitoring plans, interpretive plan, and so forth. Some issues are addressed through related follow-up work involving more in-depth studies, field investigations, engineering designs, work with agency partners, etc. Some issues are passed on for consideration in other OPRD programs.

Typical Issues Relevant To OPRD Master Plans:

- General strategies for natural, cultural and scenic resource management;
- Recreational uses and facilities and their locations, maximum sizes and capacities and basic design features;
- Identified partnership opportunities;
- Recommended property acquisitions or lease agreements; and
- Compatibility with federal and state regulations and local land use policies and ordinances.

Issues Generally Not Addressed In OPRD Master Plans:

- Decisions on natural resource management projects
- Routine facility maintenance and rehabilitation;
- Park fees and budgets;
- Park staffing;
- Park rules enforcement;
- General park administration;
- Project costs and funding; and
- Park naming.

Summary of Key Issues and Related Comments

Natural Resource Protection and Management

Large Disturbed Areas

Staff have found that the majority of the flat valley-bottom land within the study area has been extensively and actively modified by past land use including those uses associated with the mill, pond creation, steam channelization, and the construction and removal of the town site infrastructure, and more recent modification for grazing. The uplands are less obviously modified, but do show evidence of grading, logging and grazing. These areas all need to be considered for potential enhancement priorities, and/or for recreational uses.

The Aquatic Environment and Use of the Pond

Comments were received about whether to retain or remove Bates Pond, dam and fish ladder. Staff from ODFW and the Confederated Tribes of Warm Springs, representatives of the Native Fish Society, watershed management groups and the county, and local and former residents commented on this issue. Water and habitat managing agencies and groups were interested in finding the best approach for enhancing fish habitats and urged OPRD to work with them to find the best approaches. The Native Fish Society asked OPRD to remove the dam and Bates Pond. The county, and most local and former residents commenting on the plan, asked that OPRD retain Bates Pond and dam while identifying and pursuing other approaches for enhancing fish habitat and meeting habitat criteria for native fish.

Some key comments focused on:

- The role the master plan has in deciding what to do with Bates Pond.
- Whether monitoring and maintaining the structural integrity of the dam is worth the recreational and interpretive benefits of having a pond.
- Whether the fish ladder adequately supports seasonal fish passage.
- Recent water temperatures taken in lower Bridge Creek relative to eventual TMDL criteria and appropriate contributions for OPRD.

- Whether OPRD has secured the water rights for the property.
- Options for cooling water temperatures other than removing Bates Pond.
- The importance of Bates Pond to local and former residents and the county for recreation and as a vestige of the former mill and town.
- The aesthetic importance of Bates Pond for the park
- Non-motorized boating on Bates Pond being allowed, with safe access on the east side and a boat wash.
- ODFW no longer stocking Bates Pond due to federal fish protection restrictions will result in poor fishing over time.

OPRD's response to the comments can be found in the Goals Chapter and the Resource Management Chapter, and are supported by the Opportunity Areas and Development Concepts Chapters. The master plan does set out the retention of Bates Pond as an important goal for the management of the park. It also outlines some enhancement actions to be considered as alternatives to removing Bates Pond. The selection and approval of the final short and long term enhancement actions will be made by OPRD as a part of on-going discussions with interest groups and natural resource managing agencies, following the completion of the master plan. Decisions will be based on what are practical and appropriate actions for OPRD to take for this small site in making an incremental improvement in the larger Middle Fork's habitat. The development proposals in the plan have been located and sized to avoid precluding sizable and effective improvements in habitat and water quality.

Invasive Species

Staff heard that invasive species control is one of the most important issues facing OPRD and other land managers. Invasive plant species have not yet been a primary source of change to the habitat of the study area, but they are poised to do so. Reed canarygrass along the Middle Fork is locally abundant and appears to be prime for taking over the banks of the river. The species could also easily invade other wetland and riparian habitats in the study area. Upland weeds of significance are cheatgrass, knapweeds, and toadflaxes. Although these species are mostly within disturbed areas associated with the mill and town sites, yellow toadflax is actively taking over the only tufted hairgrass wet meadow in the study area, on the east bank of Clear Creek.

Other comments recommended measures such as maintaining riparian setbacks, using permeable surfaces for roads and parking, and ensuring consideration of wildlife migratory paths for Rocky Mountain elk and mule deer. Some recommended that only species native to the region be used for restoration.

Vehicular and Trail Access to the Park

The county road leading to the park off Highway 7 provides good access to the park entrance. The entrance to the park will need improvements to provide safe ingress and egress.

Staff heard that the current pull-off just south of the proposed entrance may cause confusion to first time visitors since it contains information regarding adjacent public lands.

Comments recommended working with Grant County to obtain Oregon Department of Transportation (ODOT) Scenic Byway funding for improvements along Highway 7 and 26.

It was also recommended that the park staff work with the county regarding the plowing of park roads and parking lots during winter.

Comments recommended planning for pedestrian and bike trail connections to other local and regional trails. A few other comments suggested providing trail connections to the park from neighboring areas along specific routes. A new trail connecting with the Warm Springs land was recommended as a good opportunity to connect hiking along the Middle Fork. Another trail suggested was for snowmobiles, to follow an existing dirt road on the east side of the park. Both Warm Springs and US Forest Service representatives expressed interest in working with OPRD on trail connections.

Park Development, Interpretation, Use and Management

OPRD is planning an interpretive experience for the park that will focus on a number of signs in the day use-area, specifically inside the proposed picnic shelter, with other signs located

Bates State Park panoramic view looking North (OPRD 2009).

at important locations in the park. Two key interpretive themes recommended in comments center around interpretation of the former town and mill. The other major theme suggested was a focus on the wildlife, birds, fish and rivers found within the park, specifically related to educating visitors about ongoing restoration efforts and the relationship of fish and wildlife in the park to the larger region. Comments also mentioned that OPRD should coordinate with local museums to handle donated artifacts relating to the history of the former mill and Bates town site.

The camping capacity at nearby parks and elsewhere in the county does not meet demand on a regular basis during the summer season.

1. A variety of camping opportunities were suggested for the park. Several comments mentioned the need to provide camp loops that are designed primarily for RVs, as tent campers generally prefer some separation from large RV sites.
2. Walk-in tent sites were also advocated. The hiker/biker camping experience could accommodate biking groups as well as individuals. Group camping in general is growing in popularity.
3. Some comments advocated for camping cabins. These are basic structures with two rooms that often provide nothing more than a roof and heat. It was suggested that cabins be placed on the hillside, but not be viewable from the pond.
4. Other comments pointed out that a few warming huts are recognized as a viable camping alternative that brings in more off-season use. They also provide a good alternative for serving the special needs of some visitors, such as snowmobile users or cross-country skiers in the winter.

A couple of comments mentioned that this park should have ADA access to the pond. A boardwalk trail and viewing platform was suggested. Some mentioned

that ADA access would not be practical to achieve on the hillside areas, but could be accommodated around the pond, in the proposed camping area and in the proposed day-use area.

Many comments asked for a day-use area in the park that would accommodate both RV's and cars. The comments often noted that a picnic shelter and shade trees would be useful in the hot summer months.

New trail development was proposed for all areas of the park, with the potential for pond view sites along the lower portions of the hills. Views from the ridge lines on the hills would provide wider panoramas of the surrounding countryside including impressive views of the Strawberry Mountains. Some comments suggested trying to provide trail access to the "boulder rock" on the west side hill. Other stated the east side hill has the best views of the former Bates town site and mill area.

A couple of comments recommended including provisions for management of garbage and recyclable materials into the master plan. Management issues are generally not addressed in park master plans. Rather, OPRD addresses this type of activity under Field Operations decision-making based on department policy.

There was general support expressed at the public meeting for the proposals in the draft plan.

Cultural Resource Sites

Ongoing work is underway to determine if there is any evidence of significant prehistoric human activity in the park. If any sites are located they are subject to certain protocols under federal or state laws administered by the State Historic Preservation Office (SHPO).

The Bates mill site was examined and evaluated for historical significance using the National Register of Historic Places evaluation criteria—the accepted standard for historic site assessments. Due to the demolition of virtually all of the structures and the extensive clean-up of the site in the 1970s and '80s, it was determined that the mill property would not be eligible for listing in the National Register.

However, OPRD recognizes that the site is extremely important for those who used to live and work at Bates, as well as members of the nearby local communities. OPRD will endeavor to keep this history alive through interpretive programs and working with the official "Friends of Bates State Park" group, made up of many members who were residents of the former town of Bates.

Opportunity Areas: Chapter 7

Identifying Opportunities and Constraints

Every master plan must determine which areas of the park should be set aside for future resource protection and restoration, and which areas should primarily be devoted to a range of recreational uses and facility development, recognizing that no area is 100 percent one or the other. Identifying the opportunities and constraints at Bates State Park and weighting their importance in relation to a multitude of factors is what enables the master plan to meet the dual mandate of the department. This is often called "finding the balance" between providing for recreational access and support as well as making the park ecosystem as complete and high quality as possible. OPRD determines this balance by first mapping the composite natural resource areas for the park and showing those areas that are currently of moderate to poor condition. These areas are then considered in regard to ease of access for the public, soils and slopes, hazards and other social factors; and against the importance of restoring certain low condition areas for a more complete ecosystem.

The department determines the intent or purpose 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). Usually the park's classification (state park, state recreation area, state natural area, etc.) and its acquisition concept report reflect this intent. The Opportunity Areas for the proposed park emerge as a set of planned experience areas and settings that come out of 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, etc..

Bates is a "state park" class property, meaning that it is intended to have extensive, high quality habitats that can be accessed and supported by moderate to intense recreational activities and park facilities. Bates State Park needs to also serve as a hub for the surrounding region. By providing recreation facilities at the park visitors can explore the more remote areas of the Middle Fork valley and surrounding hills through up to 400 linear miles of trails.

The most controversial area in the park in regard to balancing resource stewardship with recreation access is the pond. If natural resource goals were only applied to the site, the pond might be returned to a free-flowing creek from a native fish habitat perspective. However, in purchasing the site, OPRD understood that the pond is the only major remaining feature from the old mill site, and the former residents of Bates, their families and the county strongly support the goal of retaining the pond as an important recreational location. These groups also proposed that habitat, wildlife and fish restoration projects are implemented to improve the conditions at the pond. Therefore, the Opportunity Areas shown in this plan reflect retaining the dam and pond as a goal for the future of the site while also pursuing a goal of improved natural resource conditions. Proposed developments have been located to avoid precluding long-term resource management decisions.

The identification of Opportunity Areas within the park is based on information derived from:

- Composite natural resource values;
- Hazards, topography, soils;
- Cultural resources, if any;
- Landscape character;
- Important views and viewpoints;

Bates State Park mill remnants as seen from south hillside (OPRD 2009).

- Roads, utilities and existing facilities;
- Recreation (and interpretive) opportunities at the park;
- Operational needs; and
- Opportunities/constraints outside the park boundary.

The most appropriate places in the park to provide for resource protection versus different levels of recreation are selected and portrayed on the Opportunity Area Map. (See the Composite Natural Resource Values Map in Chapter 4, for locations of the low to high value resources.)

- Areas with high natural resource values are largely protected and 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, favorable slopes and soils and convenient or interesting location can be considered for resource enhancement with trails, dispersed camping, and moderate recreational impacts such as small camping or day-use areas, and trailheads. (Mostly Level 3 on the Natural Resource Values Map.)
- Areas with poor natural resource values, favorable slopes and soils, acceptable risk from hazards and cost-effective access to roads and utilities can be considered for intensive recreation, or for extensive resource restoration. (Mostly Level 3 or 4 on the Composite Natural Resource Value Map.)

Note: Some parks have important cultural resources (including historic and/or prehistoric and/or above or below ground). For these parks a cultural landscape assessment is also completed and compared to the Composite Natural Resource Value map. The resulting assessment leads to likely areas for facility consideration to identify the Opportunity Areas for the park.

Opportunity Areas

A total of nine opportunity areas were identified for Bates State Park. They are organized into three groups:

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

Primarily Recreational Areas are identified for high-impact recreational uses and facilities. However, these areas will usually include native plantings and other treatments that can improve the setting and experience of these areas and blend them with the surrounding ecosystem.

Primarily Natural Areas

Opportunity Area 1: The Confluence, River and Bridge Creek

This area is defined by a steep hill on the south and west side of the park. The county road is on the north and a 100 foot wide setback from the creek and river bank on the east side. It is a long, narrow place where the creek and river parallel each other from their confluence upstream and then spread out in two directions along the river and creek. It currently has mostly low and moderate natural resource values, except for the creek itself, the confluence area and a few areas of intact wet meadow and emergent marsh. This Opportunity Area has high potential botanical and wetland values and lots of potential for enhancement of both riparian and aquatic habitat. Revegetation of the river and creek corridors in this area will also buffer the river from camping and the campground from sight of the county road.

It is fairly level and is subject to flooding, but can still support a carefully placed trail that can double as an interpretive stop about the habitat and the enhancement work. The setting is intended to be very natural (once revegetation is established) but is close enough to the county road and future camping areas to not feel remote. During fish migration seasons one of the important visitor experiences will be seeing the fish from designed viewpoints. Interpretation in this area can explain the restoration work. The trail should be a natural surface that can provide universal access.

Opportunity Area 2: The Northwestern Hillside and Meadow

This area covers a steep hillside that ends at the west boundary of the park and is north of the old service road through Opportunity Area 4. On the other side of the boundary fence at the northwestern corner there is a large open quarry. The area has a mix of high and moderate natural resource values. There is an open terrace on top of the hill to the west of the mill site with a native grassland habitat that is in good condition. This Opportunity Area may work best as a buffer between the quarry and other areas of the park. Some forest and meadow enhancement strategies could be applied to this area. Portions of the upland would benefit from grassland restoration actions.

The hillside affords great views up the Middle Fork valley and down on the pond and mill site. A trail will be difficult to build on the steep slopes, but could be

done if carefully designed to take able-bodied visitors to the views and to enjoy the meadow habitat. Trails through this area should skirt high quality meadows and connect with other trails to form loops. The area is close enough to the county road and potential day-use area and camping to not have a remote feeling, but will provide a feeling of connection to the larger valley from viewpoints. Use levels will be lower than Area 1 due to steeper trails and a lack of universal access.

Opportunity Area 7: The Southwest Hillside

This steep hillside is forested and very secluded. It has moderate natural resource values, but excellent views of the pond. The open bald on top of the hill has grassland habitat interspersed with woodland that is in good condition. Portions of this upland area would benefit from grassland restoration and forest management actions.

There are good views of Dixie Mountain from the upper hillside. A trail access to this area would greatly enhance a visitor's experience of the views from the park and could create a short, quiet hiking loop on the far side of the pond. The experience will be somewhat quieter than Areas 1 and 2, due to its distance from the main camping and day use area and elevation above the dam and pond.

Opportunity Area 8: East Hill

This area encompasses most of the eastern hill, except for the northeast portion. The steep, forested hill has mostly moderate natural resource values and a small high value area along a portion of the ridge. An old road and utility easement create two open, low value corridors across the hillside. The hill affords glimpses of the pond along its west flank. The "boulder rock" sits up on the ridge. It is well-known by the local community as a place that provides a wide panoramic view of the surrounding area. The forest would benefit from restoration projects. It could accommodate a good hiking experience with varied views and some greater distance from the main campground and day use area. The area could benefit from moving the power line, if feasible.

Opportunity Area 9: Clear Creek

Clear Creek runs through this section of the property within the boundary line to the east and a steep hill to the west. The botanical and wetland values are high here, although the area could benefit from some restoration work. It is prone to flooding, and abuts a neighboring residence. It would be possible to put a trail through this section, but the area is not suitable for any other form of development and forms a good buffer between the private residences and the rest of the park.

Primarily Recreational Areas

Opportunity Area 3: Valley Floor

This area is primarily located on the highly disturbed valley floor, site of the former mill works. It has low natural resource values and fairly level grades. It may be subject to periodic flooding, but has not been known to flood historically. Clean up work is underway here to remove any industrial remnants.

The area is located not far from the park entrance and county road, and is bounded by the existing gravel service road. There are quite a few weeds in this area, and other vegetation is slow to take hold, resulting in a mostly unvegetated area with some scattered, small wetlands resulting from the unevenly graded surface of the compacted fill soils.

This area affords the only opportunity in the park to provide the more intensive recreational uses intended for the park and related facilities, including a small campground and day-use area. Other facilities that need to go into this area (due to a lack of other feasible options) are a small maintenance yard, park entrance, picnic shelter, bathrooms with showers, and a sewerage dump station. All of these facilities combined in one area result in an intensive use area with a lot of interaction with other visitors during peak weekends and holidays. Although development is the recommended use of this area, it will include the addition of shade trees and screening vegetation to soften the appearance and blend with the surrounding natural areas.

The other portion of the park with sufficient size for a comparable campground and day-use facilities is Area 8 and 6 combined. However, this area is steep enough that the access road alone would take up much of the space by winding up the hill. This site also has enough forest cover and steep grades that a comparable campground and day-use area would heavily impact the forest, require extensive grading, and would be much more expensive to develop.

Primarily Mixed Areas

Opportunity Area 4: Gateway to the National Forest

This small area contains a dirt road that leads up the steep western hillside, and a small, open, disturbed area where the mill's former dynamite shack is located. It has mostly moderate natural resource values, and is located where the road could become a trail that connects outside the park to the National Forest. The road is currently, or has previously been, used in winter to access trails on adjacent properties and could accommodate a few winter warming huts for cross-country skiers and snowmobilers. A small, unnamed creek runs along the northwest edge of this area, down to the bottom of the fish ladder. The creek banks would benefit from restoration.

This area is not very far, by trail, from the main day-use parking lot, but could serve as the transition area from the busy park to the larger, remote setting of the national forest.

Opportunity Area 5: The Pond and Upper Pond

In many respects, the pond and its dam are the major features at Bates State Park, as a remnant of the mill site and as a scenic and recreational feature. OPRD recognizes the need to retain recreational access to this feature, while improving the natural environment that makes it so attractive in the first place. The pond affords what will likely be the most popular recreation destination in the park for walking and boating. The local community and former Bates residents have very strong cultural ties to this water body. At the same time, it is an integral part of the riverine habitat of the area for wildlife such as river otters, kingfishers and osprey, and fish. The pond also has a likely detrimental affect on river and creek fish habitat due to its effect on water quality and temperature. For this reason it has been placed in the "Mixed" area category.

This area needs to be managed so that it allows for a quieter experience on one side of the pond and more use on the side closest to the day-use parking area and along the existing service access road. A few spots along the east side could be designated for visitors to approach the water's edge via a dock, and a viewing and fishing platform. The narrow, gravel access should remain narrow and the bank could be revegetated. The west side of the pond could be revegetated and also allow a well-placed and designed trail above the pond that connects to west side trail opportunities.

The flat area at the upper end of the pond is one of the few locations in the park to locate a small day-use area along the pond. This area is bordered by Bridge Creek on the west side and the hill on the east. The south end of this area is adjacent to the creek and contains wetlands that could be restored. The north end is slightly raised and could accommodate a small picnic shelter. Visitors would be directed to the higher ground by trails and the placement of the shelter. This is an intimate location for a small group to gather during peak days and will be a great, getaway spot in the park during low use days.

Opportunity Area 6: Lower Hillside

The east side of the hill is less steep and very secluded. It affords opportunities to discretely locate camping cabins and walk-in camp sites that are still relatively close to the main park facilities, without impacting important resource values in the area. This area will provide a somewhat quieter experience than the main campground, especially at the hike-in sites. However, the area is not remote due to views onto the nearby county road.

Goals for Park Management and Improvement: Chapter 8

A. Protect, manage and enhance the outstanding natural, cultural and scenic resources in the park

This is a predominant goal for the master plan, and all other goals are crafted and implemented to be compatible with it, as park use and management must preserve the outstanding resources that the park is based on. The balance between finding appropriate locations in the park for facilities versus resource management and protection is illustrated in the Opportunity Areas Chapter.

Cultural values

Although the park site is known locally for its former mill operation and mill town, not enough remains to qualify this park as an outstanding or significant historic site. Its history is locally important and will be more appropriately addressed in the interpretive goal. Evidence of pre-settlement history will be confirmed in the near future, but current understandings indicate there were no significant sites within the park boundary. Decisions about the level of protection for any discovered archeological resources will be made on a case-by-case basis relative to the site significance and need for recreational use. Cultural Resource Management Strategies are outlined in the Strategies for Park Resource Management Chapter.

Natural values

The park's small size limits the area of habitat that the park can contribute to the local ecosystem, but its location on the Middle Fork places it within a regional context that makes it an important contributor to fish habitat enhancement. Bates Pond is important for recreational activities and their setting. OPRD is committed to finding solutions for retaining the pond, while achieving acceptable aquatic habitat levels. Water quality (especially water temperature) and other fish habitat targets will be pursued through monitoring, an evaluation of several mitigation approaches and the completion of further action plans. A

strategy will also be prepared for managing existing weedy plant infestations. Existing, high-quality or rare natural areas will be targeted for monitoring and any needed protective measures. Decisions about what specific management actions to take will be determined through natural resource management planning that parallels and follows the completion and approval of this master plan.

Natural values management objectives:

- Improve fish habitat in Bates Pond and along creek/river;
- Restore riparian areas along creeks and Bates Pond;
- Improve/maintain forest and woodland habitats, minimize threats from fire, disease and insects;
- Maintain meadows on ridge tops and uppers slopes;
- Enhance and restore wetlands;
- Enhance pasture land south of Bates Pond; and
- Manage and mitigate invasive weeds.

Strategies to support these objectives are outlined in Strategies for Park Resource Management Chapter.

Scenic values

Vegetation management is key to improving the setting at the park. The park's former mill site is currently the only unsightly portion of the park.

Scenic values management objectives:

- Soften the edges of the park as viewed from the road, and from within the park's valley bottom through habitat enhancement strategies.
- Provide good connections to viewpoints of the pond, former mill and mill town, Middle Fork and creek confluence, the Boulder Rock and Dixie Mountain.
- Move power lines or place underground, as is feasible,
- Manage vegetation to keep views open from proposed viewpoint sites.

Bates State Park panorama looking North from West end of park (OPRD 2009).

Concepts for providing access to viewpoints are outlined in the Development Concept Chapter and strategies for scenic related vegetation management are outlined in the Strategies for Park Resource Management Chapter.

B. Provide safe, efficient, identifiable and pleasant access to and through the park

Few major changes in existing access points and road routing will be needed to meet this goal. This park is located very close to Highway 7 and has good secondary access via the county road along the Middle Fork John Day River. Road access into the park will roughly follow the existing service road. Future park camping and day-use areas will not be very far into the park, making them easy to find.

Objectives include:

- Provide approach and orientation signs from both directions to improve visitor orientation to the place.
- Improve the Highway 7 turnoff signage to better address the state park and other public lands reached via the county road.
- Provide ample parking for day use, good connections from parking to a well integrated trail network and ample space for maneuvering at overnight sites.
- Provide internal orientation signs to address use areas and trail circulation opportunities.
- Provide a trail system that is attractive, dispersed and capable of supporting hiking, mountain biking and, in some places, cross country skiing, snowmobiling and snowshoeing.

C. Provide recreation opportunities and experiences that are appropriate to the park resources and settings, and match OPRD's role in the region

Although the park is limited in size, there is still space for providing for a variety of experiences on site, and for using the

park as a hub for exploring the region. Desired experiences that can be provided for include interpretation, playing around and on the pond, a variety of overnight options and exploring the park by trail with interpretive support.

- The park, with its location on the Scenic Byway and within a popular tourist region, will be a hub for recreational travelers, as well as a resting and support site, whether driving or cycling.
- Provide support facilities and space for group events, such as the Friends of Bates annual reunion. This will include day-use and overnight group use, provided in a manner where the two work together well. Provide interpretation at group use areas.
- Provide for a variety of overnight options, including RV/tent, camper cabin and walk-in camping, at a capacity that can fit within the available space. The small size of this space will allow for only one moderately-sized main camping loop, and some walk-in and camper cabin opportunities on a nearby forested slope.
- Provide for day-use activities including trail use, picnicking, interpretation, and limited paddling and swimming. Available space at the site will limit the size of the day-use area, but can allow for a group use shelter and interpretive panels. The upper end of the pond can support limited, mostly walk-in, day use from the lower parking lot. Many of the activities are pond-related and will require designated access trails. Pond use can be directed by the placement of access points and limited structures such as piers or docks.
- Provide a trail network that will link the many varied park settings, interpretive site opportunities and viewpoints into an integrated system that is reached via the main day-use parking lot below the dam. Some pedestrian bridges will be required to attain a full network. Working with adjacent landowners, the network should be expandable where shared access is acceptable, to access other existing trail systems, viewpoints and use areas. Motorized trails are not appropriate for this park, other than potential snowmobiling use in the winter months.
- Providing shade for summertime use in the day-use and camp loop areas.
- Consider providing for winter use, such as snowmobiling, snow shoeing and cross-country skiing that could be supported out of the day-use parking lot, if management measures such as snow removal and toilets can be provided. This will be a Field Operations management decision on an on-going basis.

D. Promote public awareness, understanding appreciation and enjoyment of the park through interpretation and evocative experiences

- Focus interpretation of the history of the town of Bates and Bates Mill, and habitat enhancement. The first topic can convey a sense of what life was like during the mill era and what it still means today to regional families and history. The second topic will address the strong emphasis on aquatic and riverine habitat enhancement on the Middle Fork and its tributaries.
- Provide interpretation based on an Interpretive Level Three including permanent, outdoor sign structures, trail signage, and a seasonal staff presence for peak days and/or events. A program that works effectively with the Friends of Bates and fish management agencies needs to be crafted.

E. Provide for adequate park management, maintenance, rehabilitation and operational support for the park

The park needs some basic maintenance support facilities due to the distance from the District Office in John Day. A maintenance area and basic storage/ maintenance shop should be provided for at the park. A host site or sites should be designated in the campground to assist staff presence, since there will be no staff residence or public access office at this park. Regular staff patrols and facility support visits will come out of the District Office or from Clyde Holliday State Park in John Day.

Facility design and installation should include the objective of sustainability, as much as is feasible within available budgets and site constraints. Methods and materials that can take advantage of the plentiful solar energy at the site, local materials and products and an existing or future recycling system are encouraged. Lighting should be provided for "dark skies" protection and enjoyment.

F. Form partnerships to aid in achieving these goals

- Continue to work closely with The Friends of Bates in providing for an enjoyable and educational experience at the park. They are one of OPRD's most prominent partners for this park. Their understanding of the history of the place, local opportunities and future possibilities will be essential.
- Build strong relationships with other potential partners including the U.S. Forest Service, Confederated Tribes of the Warm Springs, ODOT's Scenic Byways Program, Scenic Cycling Route advocacy, Oregon Watershed Enhancement Board, Oregon Department of Fish and Wildlife, Grant County, the Cities of John Day and Prairie City, and The Nature Conservancy, to name a few. These partners will be essential for both habitat enhancement guidance and support, and providing for needed recreational access and support. OPRD welcomes the opportunity to work closely with all of them.

G. Plan for future park expansion

No specific additions to the park have been identified at this time. Over time, some adjacent lands may be available for purchase and may be considered for their potential contribution to habitat enhancement, and expanded recreation and interpretation. Any available parcels will be considered on a case-by-case basis using OPRD's acquisition evaluation process and objectives.

- Consider any adjoining parcels that become available for purchase on a case-by-case basis for potentially expanding or buffering the park.

Creek at Bates State Park (OPRD 2009).

Strategies for Park Resource Management: Chapter 9

Overview

This chapter outlines general guidelines for the management, enhancement and restoration of natural, cultural and scenic resources in the park, based on OPRD policies and statewide objectives, and specific Opportunity Areas and Goals identified in the master planning process. The Natural and Cultural Resource Management policies and objectives are listed in the Appendices. OPRD will complete more detailed resource management prescriptions and will compile a natural resource management plan for the park, following approval of the master plan.

Natural Resource Management Strategies

Park-wide Natural Resource Management Strategies

Weed Management

Early detection and rapid response is critical for effective and efficient weed management.

- Control weeds along avenues of dispersal - roads, parking areas, ditches, trails, and streams. Weeds are currently growing and flourishing immediately adjacent to many of the parks roads and trails. This encourages weed seed spread on vehicles, socks, dogs, etc.
- Outside of weed control along avenues of dispersal, control weeds in areas that are in the best ecological condition and have the highest conservation ranking first in order to prevent their rapid deterioration. It is much easier to maintain than to restore.
- Control perimeters of existing weed infestations in the absence of sufficient manpower to attack the whole infestation. 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 occupy and dominate the site.

Irrigation and Water Rights

It will be difficult and slow to establish free-to-grow trees and other plantings without watering. OPRD will confirm the property's water rights for irrigation.

- Bates Pond
- Well south of Bates Pond
- Middle Fork John Day River, Clear Creek, and Bridge Creek
- Well across the road

Fire Control and Management

Complete a fire control and management plan for the park.

Aquatic Habitat Management Strategies

The issues related to the aquatic environment, including the riparian area and all wetlands in Bates State Park are complex and require substantial investigation, planning, and funding. Due to the aggressive schedule for development and opening of a park at this site, planning and development of the park will proceed, based on the master plan proposals for park facilities, for areas that are not crucial for aquatic habitat and are currently in poor condition. As more site information is acquired, management strategies can be refined. Opportunities for restoration can be protected by following the Opportunity Area guidance in this plan. Development will be limited to the areas outlined in the Opportunity Areas and types and sizes as outlined in the Development Concepts.

The aquatic environment at Bates State Park includes the former mill pond, Bridge Creek (upstream and downstream of the pond), isolated wetlands, Clear Creek, and the Middle Fork. Issues of concern include: the water quality of the pond and its impact on Bridge Creek and Middle Fork; fish passage from the Middle Fork to upper Bridge Creek, lack of suitable fish habitat on the Middle Fork, Bridge Creek, pond, and Clear Creek; the lack of riparian habitat on all water bodies; and wetland degradation or loss. Specific enhancement and restoration actions will be outlined in forth-coming prescriptions and natural resource planning, to be completed by OPRD parallel to and following the master plan.

Water Quality

Although there is an acknowledged general lack of data, it is reasonable to assume that the dam retaining water from Bridge Creek results in elevated water temperatures from solarization and possibly creates conditions suitable for algal blooms. Since Bridge Creek is perennial and positive outflow occurs year-round, there are potential impacts on the water quality of lower Bridge Creek and the Middle Fork at, and below the Bridge Creek confluence with the river. ODEQ is currently drafting Total Maximum Daily Loads (TMDLs) allocations for the Middle Fork that are expected to include temperature as a critical water quality limiting factor. Water quality conditions in the pond may become seasonally unsuitable for native fish that

are now protected by federal law. OPRD will work with natural resource agencies in developing a potential mitigation and compliance approach for Bates Pond that can be consistent with water quality standards.

Fish Passage

A newly-constructed fish ladder adjacent to the pond's dam was designed to pass adult and juvenile salmonids from the river to upper Bridge Creek. Adult Chinook and steelhead have been observed successfully passing upstream through the fish ladder. There have been no observations made of juvenile passage. Concern has been expressed regarding the stress of passage on salmonids in the pond due to possible introduction of exotic fish predators and poor water quality (temperature, pH).

Poor Fish Habitat

In Bridge Creek, the pond, Clear Creek and the Middle Fork, there is a lack of 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 lower Bridge Creek and Middle Fork have been historically channeled to provide maximum use for the mill development and the adjacent roads. The result is highly simplified channels disconnected from their historical floodplains, straight runs with higher velocities, and simplified stream bed shape. Clear Creek has had less modification but could be improved.

Poor Riparian Habitat

The severe lack of riparian vegetation along all the water bodies 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.

Monitor and assess data: Addressing all of the above issues will rely on 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. Some options have been listed below. Other options may emerge following master plan completion. The appropriate solutions will need to be phased in over a period of years.

Aquatic habitat enhancement alternatives relating to the pond

Pending data acquisition from current and anticipated future monitoring in the project area, exploration of aquatic habitat enhancement options are speculative at this point. The options discussed below are conceptualized and form a preliminary list for further discussion. After data has been acquired a future natural resource

management plan for the park will explore the best course of action to improve aquatic habitat. See the Appendices for a listing of pros and cons on these options.

- No alteration of aquatic habitat: Potential impacts of leaving in current conditions are described above.
- Remove the dam: This option would eliminate the pond and significantly limit the intended recreational activities associated with the pond which includes boating, swimming, scenic enjoyment, and cultural appreciation of the pond as the last major remnant feature of the town and mill. OPRD will work with natural resource agencies in developing a potential mitigation and compliance approach that can meet the required water quality standards.
- Connect upper Bridge Creek with upstream opening of fish ladder by constructing an open fish bypass channel.
- Connect upper Bridge Creek to lower Bridge Creek by-passing pond and fish ladder
- Gravity flow from upper Bridge Creek through a pipe to fish ladder base in warm seasons
- Convey cooler water from bottom of pond to bottom of fish ladder in warm seasons
- Increase lower Bridge Creek flow through soil before entering the Middle Fork (i.e. infiltration galleries, bio-swales)
- Establish native riparian vegetation on all water bodies inside 100-foot buffer based on location of current alignment of the river and creeks
- Increase channel complexity, morphometry, structure, and dynamics of Bridge and Clear Creeks and the Middle Fork (i.e. create eddies, high-flow channels, sinuosity, wetland benches, lower bank slopes, add large boulders and, wood to create pools and riffles).
- Reconnect lower Bridge Creek and the Middle Fork to historical floodplain
- Increase shading of the pond through increasing aquatic vegetation and/or adding shading structures to portions of the pond.
- Dredge portions of the pond to increase water depth.

Aquatic Habitat Management Recommendations

Riverine Riparian Vegetation

The property's Middle Fork, Clear Creek and Bridge Creek frontage should be planted with shade-providing woody vegetation and competitive native vegetation. Competitive native understory vegetation will reduce the invasion of riparian habitat by invasive species such as reed canarygrass, yellow toadflax, and Canada thistle. Forest canopy shading will help toward this goal as canopy becomes

denser with understory developed to initially keep the ground clear of invasive plants.

Target community composition/species palette: A number of plant communities will occur in the riparian strip - ranging from forest, to shrubland, to emergent marshland vegetation types. Placement of each species will need to be determined carefully according to topographic and moisture preferences for each species. Target species are listed in the Appendices Chapter.

See the section "Riverine aquatic environment and channel morphology" below for more detailed treatment of channel morphology.

Riverine Aquatic Environment and Channel Morphology

The Middle Fork and Bridge Creek below the dam: The banks of these water features could be regraded or recontoured in some places for greater habitat benefit. Topographic diversity and reduced river channelization would provide a greater number of habitat niches for plant species and communities, resulting in better overall species diversity and habitat value for other species in both terrestrial and aquatic habitat areas.

Topographic modification might include:

- Establishment of sinuosity
- Areas of gentler bank slopes
- Backwater areas (alcoves, sloughs, seasonal overflow channels)
- Braided channels

Clear Creek: This area already has some backwater and braiding, as well as predominantly gently sloping to flat banks. Woody debris and other forms of instream structure would be of value. Tree planting would definitely be of value.

See the section "Riverine riparian vegetation" above for more detailed treatment of riparian vegetation and plantings.

Bates Pond Aquatic Environment

Control aquatic weeds: At least Myriophyllum is present. There may be other species present as well. A survey of aquatic (deepwater) weeds would be very useful. No inventory of deepwater habitat was done in the course of the 2008 survey.

Consider establishing yellow pondlily (Nuphar lutea ssp. polysepalum) and floating leafed pondweeds (Potamogeton spp.) to partially blanket some shallow portions of the pond and provide shading of open water for the purpose of mitigating water temperature rise. These species will also add to the habitat diversity of the pond.

Consider adding some constructed shade structures, such as floating docks and swim platforms.

Bates Pond Riparian Vegetation

The riparian edge of Bates Pond should be planted with shade-providing woody vegetation and competitive native vegetation. Native understory competitive vegetation will reduce the invasion of riparian habitat by invasive species such as knapweed, reed canarygrass, Dalmatian toadflax, and Canada thistle.

It would be beneficial to regrade the bank in some places for a wider variety of topographic positions and increased amounts of lower, wetter ground. The banks are currently very steep and fairly poor for the establishment of plantings that might be considered.
Target community composition/species palette: A number of plant species can provide potential dominants for the riparian areas around the waterway. Placement of each species will need to be determined carefully according to topographic and moisture preferences for each species. Because of the steep grade from the pond's edge to the old road grades above, the moisture regime varies from marshy to very dry and rocky. Target species are listed in the Appendices.

Terrestrial Habitat Management Strategies

The terrestrial habitat strategies cover all areas that are not classified as aquatic. This includes upland and lowland areas covering forest, woodlands, meadows and disturbed areas.

North Face of the Dam

The north face of the dam (facing away from the pond itself) should not be disturbed and should not be planted to shrubs or trees. The existing grass cover should be maintained.

Upland Forest Establishment

The wide, flat bench/former road grade stretching from near the Middle Fork confluence to approximately one third of the way to the Bates Pond dam is a wide, flat, disturbed site. This area would be a strong candidate for forest re-establishment. Because of its soil compaction and level of disturbance, it may be necessary to subsoil and scarify the surface in order to allow for effective reforestation. This area would naturally fall within the mixed conifer forest type of the adjacent forest on its uphill flank.

Target community: Ponderosa pine-western larch-grand fir-lodgepole pine / common snowberry-grouse whortleberry-birch spiraea /pinegrass-elk sedge-tailcup lupine-heartleaf arnica-showy aster-creeping oregongrape. Target species are listed in the Appendices.

Dry, Disturbed Former Mill Site Soils

The soils here are mostly poor and rocky, consisting of fill of unknown origin. Vegetation is not growing well on these soils presently. It may be necessary to import a layer of topsoil to effectively

revegetate the area. Irrigation would aid in rapid establishment of native grasses to get quick cover and help to exclude weedy species from taking over. It will not be possible to restore this area to what it once was due to changes in soils and hydrology. Given the currently dry character and poor soils of the site, an appropriate low-maintenance community may be best suited to low density Ponderosa pine-lodegpole pine woodland consistent with what would be found on upland flats in rocky soils. Target species are listed in the Appendices.

Wet, Disturbed Ground at Former Mill Site

These areas should be planted to species similar to those of the Middle Fork riparian area as described above. Some portions might be maintained as emergent marshland or shrub-scrub, rather than riparian forest/forested wetland for habitat diversity and interest. Aspen forested wetland would be valuable here for both habitat diversity and scenic interest. All of the desired species are already present, but seed could be collected and spread or plants could be transplanted to fill in areas where weeds or trash currently predominate. The emergent marsh species palette is listed in the Appendices.

General Forest and Woodland Areas

Remove/burn slash piles from all areas in which there occur. There are hundreds of piles on the property and contribute to fire danger and too much habitat for undesirable mammals.

Open Woodland

Maintain very open conditions. Monitor for cheatgrass and other non-native annual grass infestations and contain or eradicate those that are already present.

Monitor succession:

1. Limit tree recruitment through precommercial thinning or prescribed burning.
2. May need to burn or graze if woodland conditions start to in-fill with either undesirable herbaceous vegetation or woody vegetation.
   - Both woody and herbaceous vegetation might in-fill due to lack of fire in this area of historic 20-30 year fire return intervals. Prescribed fire might be considered to restore and/or maintain.
   - Herbaceous vegetation may become a problem if non-native grasses are allowed to proliferate. Fire will not likely help in this situation, but appropriately timed grazing might.
   - More detailed assessment would be needed in either case.

Consider seeding open areas with Idaho fescue and bluebunch wheatgrass in some areas. Ponderosa pine/Idaho fescue, Ponderosa pine/bitterbrush/Idaho fescue, Ponderosa pine/bluebunch wheatgrass, and Ponderosa pine/bitterbrush/bluebunch wheatgrass are all considered somewhat rare in Oregon, due in part to past grazing practices. Any grazing considered on the property should be timed to minimize damage to native bunchgrasses and maximize consumption of less desirable species. Seeding or planting understories with other species is unnecessary. Target species area listed in the Appendices.

Mixed Conifer Forest

Manage for mid to late successional species diversity and structure.

This type of forest in this area probably never reached true old-growth status due to the relative frequency of wildfire. These mixed conifer forests were likely characterized by infrequent or lower intensity fire due to their topographic moisture and aspect. Fire conditions were evidently such that shade tolerant and relatively fire intolerant species such as grand fir were allowed to successfully reproduce. In the interest of maintaining the diversity of these stands and the difficulty of and concerns about allowing natural fire processes, these stands are probably best managed by encouraging later successional status, with periodic maintenance of species diversity through patch openings and thinnings. Grand fir should be encouraged to become more prominent, possibly through sparse plantings or simply allowing the natural regeneration that is present to continue to grow and reproduce. Grand fir should be preserved when thinning operations are planned, at least until it reaches a natural stocking level. In general, the forest understory is healthy and will take care of itself.

Meadows on Ridge Tops and Upper Slopes

Remove or burn slash piles. Disperse side-cast cobbles from road use. These side-cast strips delineate roads and are the only significant signs of past disturbance. Once dispersed, the area will appear nearly pristine.

Treat infestations of non-native annual grasses before they become a problem. These meadows are currently very scenic and have abundant wildflowers. Invasion by weeds would destroy these qualities. These meadow habitats are the most significant non-aquatic natural habitats on the property and have the highest conservation ranking and lowest suitability for development. Trail development would be appropriate, but trails should be laid out with wildflower and plant community aesthetics in mind and in balance with views. Trail layout should be done

during peak wildflower bloom in order to site the trail for maximum benefit and minimum detriment. Seed or otherwise propagate FESIDA and AGRSPI, which have declined due to past grazing. These species are currently present, but the plant community has shifted slightly towards species that are adapted to cattle grazing, and are slightly out of sync with historic character.

Pastureland South of Bates Pond

Control weeds in this location. Much of this area might be planted to riparian woody vegetation to shade Bridge Creek, but any areas that are left open will need to be cleaned up. There is a large amount of garbage on site. Structures will presumably be removed. An artesian well is currently wetting the ground over a portion of this area. If this well is used for campground use, this area will become drier and will shift away from the sedges and other wetland plants that are currently present. Aspen woodland would be appropriate in this area. The target community would be something like Populus tremuloides/ Symphoricarpus albus-Spiraea betulifolia-Lathyrus lanswertii. In reality, planting Populus and controlling non-natives will likely lead to establishment of this community or something similar fairly easily.

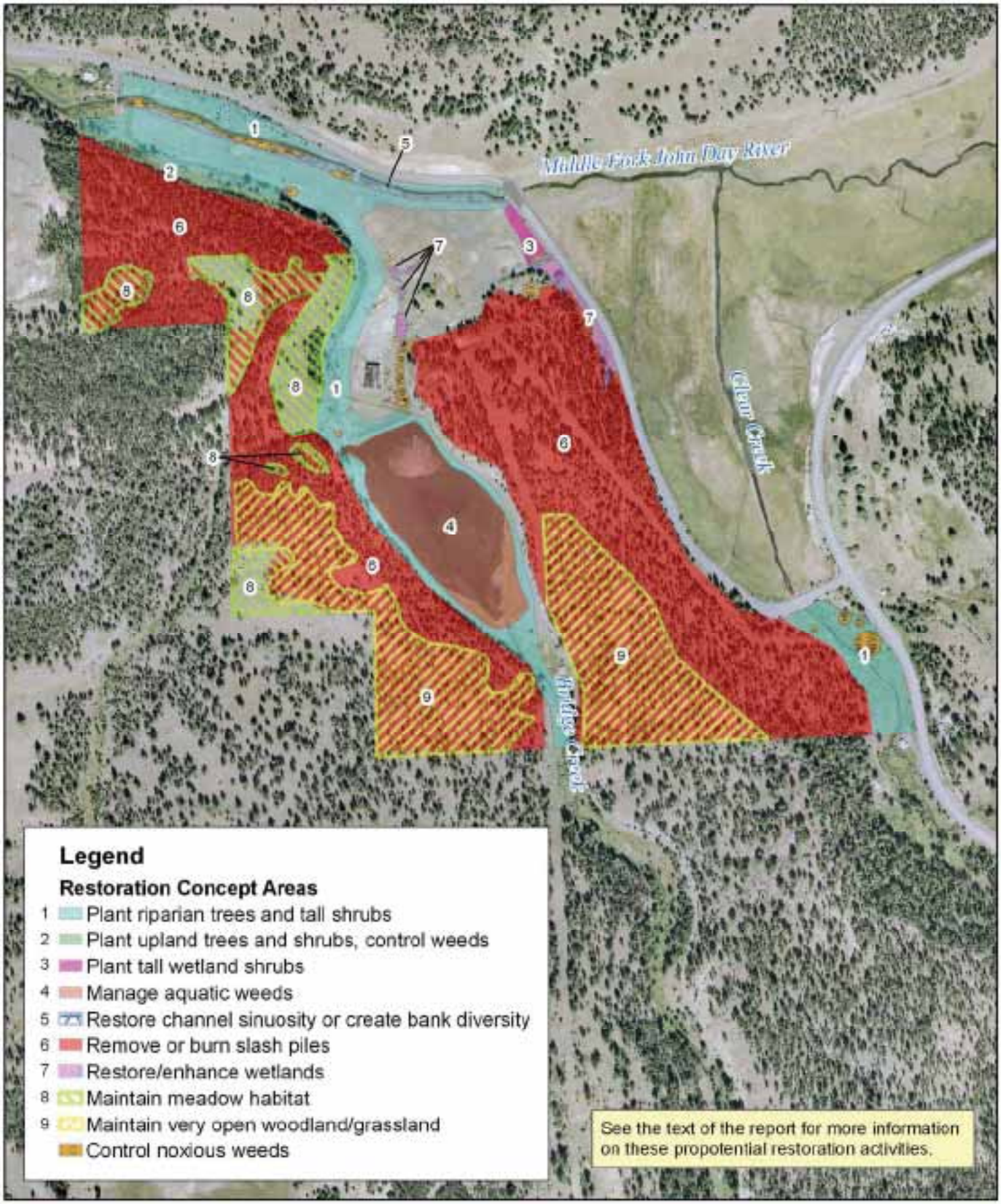
Any areas that are kept in grassland or open conditions might be restored to Elymus lanceolatus-Potentilla gracilis-Sidalcea oreganum-Solidago canadensis. If wet areas remain, they would be best suited to Carex pellita. Scattered Ribes aureum and Woods' rose would be appropriate and attractive. Snowberry will come in on its own.

Active Power Line Corridors

Continue with current management, i.e. cutting down taller trees once they start to get close to the power lines to allow for maintenance access, unless there is an option for relocation or burial of the lines. Control weeds as necessary.

Unused, Decommissioned Power Line Corridors

Plant trees in densities and species consistent with adjacent forest communities on similar or identical aspects and elevations. Use low density Ponderosa pine on the west-facing slopes. Lodgepole pine will seed itself. Understory communities are intact and will take care of themselves with periodic control of weeds. Use low density Ponderosa pine, grand fir, and larch on the east-facing slopes.



Map 12: Restoration Concepts

0 300 600 1200 Feet

Cultural Resource Management

There will be no need to manage aboveground remnants of the former mill, as the site has been determined to not be significant due to extensive disruption and removal of the features. The only remaining elements of the mill are the pond and dam, and a few scattered shrubs and trees. Retaining the pond and mill is a goal of this plan, but is not technically a cultural resource management requirement due to a lack of site significance.

Sites where archeological resources are most likely to be found were identified in the master planning process through a review of State Historic Preservation Office (SHPO) files on previous archeological investigations and recent field work to identify potential sites.

SHPO staff determined that further investigations could be deferred to the construction design phase for planned projects. OPRD will be required to consult with SHPO prior to ground breaking for construction projects and other ground disturbing activities, and follow required SHPO protocol for investigating project sites and protecting any significant resources.

Prior to beginning planned new development projects described in the master plan, OPRD or SHPO staff will arrange consultation with representatives of Native American Tribes that claim cultural affiliation to the area to involve the Tribes in assessing the cultural significance of the project sites and actions needed to protect any significant resources.

Scenic Resource Management

OPRD has no formal policy on scenic resource management in state parks, but follows general guidance provided by OPRD's mission statement and 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 would fall into the Roaded Natural category, but more specific settings, within the park, are identified by area in the Opportunity Area Chapter.

Important views for public enjoyment, trail development and vegetation management are identified in the Opportunity Areas Chapter. Management actions to create and retain selected views from targeted viewpoints are outlined in this chapter. See the Opportunity Area Chapter for viewpoint locations.

Pond Views

Panoramic pond views are generally seen from the ridge line of the two hills on the east and west side of the pond. Lower views of the pond are also possible as you walk around the edge of the water body, but the best of these views is from the south end as you look down towards the dam.

OPRD should explore the possibility of providing accessible pond views around the edge with access via a dock onto the water body. The views from the ridgelines will need to be maintained or vegetation will eventually screen the impressive view.

Mountain and Valley Views

Views of the surrounding area are afforded from the meadows atop the hill on the west side of the park. The views from here include the distant peak of Dixie Mountain. There are also views of the Middle Fork valley from a rock outcropping and meadow area above the section of Bridge Creek that is north of the fish ladder. These views also take in the pond, former mill area and town site. Maintaining views will require vegetation management at key viewpoints with occasional pruning of the lower limbs of trees and maintaining the height of understory vegetation.

Scenic creek at Bates State Park (OPRD 2009).

Screening Undesirable Views

Views of the county road from the valley bottom and of the future campground from the county road will be screened by proposed riparian plantings along the Middle Fork. Views from Bridge Creek and associated trails there of the proposed campground and day use area in the valley bottom will be screened by riparian plantings along Bridge Creek. Views of the bare banks of the pond from trails and from the head of the pond will be softened with native plantings.

Gravel Area at Bates State Park (OPRD 2009).

Park Development Concept Plans: Chapter 10

Conceptual Design for Park Development Projects

State park master plans include text and illustrations that propose appropriate locations, layouts, sizes, and types of recreation facilities. The locations and layouts of development projects are illustrated in a general or conceptual manner. 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 master plan.

OPRD is dedicated to proposing facilities that are needed 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 Area sections prepared for the master plan. The proposed facilities are also selected, located, and designed to avoid incompatible recreation uses or have significant impacts on surrounding land uses.

General Parameters for Design

General parameters that are considered in formulating development concepts in state park master plans include the following:

- Balance multiple recreation needs and avoid or minimize conflicts among recreation uses;
- Provide good access and circulation for vehicles and non-motorized travel to and within the park;
- Locate and design facilities, roads and trails in a manner that is understandable by the public in navigating to and through the park;
- Avoid or mitigate significant impacts on important natural, cultural and scenic resources within or adjacent to 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 most of the park lands undeveloped;
- Avoid or mitigate conflicts with neighboring land uses;
- Achieve compliance with regulatory requirements including state land use goals, local comprehensive plans, building codes and resource laws;
- Provide opportunities for access by visitors with disabilities and different economic and cultural backgrounds.
- Design facilities to be cost effective to construct and maintain.
- Design facilities to be sustainable over their lifetime.
- Design the park for an enjoyable, safe and meaningful experience.

Key Requirements Prior to Recreation Development

Bates State Park is not a "typical" state park. OPRD purchased this property knowing it would interpret the history of the site as a former lumber mill while also changing its landscape to a natural appearance normally associated with a typical state park. A large portion of Bates State Park is currently an old industrial site. OPRD is working closely with DEQ to make sure that any hazardous materials are mitigated in a manner that is friendly to the environment and completely safe for the visiting public.

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, volunteers and The Friends

of Bates to work with us as we begin the long process of restoring this site to a more natural state, while retaining recreation access and developing recreation opportunities. 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.

Phasing

Redevelopment of the site will most likely require that the work is carried out in phases. This General Plan in the plan summary chapter illustrates how the park would 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 OPRD's Friends and Camp Host programs. Hopefully, the design concepts herein will stimulate new community partnerships, while retaining longtime friends and partners.

Priorities will guide the phasing of park improvements. To open the park, much effort has been expended on cleaning up the site to make it 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 pond with their future restored riparian areas once again will afford good habitat for fish passage and wildlife use, while providing access for a variety of recreational uses.

Initially, the park approach and entrance and any needed signs will be installed. Soon after initial day-use parking and restrooms will be provided. Initial overnight camping will be provided as soon as funding can allow. Trails expansion and improvements of existing service roads for trail use will occur as funding may allow. Some interpretation will be part of the park opening.

Summary of Proposed Recreation Activities and Amenities:

The following list describes future recreation activities and amenities that are proposed for the park:

- Biking and mountain biking
- Camping
  - Camper Cabins
  - Full hook-up sites
  - Hiker/Biker Camp
- Drinking water fountains
- Entrance gateway to park with photo opportunity area
- Evening programs
- Forest loop walks
- Long hikes (pending access to adjacent lands)
- Interpretation of Bates history and environment
- Interpretive events
- Meadow areas

- Native plant viewing
- Non-motorized boating
- Open field play
- Panoramic views of pond, valley, mountains
- Picnicking
- Restrooms
- RV sewerage dump station
- Short hikes around the pond with docks and access to pond edge
- Showers
- Special events (including biannual Friends of Bates meeting)
- Terrestrial mammal watching
- Warming huts
- Wildlife and bird watching
- Winter activities (potentially): Snowmobiling on adjacent lands, snowshoeing, cross country skiing

Major Design Concepts

Summary of Proposed Recreation Facilities

The following list of proposed facilities will be built over a period of years following the development of a phasing plan for the park and as funding allows.

- Central campground with up to 35 electrical/water hookup sites (maximum pad length 60 feet), RV dump station, restrooms and showers;
- Up to 12 camper cabins with restroom building and parking;
- A hiker/biker camp with restroom building and parking;

Design concept for entrance at Bates State Park (OPRD 2009).

- Lower pond day-Use area with parking (30 vehicles) and picnic shelter (accommodates 100 persons);
- Upper pond day-use area with parking (5 vehicles) and picnic shelter (accommodates 16 persons);
- Recreation access to pond with docks, loop trail, and limited parking (all universally accessible);
- Trails for hiking/biking/snowshoeing and limited cross country skiing and snowmobiling (7 miles total with numerous ¼ to 1 mile loops);
- Trail hub to connect with Warm Springs, US Forest Service and Sumpter Dredge Railroad Trail; and
- Small maintenance yard with shop.

Design Concepts by Area

Park Approach

The approach to the park, from Highways 26 and 7, will have the standard state park shield ¼ and ½ mile signs. Near the intersection of Highways 26 and 7 OPRD will work with ODOT to have a map and sign installed that can be read by vehicles pulling off of the road from either direction.

Park Entrance and Lower Pond Day Use Area

This area is in the former mill site. It has formerly been graded to create a mostly level surface except for the dam and channelized streams. The park entrance would be marked by a gateway and sign that enables the visitor to clearly recognize they are entering a state park with an interesting history behind it. The design of the entrance will pay tribute to the former town residents, mill workers and local residents who still greatly value this landscape. This design style will be carried throughout the park with buildings and structures forming a cohesive whole.

Current entrance at Bates State Park (OPRD 2009).

The day-use area would provide typical facilities you find at a state park including parking, restrooms and a picnic shelter. With 30 parking spaces, this area would be a hub from which to explore the park trails and connect with trails outside of the park. In the area of the picnic shelter orientation and interpretive panels will begin to tell the stories of the place and direct visitors to other areas and interpretive stops throughout the park. Around the day-use area there would be a wide variety of recreation activities to enjoy, including access to the major loop trails in the park. Bike rentals may be offered in the future if the park becomes a mountain bike hub for trails to adjacent Forest Service lands. Group picnicking would be provided for by a picnic shelter.

Roads	Rehab	Improve park entrance intersection with county road. Provide safe ingress and egress. Consider turning lane. Retain existing road alignment, but regrade and resurface with gravel.	Grant County approval Work with ODOT (scenic byway coordination) Wetland delineation needed around entrance road Work in wetland requires DSL and USACE permits (may trigger ESA consultation) 1200C storm water management permit and erosion sediment control plan
Entrance Monument	New	Add a new entrance structure to park that commemorates history of site Include gate in design for entrance	Explore possible Grant County requirements
Lower Picnic Shelter	New	Add new picnic shelter (1,600 sq ft) that can accommodate 100 people. The picnic shelter may be enclosed or partially enclosed, and will display interpretive materials.	County building permit County require 100' set back from creek 1200C storm water management permit and erosion sediment control plan
Picnic Areas	New	Create two outdoor, picnic table areas	
Restroom building	New	Add new toilet building, double vault style is recommended	County building permit 1200C storm water management permit and erosion sediment control plan
Bike rental and bike rack storage	New	Add bike rack. Add new bike rental structure. Provide bike lockers for road bike visitors and place to repair bikes. Bike rentals could include road bikes, cross-bikes and mountain bikes.	

Universal Access	New	Provide universal access to buildings. Provide universally accessible trail around day-use area Provide 3 universally accessible parking spaces in parking lot outlined below Provide universal access to pond Provide universal access ramps from side walks to road Add universally accessible orientation and interpretive signage	Explore possible Grant County requirements
Open Play Field	New	Create small, irrigated open space with lawn between campground and day use plaza.	
Parking Areas	New	Add new parking (30 spaces with 3 space for universal access parking)	Development approval by County County require 100' set back from creek DEQ permit Work in wetland requires DSL and USACE permits (may trigger ESA consultation)
Sidewalks	New	Add plaza around picnic shelter Add new sidewalks to and around bathroom from parking area	
Trails	New	Add small multiple use connecting trails between parking areas and other trails in park	
Site Furniture	New	Add drinking fountain near picnic shelter Add low stone wall Garbage receptacles	
Park Sign	New	Add park sign to plaza with space for visitors to take photo with sign	
Orientation Signs	New	Add signage including activities board, park rules, park map and direction signs	
Interpretive Signage	New	Add interpretive panels inside/outside picnic shelter	
Landscaping	New / Rehab	Restore riparian habitat along west edge of day-use area Open play field planted with turf grass and edge planted for screening Plant around building foundation to blend new structures with their surroundings Add planting islands to parking area and around plaza Create a semi-natural habitat around development area Use native tree and shrub species.	Explore possible Grant County requirements Work in wetland requires DSL and USACE permits Work in creek requires dechannelization permit working with ODFW, DSL and USACE Work with local Watershed Council Wetland delineation needed around entrance road

Bates Pond and Upper Pond Day Use Area

The pond affords excellent opportunities for recreational pursuits including a walk around the pond and non-motorized boating. The pond represents the last major feature of the former mill and town. As such, it is the last remaining cultural association that locals and former residents have with the site. This means the pond becomes the focus for reunions, families picnicking and other activities like walking, boating and wildlife watching. Improvements would be implemented to improve fish habitat. This would also improve the aesthetic appearance of the pond, with vegetation lining the now bare banks and trails replacing the wide dirt roads. Small docks and viewing terraces would provide access areas to the pond to protect the riparian edge.

A small day use area would be developed at the upper end of the pond, the Upper Pond Day-Use Area. This area is slightly raised and affords a good location for a small picnic shelter. Group use could be offered here. A limited number of parking spaces would be provided, five, with one reserved for ADA access only. The access to this area will be the gravel service road converted into a 10 to 12 foot wide hiking trail along the eastern edge of the pond.

View of Bates Pond looking Northeast (OPRD 2009).

Upper Picnic shelter	New	Add new picnic shelter (1,000 sq ft) (may be enclosed) that can accommodate up to 60 people.	County building permit 1200C storm water management permit and erosion sediment control plan
Picnic Areas	New	Add two new picnic areas Disperse picnic tables around pond in discrete locations and screen with landscaping if desired.	
Restroom building	New	Add single vault or composting toilet near upper picnic shelter	County building permit 1200C storm water management permit and erosion sediment control plan
Docks	New	Add non-motorized boat dock on east side of pond Add fishing dock on east side of pond	Explore possible Grant County requirements DSL and USACE approval Work with ODFW
Universal Access	New	Add universal access to picnic shelter and bathroom Provide universally accessible compatible loop trail around pond Provide 4 universally accessible parking spaces Provide universal access to boat and fishing dock	Explore possible Grant County requirements
Roads	Rehab	Rehabilitate road on east side of pond for one lane vehicular traffic with pullouts and hiking use to Upper Pond Day Use Area Add gates where needed	
Parking Areas	New	Add small parking area near dam (5 spaces with 1 universal access) Add small parking area near upper picnic shelter (5 spaces with 1 universal access)	Possible DEQ grading permit
Trails	Rehab / New	Rehab multiple use loop trail around pond Add small multiple use trail between pond and days use areas	
Orientation Signs	New	Add signage including activities board, park rules, park map and direction signs	
Site Furniture	New	Add drinking fountains near picnic shelter, if feasible Garbage receptacles Add low stone wall near picnic shelter	
Landscaping	New / Rehab	Restore riparian habitat along edge of pond Improve meadow habitat south of pond Improve fish habitat along lower slopes of hill and around pond Plant foundation plantings to blend new structures with surroundings	Explore possible Grant County requirements Work in pond requires dechannelization permit working with ODFW, DSL and USACE Work with local Watershed Council, ODFW and DEQ Work in wetland requires DSL permit

Campground and Maintenance Yard

The campground would accommodate up to 35 sites and may include a vault toilet or flush restroom with showers. There would also be a host site that can provide information and aid with registration for new arrivals. The camp sites would be about 75 feet on center, creating a quite compact loop. The campsite pads would be placed quite close together due to limited space for development within the riparian buffers. The campground would provide electricity and water. An RV dump station would be situated near the entrance road for campers to use when exiting the park. Currently the site is very open, but over time landscaping would provide shade and privacy screening.

The maintenance yard would be located opposite the campground entrance. The maintenance yard would include a small maintenance shop, staff parking and storage. Landscaping and fencing could screen the maintenance yard from the campground.

Campground			
Campsite Pads	New	Provide up to 35 pads with water and electrical hook ups at the sites or nearby. Place one pad next to campground entrance road to serve as host site.	Development approval by County Possible DEQ grading permit required Wetland delineation needed around entrance road Work in wetland requires DSL and USACE permits (may trigger ESA consultation) Work in wetland requires DSL and USACE permits
Restroom building	New	Add vault toilet or flush toilets and showers Add walkways around building	Development approval by County If work in wetland requires DSL and USACE permits Work in wetland requires DSL and USACE permits
RV Dump Station	New	Build station on south side of entrance road	Development approval by County Possible DEQ grading permit required
Drainfield	New	Construct drainfield in center of campground loop or as determined by Engineering	Development approval by County Possible DEQ grading permit required Work in wetland requires DSL and USACE permits
Site Furniture	New	Add tables and fire pits at camp sites and stones or log barriers to keep vehicles in parking spaces. Add gate at entrance to campground	
Orientation Signs	New	Add signage including activities board, park map, park rules and direction sign near bathroom at each camp loop.	

Roads	New	Make one-way campground road loop Add parking spaces in front of the bathrooms (5 spaces) Add parking spaces next to host site (2)	Development approval by County Possible DEQ grading permit required Wetland delineation needed around entrance road Work in wetland requires DSL and USACE permits (may trigger ESA consultation)
Trails	New	Add multi-use trail through campground and connect to Lower Pond Day Use Area, Creek Trail and Boulder Trail.	Development approval by County
Landscaping	Retain/ Rehab	Add designed meadow inside camping loops. Add native trees near perimeter of meadow to create naturalistic appearance and provide shade. Plant trees at campsites to provide shade for campers. Create sightlines from camp loop road to major restroom buildings by careful placement of vegetation. Add plantings between campsites and at restroom building. Retain existing native trees, shrubs, and ground cover where possible. Plant with natives where possible.	
Universal Access	New	Add at least 5 universal access campsites Provide 2 universally accessible parking spaces at restroom Add universal access to restrooms Provide universal access ramps from walkways to road Add universally accessible orientation and interpretive signage	Explore possible Grant County requirements
Maintenance Area			
Maintenance Yard	New	Build maintenance yard with storage building, with parking bay (4,000 sq ft) Portion of yard will require retaining wall to protect it from hillside Add gate at entrance to yard and secure perimeter with fencing	Explore possible Grant County requirements Possible DEQ grading permit required
Maintenance Buildings	New	Build small maintenance building with shop and space for staff use (600 sq ft)	Grant County building permit Possible DEQ grading permit required
Parking Areas	New	Add parking spaces as needed	
Landscaping	Retain/ New	Retain existing native trees, shrubs, and ground cover where possible Add new plantings to screen yard from entrance road and campground	

Design concept for shelter at Bates State Park (OPRD 2009).

Bates State Park (OPRD 2009).

Trails

The trails and viewpoint areas provide a series of short loops that will pass through a wide variety of terrain and habitats. They will be 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 viewpoints. Some new trails and viewpoints will be added and the existing ones will be redesigned to fit a park setting. The trails vary between a quarter of a mile to one mile in length. The total length of trail mileage in the park is approximately five miles. The majority of the trails are set aside for hiking, but mountain biking, cross country skiing, and limited snowmobiling access may also be offered on certain trails.

Regional Trail Connections

Lying between Umatilla and Wallowa-Whitman National Forests, the site has access to 400 miles of trails on both sides and a northern boundary that fronts a State Scenic Waterway segment of the Middle Fork of the John Day River. OPRD hopes to partner with the US Forest Service and the Confederated Tribes of the Warm Springs to provide regional trail connections that will allow for a wide variety of trail experiences including a potential trail link to Sumpter Dredge State Park and Prairie City.

Bates State Park can become a hub for trail activities in the region; providing a base for visitors to explore the surrounding waterways, valleys and rugged hills.

Creek Trail Loop

The trail parallels the Middle Fork and lower portion of Bridge Creek. It is a very flat trail that affords an excellent opportunity to get up close to the Middle Fork and view the riparian restoration projects that will help to improve fish habitat. The trail connects with the major day use area and is approximately 1 mile long and will take 30 minutes to hike. Efforts will be made to work with the Confederated Tribes of the Warm Springs to provide trail connections out of the park to their trails.

Meadow Trail

This trail is in the northwest corner of the park and traverses the steep hillside. It connects with the Creek Trail and Dixie Mountain Trail. The meadows are located on a bench at the hill top that affords a good view of the Middle Fork valley to the northeast. However, possibly one of the best views in the park is from the rock outcropping above the major day-use area. This view encompasses all of the pond, the former mill area and town site of Bates. It is the site where one of the well-known panoramic photos of Bates was taken. The Meadow Trail is approximately 1 mile long and traverses the steepest terrain in the park.

Pond Trail Loop

This flat trail encircles the pond and is approximately 0.6 miles long, and takes about 15 minutes to complete. This trail

will be built to accommodate universal access. The east side of the pond will provide the main recreation opportunities with access to the water and this section of trail will also double as the access road to the Upper Pond Day-Use Area. The west side of the pond will be more peaceful with more plantings creating fewer views out over the water. This trail affords a great opportunity to learn about the efforts to improve fish habitat and water quality in the area. A "bump out" on the bridge that will cross the fish ladder can be used to interpret this story.

Dixie Mountain Trail Loop

This trail is a mixture of steep grades and very flat sections as it crosses the meadow at the top of the hill. Passing though primarily Ponderosa pine, this quiet landscape affords the best view of Dixie Mountain. Despite its very close proximity to the pond, it feels like a much more remote landscape. The lower segment of the trail runs along the ridge of the west hill. This section of trail offers great views of the pond and affords good opportunities for bird watching. This trail connects with the Pond Trail at the north and south ends. A portion of this trail is a dirt road that can be used by cross country skiers and snowmobilers in winter. From this trail it will be possible to access the two Warming Huts. This trail is approximately 1 mile long and will take 30 minutes to hike. Efforts will be made to work with the US Forest Service to provide trail connections out of the park to their trails.

Boulder Trail

This trail encompasses the hill on the east side of the park. It takes visitors to the "boulder rock," a local landmark. From this rock there are panoramic views of the surrounding area including Dixie Mountain. The trail follows a gentle grade for the major portion, but there are some steep sections. This trail also connects with the Walk-in Camp and the Camping Cabins. The total length of the trail is approximately 0.75 miles.

Creek Trail Loop:	New	Hiking / cross country skiing /snowshoeing / wildlife viewing / snowmobiling (small segment) Develop a loop trail that follows the Middle Fork and Bridge Creek. Approximately 1 mile in length, the trail follows a very gentle grade. Is suitable for universal access Will require one or two pedestrian bridges depending upon design. Priority is to build bridge over fish ladder at the dam Provide link to trails on Warm Springs Property, if allowed Add interpretive and orientation signs where needed	Explore possible Grant County requirements Work with Confederated Tribes of Warm Springs on trail linkage
Meadow Trail:	New/ Rehab	Hiking / mountain biking / cross country skiing / snow shoeing/ snowmobiling / wildflower viewing Develop and rehab a segment of trail that connects with the Dixie Mt. Trail and the Creek Trail Approximately 1 mile in length the trail follows some flat sections, but also has a few very steep sections. It is not suitable for universal access Includes one viewpoint overlooking park May provide benches Add interpretive and orientation signs where needed	Explore possible Grant County requirements Work with US Forest Service on trail linkage
Pond Trail Loop:	New/ Rehab	Hiking / cross country skiing/snowshoeing Develop a loop trail around the pond that connects with both day-use areas and other trails Approximately 0.6 miles in length the trail is very flat. It is suitable for universal access. Provide trail signage that links Pond Trail to other hiking trails in park Add interpretige and orientation signs where needed	Explore possible Grant County requirements
Dixie Mt. Trail Loop:	New/ Rehab	Hiking / mountain biking / cross country skiing / snowshoeing / snowmobiling (small segment) Develop and rehab a loop trail that connects with the Dixie Mt. Trail and the Creek Trail Approximately 1 mile in length the trail follows some flat sections, but also has a few very steep sections. It is not suitable for universal access Includes two to four potential viewpoints overlooking the pond and out to the Dixie Mountain Add interpretive and orientation signs where needed	Explore possible Grant County requirements Work with US Forest Service on trail linkage
Boulder Trail:	New	Hiking / biking / cross country skiing / snowshoeing / snowmobiling: Develop and rehab a segment of trail that connects with the Pond Trail and Walk-in Camp Approximately 1 mile in length the trail follows some flat sections, but also has a few very steep sections. It is not suitable for universal access Includes two potential viewpoints overlooking pond and out to Dixie Mountain Benches where needed Add interpretive and orientation sign where needed	Explore possible Grant County requirements

Camping Cabins and Walk-in Camping

The parking for the Camping Cabins and Walk-in Camp will be located near the park entrance. Parking will be on a small bench on the hillside where there is space for a vault toilet and three camping cabins.

The other camping cabins will be spaced along the hillside above. Camping cabins are basic, two room, structures with heat and light. They have no foundations or plumbing. The Walk-in Camp is farther along the hillside, located in a dense section of forest. The farthest walk-in camp site is 550 feet from the parking lot and toilet building. Each site is designated by a fire ring and marker.

Project Description	Option	Concept	Reviews / Approvals
Camping Cabins	New	Provide up to 12 camping cabins. The camping cabins are basic structures with no foundations or plumbing. Most have just two rooms (320 sq ft) They can have heat and lighting.	County building permit
Restroom Building		Provide a vault or composting toilet building.	
Walk-in Camp	New	Add walk-in camp with up to 10 designated sites Install a small vault or composting toilet if the restroom at the parking lot is not use by walk-in campers. Provide service access to toilet.	
Orientation Signs	New	Add signage including activities board, park map, park rules and direction sign.	
Roads	Rehab	Rehab short road off entrance road to parking area	
Parking	New	Gravel parking for up to 22 spaces,, including 3 ADA	
Trails	New	Add small connector segments from camps and camping cabins to link with Boulder Trail	
Landscaping	Retain / Rehab	Retain existing native trees, shrubs, and ground cover where possible Add new plantings to screen campground and cabins from trail	
Universal Access	New	Provide 3 universally accessible cabins next to parking area Provide 3 universally accessible parking spaces Add universal access to restroom Add universally accessible orientation and interpretive signage	County building permit

Warming Huts

The warming huts will be located near the abandoned dynamite shack on the west side of the park. These huts will be very basic structures that can accommodate winter recreationalists, including snowmobilers, cross country skiers and snowshoers.

Project Description	Option	Concept	Reviews / Approvals
Warming Huts	New	Consider up to 3 camping cabins as warming huts. The warming huts are basic structures with no foundations or plumbing. They may have 3 or 4 sides (320 sq ft), heat and lighting Provide one stall composting or vault toilet and service access to toilet.	County building permit
Orientation Signs	New	Add signage including activities board, park map, park rules and direction sign.	
Trails	New	Add small connector segments from camps and camping cabins to link with Dixie Mt. Trail	
Landscaping	Retain / Rehab	Retain existing native trees, shrubs, and ground cover where possible Add new plantings to screen warming huts from trail	
Universal Access	New	Provide 1 universally accessible hut for those who may be riding snowmobiles.	County building permit

West end of Bates State Park (OPRD 2009).

Hillside above Bates Pond (OPRD 2009).

Hillside above Bates Pond (OPRD 2009).

Strategies for Park Interpretation: Chapter 11

Overview

The interpretive program describes the media used to communicate the desired themes and achieve the interpretive goals. Based on the primary theme "Transforming the Bates Mill site into a park offers a window onto the people who lived and worked there and the place," these initial concepts for interpretive media will be further developed in the interpretive plan, which will follow the master plan.

Interpretive Goals

- Spark appreciation for the history of Bates Town, Mill, and the Sumpter Valley Railroad.
- Increase awareness of hiking trails that provide opportunities for visitors to explore local natural resources and historic sites.
- Help visitors to understand that OPRD is working with several partner agencies to research the best options for anaging the Bridge Creek watershed.

Interpretive Media recommendations

Media are the means by which interpretive messages are delivered. This can include both programs presented by staff or volunteers and non-personal interpretation such as signs and brochures.

Top priority trails for interpretation are the Creek Trail around the campground, Meadow Trail, and Dixie Mountain Trail.

A total of ten interpretive/orientation panels are recommended spread across six locations. Interpretive panel locations were selected in regard to the best sites to view the resource being interpreted, and also to place the panels in areas least likely to be vandalized:

- The Meadow Trail could include two panels, one to interpret the town of Bates and one to tell the story of Bates Mill.
- An orientation panel featuring a map of the park and trails could be placed in the center of the campground loop in a kiosk. A brochure dispenser placed next to the orientation panel would offer the interpretive self-guided brochure.
- The picnic shelter in the day-use area could display three panels, one focused on orientation featuring a map of the park and trails, and two panels that tell the story of the town and mill. A brochure dispenser placed next to the orientation panel would offer the interpretive self-guided brochure.
- Just south of the picnic shelter on the low rock wall, two panels could interpret the restoration of the former mill site to the present day park.
- One panel could be located at the north end of the pond to interpret the fish ladder.
- One panel could be located along the east side of the current pond, to tell the story of how the pond was used in the mill operation and how the pond habitat has been restored. This can be located at one of the access points.

A self-guided interpretive brochure could be used on hikes for all three trails. There would not be any panels placed along the trails other than those noted above, just markers to indicate interpretive stops. The stops could be indicated by a Carsonite post, for example.

Other Options

- Occasionally OPRD staff from other parks could lead programs.
- Volunteers from the Friends group could lead programs. OPRD can provide interpretive training for those interested.
- 'GPS Ranger' type units used for interpretation on the trails. The host on site could pass out the units for use by the public. The GPS Ranger plays video and audio at selected sites identified by GPS. This would allow more use of the historic photos and other information researched by the Friends group. (A GPS Ranger is a hand-held portable device that can be taken on hikes.)

Land Use Compatibility and Permitting: Chapter 12

Overview

Development of the park uses and facilities described in this master plan is governed by Grant County under the provisions of the County's comprehensive plan. The County's comprehensive plan is acknowledged by the Land Conservation and Development Commission (LCDC) pursuant to the statewide land use goals, statutes and related administrative rules.

This master plan has been formulated through the master planning process described under OAR 736 Division 18 and OAR 660 Division 34. The master 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 Bates State Park Master Plan has been reviewed for local land use compatibility by Grant County planning staff. County staff confirmed that all of the planned park projects, as described in the Master Plan, may be permitted under the existing provisions of the County's plan and ordinance. The entire park is zoned "Primary Forest." Park uses described in the Master Plan are allowable as "Conditional Uses" in this zone under County Ordinance Article 65, section 65.050(E) "Parks and Campgrounds." The County's "Flood Hazard Combining Zone" overlays the "Primary Forest 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 County Ordinance Article 69.1 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 master 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, may vary from one project to another. The time required for completing the development permitting process may also vary, therefore, the project manager should consult with the local government planning department early enough to assure that the permitting process is completed prior to the target date for beginning construction. Prior to issuance of development permits for a project, the local government will review the project plans and specifications to assure that the project proposed for construction is consistent with the design concept and description of the project in the park master 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.

Appendices

Appendix A: 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 4, 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 Bates 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 B: Description of Mapped Plant Communities

Map Code and Community Composition

D Disturbed. Vegetation, when present, normally dominated by piornnering plant species. Mixture of species is normally skewed towards non-natives and noxious weeds.

F01 Ponderosa pine-lodgepole pine-western larch/Sitka or mountain alder-common snowberry/aster-bog orchid-star flowered false solomon's seal-western meadowrue-Columbian monkshood-willowherb-falsegold groundsel -bluegrass- Scouler's valerian-sedges- western Jacob's ladder-sweet scented bedstraw-largeleaf avens-western dock

Pinus ponderosa-Pinus contorta-Larix occidentalis/Alnus sinuata or incana-Symphoricarpos albus/Aster sp.-Platanthera leucostachys-Smilacena stellata-Thalictrum sp -Aconitum columbianum-Epilobium sp.- Senecio pseudaureus-Poa sp.- Valeriana scouleri- Carex spp.- Polemonium occidentale-Galium triflorum-Geum macrophyllum-Rumex occidentalis.

F02 Ponderosa pine-lodgepole pine-western larch/common snowberry-creeping oregongrape-birch spiraea(-kinnikinnick)/pinegrass-elk sedge-heartleaf arnica-Scouler's woollyweed-rosy pussytoes-Sierra pea-wormleaf stonecrop-Virginia strawberry-Nevada peavine(-tailcup lupine)

Pinus ponderosa-Pinus contorta-Larix occidentalis/Symphoricarpos albus-Berberis repens-Spiraea betulifolia(-Arctostaphylos uva-ursi)/Calamagrostis rubescens-Carex geyeri-Arnica cordifolia-Hieracium scouleri-Antennaria rosea-Lathyrus nevadensis-Sedum stenopetalum-Fragaria virginiana-Lathyrus lanszwertii (-Lupinus caudatus)

F03 Ponderosa pine-lodgepole pine-western larch/common snowberry-Woods' rose-birch spiraea(-grouse whortleberry)(-creeping oregongrape)/Sierra pea-woodland strawberry-elk sedge-great northern aster -northwest cinquefoil

Pinus ponderosa-Pinus contorta-Larix occidentalis/Symphoricarpos albus-Rosa woodsii-Spiraea betulifolia(-Vaccinium scoparium)(-Berberis repens)/Lathyrus nevadensis-Fragaria vesca-Carex geyeri-Aster modestus -Potentilla gracillis

F04 Ponderosa pine-lodgepole pine/common snowberry(-creeping oregongrape)/pinegrass-elk sedge-heartleaf arnica-tailcup lupine

Pinus ponderosa-Pinus contorta/Symphoricarpos albus(-Berberis repens)/Calamagrostis rubescens-Carex geyeri-Arnica cordifolia-Lupinus caudatus

F05 Ponderosa pine-lodgepole pine/common snowberry-creeping oregongrape-birch spiraea(-wax currant)(-chokecherry)(-golden currant)(-bitterbrush)/elk sedge-milk kelloggia-showy aster

Pinus ponderosa-Pinus contorta/Symphoricarpos albus-Berberis repens-Spiraea betulifolia(-Ribes cereum)(-Prunus virginiana)(-Ribes aureum)(-Purshia tridentata)/Carex geyeri-Kelloggia galioides-Aster conspicuus

F06 Ponderosa pine-lodgepole pine(-western larch)/(common snowberry)(grouse whortleberry)(-kinnikinnick)/pinegrass-elk sedge-tailcup lupine-heartleaf arnica-Scouler's woollyweed-creeping oregongrape-rosy pussytoes-common yarrow(-scarlet paintbrush)

Pinus ponderosa-Pinus contorta(-Larix occidentalis)/(Symphoricarpos albus)(Vaccinium scoparium)(-Arctostaphylos uva-ursi)/Calamagrostis rubescens-Carex geyeri-Lupinus caudatus-Arnica cordifolia-Hieracium scouleri-Berberis repens-Antennaria rosea-Achillea millefolium(-Castilleja miniata)

F07 Ponderosa pine/bitterbrush(-creeping oregongrape)/elk sedge-pinegrass-Sandberg's bluegrass-tailcup lupine-foothill deathcamas-yampah-pussytoes-slim larkspur -fall dandelion-Parry's knotweed-babystars-cheatgrass-California brome(-Scouler's woollyweed)(-Oregon sunshine)

Pinus ponderosa/Purshia tridentata(-Berberis repens)/Carex geyeri-Calamagrostis rubescens-Poa scabrella-Lupinus caudatus-Zigadenus paniculatus -Perideridia sp.-Antennaria spp.-Delphinium depauperatum-Leontodon autumnalis-Polygonum parryi-Linanthus sp. -Bromus tectorum-Bromus carinatus(-Hieracium scouleri)(-Eriophyllum lanatum)

F08 Lodgepole pine-ponderosa pine/(common snowberry)(-grouse whortleberry)/elk sedge-pinegrass-littleflower penstemon-kinnikinnick(-Virginia strawberry)(-Nevada peavine)(-Sierra pea)(-Columbia puccoon)(-showy frasera)(-common yarrow)(-northwest cinquefoil)

Pinus contorta-Pinus ponderosa/(Symphoricarpos albus)(-Vaccinium scoparium)/Carex geyeri-Calamagrostis rubescens-Penstemon procerus-Arctostaphylos uva-ursi(-Fragaria virginiana)(-Lathyrus lanszwertii)(-Lathyrus nevadensis)

(-Lithospermum ruderale)(-Frasera speciosa) (-Achillea millefolium)(-Potentilla gracillis)

F09 Ponderosa pine/bitterbrush(-creeping oregongrape)/ elk sedge-Sandberg's bluegrass-tailcup lupine-foothill deathcamas-yampah-pussytoes-slim larkspur -fall dandelion-Parry's knotweed-babystars-cheatgrass-California brome(-Scouler's woollyweed) (-Oregon sunshine)

Pinus ponderosa/Purshia tridentata(-Berberis repens)/Carex geyeri-Poa scabrella-Lupinus caudatus-Zigadenus paniculatus -Perideridia sp.-Antennaria spp.-Delphinium depauperatum-Leontodon autumnalis-Polygonum parryi-Linanthus sp. -Bromus tectorum-Bromus carinatus(-Hieracium scouleri)(-Eriophyllum lanatum)

F10 Ponderosa pine/(bitterbrush)(-common snowberry)(-birch spiraea)(-creeping oregongrape) (-kinnikinnick)/elk sedge-tailcup lupine-Nevada peavine-longleaf fleabane (-pussytoes)(-pinegrass) (-western needlegrass)(-cheatgrass)(-California brome)(-Oregon sunshine)(-Columbia puccoon)

Pinus ponderosa/(Purshia tridentata) (-Symphoricarpos albus)(-Spiraea betulifolia) (-Berberis repens)(-Arctostaphylos uva-ursi)/Carex geyeri-Lupinus caudatus-Lathyrus lanszwertii -Erigeron corymbosus(-Antennaria spp.) (-Calamagrostis rubescens)(-Stipa occidentalis)(-Bromus tectorum)(-Bromus carinatus) (-Eriophyllum lanatum)(-Lithospermum ruderale)

F11 Ponderosa pine(-lodgepole pine)(-western larch)/ (common snowberry)(bitterbrush)(wax currant)/ grasses-woodland strawberry-northwest cinquefoil-small burnet-pussytoes

Pinus ponderosa(-Pinus contorta)(-Larix occidentalis)/(Symphoricarpos albus)(Purshia tridentata)(Ribes cereum)/grasses-Fragaria vesca-Potentilla gracillis-Sanguisorba minor-Antennaria spp.

F12 Ponderosa pine/bitterbrush(-common snowberry)/ elk sedge-Idaho fescue-tailcup lupine-Sierra pea-common yarrow-Sandberg's bluegrass

Pinus ponderosa/Purshia tridentata(-Symphoricarpos albus)/Carex geyeri-Festuca idahoensis-Lupinus caudatus-Lathyrus nevadensis-Achillea millefolium-Poa scabrella

F13 Lodgepole pine-ponderosa pine/common snowberry/[tailcup lupine-pinegrass][pinegrass-showy aster]

Pinus contorta-Pinus ponderosa/Symphoricarpos albus/[Lupinus caudatus-Calamagrostis rubescens] [Calamagrostis rubescens-Aster conspicuus]

F14 Lodgepole pine/(common snowberry) (grouse whortleberry)(creeping oregongrape) (-kinnikinnick)/pinegrass-heartleaf arnica(-common yarrow)(-tailcup lupine)

Pinus contorta/(Symphoricarpos albus)(Vaccinium scoparium)(Berberis repens)(-Arctostaphylos uva-ursi)/Calamagrostis rubescens-Arnica cordifolia(-Achillea millefolium)(-Lupinus caudatus)

F15 Lodgepole pine-ponderosa pine-western larch/ common snowberry-creeping oregongrape(-kinnikinnick)/pinegrass-heartleaf arnica-pearly pussytoes-Virginia strawberry(-tailcup lupine)

Pinus contorta-Pinus ponderosa-Larix occidentalis/ Symphoricarpos albus-Berberis repens(-Arctostaphylos uva-ursi)/Calamagrostis rubescens-Arnica cordifolia-Antennaria anaphaloides-Fragaria virginiana(-Lupinus caudatus)

F16 Lodgepole pine-ponderosa pine-western larch(-grand/white fir)/grouse whortleberry(-common snowberry)(-creeping oregongrape)(-kinnikinnick)/ elk sedge-pinegrass-Sierra pea-common yarrow-rosy pussytoes(-strawberry)(-heartleaf arnica)(-Scouler's woollyweed)(-small penstemon)

Pinus contorta-Pinus ponderosa-Larix occidentalis(-Abies grandis/concolor)/Vaccinium scoparium(-Symphoricarpos albus)(-Berberis repens)(-Arctostaphylos uva-ursi)/Carex geyeri-Calamagrostis rubescens-Lathyrus nevadensis-Achillea millefolium-Antennaria rosea(-Fragaria spp.)(-Arnica cordifolia)(-Hieracium scouleri) (-Penstemon attenuatus)

F17 Lodgepole pine-western larch-ponderosa pine/ (common snowberry)(-grouse whortleberry) (-kinnikinnick)/[pinegrass-elk sedge-heartleaf arnica-Nevada peavine-Virginia strawberry-Sierra pea][pinegrass-heartleaf arnica-creeping oregongrape-pearly pussytoes-showy aster] [heartleaf arnica-Sierra pea-birch spiraea]

Pinus contorta-Larix occidentalis-Pinus onderosa/ (Symphoricarpos albus)(-Vaccinium scoparium) (-Arctostaphylos uva-ursi)/[Calamagrostis rubescens-Carex geyeri-Arnica cordifolia-Lathyrus lanszwertii -Fragaria virginiana-Lathyrus nevadensis][Calamagrostis rubescens-Arnica cordifolia-Berberis repens-Antennaria anaphaloides-Aster conspicuus] [Arnica cordifolia-Lathyrus nevadensis-Spiraea betulifolia]

F18 Lodgepole pine(-ponderosa pine)(-western larch)/ common snowberry(-grouse whortleberry)/ pinegrass-elk sedge-heartleaf arnica

Pinus contorta(-Pinus ponderosa)(-Larix occidentalis)/Symphoricarpos albus(-Vaccinium scoparium)/Calamagrostis rubescens-Carex geyeri-Arnica cordifolia

F19 Lodgepole pine-ponderosa pine/[channel bottom: small fruited bulrush-swordleaf rush-common monkeyflower-bog St. John's wort-canada goldenrod-Nebraska sedge-bay forget me not-field mint(-California false hellebore)(-pacific bedstraw)] [banks: /(common snowberry)/canada goldenrod-northwest cinquefoil]

Pinus contorta-Pinus ponderosa/[channel bottom: Scirpus microcarpus-Juncus ensifolius-Mimulus guttatus-Hypericum anagaloides-Solidago canadensis-Carex nebrascensis-Myosotis laxa-Mentha arvensis(-Veratrum californicum)(-Galium cymosum)] [banks: /(Symphoricarpos albus)/ Solidago canadensis-Potentilla gracillis]

F20 [Ponderosa pine/bitterbrush-creeping oregongrape-common snowberry/elk sedge-Sandberg's bluegrass-tailcup lupine-scabland penstemon-Nevada peavine-Scouler's woollyweed-common yarrow-lambstongue groundsel-smallflower woodlandstar -California brome-spreading groundsmoke-smallflower blue eyed mary] & [below top: ponderosa pine/birch spiraea/-elk sedge-Nevada peavine-creeping oregongrape(-tailcup lupine)]

[Pinus ponderosa/Purshia tridentata/Carex geyeri-Poa scabrella-Berberis repens-Lupinus caudatus-Symphoricarpos albus-Penstemon deustus-Lathyrus lanszwertii -Hieracium scouleri-Achillea millefolium-Senecio integerrimus-Lithophragma parviflorum -Bromus carinatus-Gayophytum diffusum-Collinsia parviflora] & [below top: Pinus ponderosa/Spiraea betulifolia/-Carex geyeri-Lathyrus lanszwertii -Berberis repens(-Lupinus caudatus)]

F21 [Ponderosa pine-lodgepole pine-western larch/ common snowberry(-grouse whortleberry) (-creeping oregongrape)/Sierra pea-woodland strawberry-elk sedge] to [ponderosa pine(-douglas-fir)/Sierra pea-pearly pussytoes-elk sedge-tailcup lupine(-great northern aster)(-heartleaf arnica) at extreme NW- last 50']

[Pinus ponderosa-Pinus contorta-Larix occidentalis/ Symphoricarpos albus(-Vaccinium scoparium) (-Berberis repens)/Lathyrus nevadensis-Fragaria vesca-Carex geyeri] to [Pinus ponderosa(-Pseudotsuga menziesii)/Lathyrus nevadensis-Antennaria anaphaloides-Carex geyeri-Lupinus caudatus(-Aster modestus)(-Arnica cordifolia) at extreme NW- last 50']

F22 Peachleaf willow-ponderosa pine-lodgepole pine-Englemann spruce/Kentucky bluegrass-yellow toadflax-weedy grasses

F23 [Ponderosa pine-lodgepole pine/bitterbrush-common snowberry (-creeping oregongrape) (-kinnikinnick)/elk sedge-pinegrass-Sandberg's bluegrass-Sierra pea-tailcup lupine(-heartleaf arnica) (-pussytoes)(-prairie junegrass)(-California brome)] with patches of [ponderosa pine/bitterbrush/elk sedge-Sandberg's bluegrass-tailcup lupine-pussytoes-fall dandelion-Parry's knotweed-babystars]

[Pinus ponderosa-Pinus contorta/Purshia tridentata-Symphoricarpos albus (-Berberis repens)(-Arctostaphylos uva-ursi)/Carex geyeri-Calamagrostis rubescens -Poa scabrella-Lathyrus nevadensis-Lupinuscaudatus(-Arnica cordifolia) (-Antennaria spp.)(-Koeleria macrantha)(-Bromus carinatus)] with patches of [Pinus ponderosa/ Purshia tridentata/Carex geyeri-Poa scabrella-Lupinus caudatus-Antennaria spp.-Leontodon autumnalis-Polygonum parryi-Linanthus sp.]

H01 Sedges-lowland cudweed-common teasel-Baltic rush-bluegrass

Carex spp.-Gnaphalium palustre-Dipsacus fullonum-Juncus balticus-Poa sp.

H02 [Yellow toadflax-Canada goldenrod-wheatgrass-tarweed-cheatgrass][woolly sedge][willows-golden currant-black twinberry][woolly sedge-Oregon checkermallow-common yarrow-aster-lowland cudweed-Baltic rush-meadow foxtail-field pennycress(-penstemon)(-northwest cinquefoil) (-canada goldenrod)(-Kentucky bluegrass)

[Linaria vulgaris-Solidago canadensis-Agropyron sp.-Madia sp.-Bromus tectorum][Carex pellita] [Salix spp.-Ribes aureum-Lonicera involucrata] [Carex pellita-Sidalcea oregana-Achillea millefolium-Aster sp.-Gnaphalium palustre-Juncus balticus-Alopecurus pratensis-Thlaspi arvense(-Penstemon sp.)(-Potentilla gracillis)(-Solidago canadensis)(-Poa pratense)

H03 (Willows)(golden currant)(Sitka or mountain alder)/[short beak sedge-Nebraska sedge-woolly sedge-bay forget me not-aster-western water hemlock -creeping spikerush(-canada goldenrod)] [Baltic rush-Nebraska sedge][reed canarygrass]

(Salix spp.)(Ribes aureum)(Alnus sinuata or incana)/[Carex simulata-Carex nebrascensis-Carex pellita-Myosotis laxa-Aster sp.-Cicuta douglasii-Eleocharis palustris(-Solidago canadensis)][Juncus balticus-Carex nebrascensis][Phalaris arundinacea]

H04 Lodgepole pine seedlings/common mullein-scabland penstemon-orchardgrass-dalmatian toadflax-hard fescue

Pinus contorta seedlings/Verbascum thapsus-Penstemon deustus-Dactylis glomerata-Linaria dalmatica-Festuca trachyphylla

H05 Rubber rabbitbrush/scabland penstemon-weeds-common yarrow-bottlebrush squirreltail-smooth horsetail-oxeye daisy-common teasel-chess-wheatgrass-butterweed groundsel-curley dock-dalmatian toadflax

Chrysothamnus nauseosus/Penstemon deustus-weeds-Achillea millefolium-Sitanion hystrix-Equisetum laevigatum-Chrysanthemum leucanthemum-Dipsacus fullonum-Bromus secalinus-Agropyron sp.-Senecio serra var. serra-Rumex crispus-Linaria dalmatica

H06 Wheatgrass-meadow foxtail-common mullein-bluegrasses-canada thistle-fiddleneck-woolly sedge-Chilean tarweed

Agropyron sp.-Alopecurus pratensis-Verbascum thapsus-Poa spp.-Cirsium arvense-Amsinckia sp.-Carex (pellita)-Madia sativa

H07 [(Common snowberry)/western needlegrass-onespike oatgrass-Sandberg's bluegrass-foothill deathcamas-yampah] & [bigpod mariposa lily-common yarrow-prairie junegrass-Oregon sunshine-pussytoes-tailcup lupine]

[(Symphoricarpos albus)/Stipa occidentalis -Danthonia unispicata-Poa scabrella-Zigadenus paniculatus -Perideridia sp.] & [Calochortus eurycarpus-Achillea millefolium-Koeleria macrantha-Eriophyllum lanatum-Antennaria spp.-Lupinus caudatus]

H08 Prairie junegrass-Sandberg's bluegrass-cheatgrass-common yarrow-bigpod mariposa lily-spreading groundsmoke-Oregon sunshine-Oregon checkermallow-onespike oatgrass-longleaf fleabane -rosy pussytoes-pussytoes (-foothill deathcamas-yampah-Great Basin navarretia-babystars)

Koeleria macrantha-Poa scabrella-Bromus tectorum-Achillea millefolium-Calochortus eurycarpus-Gayophytum diffusum-Eriophyllum lanatum-Sidalcea oregana-Danthonia unispicata-Erigeron corymbosus-Antennaria rosea-Antennaria spp. (-Zigadenus paniculatus -Perideridia sp.-Navarretia intertexta-Linanthus sp.)

H09 Baltic rush-woolly sedge-wheatgrass-hooked buttercup

Juncus balticus-Carex pellita-Agropyron sp.-Ranunculus uncinatus

H10 Baltic rush-meadow foxtail-fowl bluegrass-common yarrow-sedges-rattail fescue-narrowleaf minerslettuce -bulbous bluegrass

Juncus balticus-Alopecurus pratensis-Poa palustris-Achillea millefolium-Carex spp.-Vulpia bromoides-Montia linearis-Poa bulbosa

H11 [Sandberg's bluegrass-alpine alumroot-Polytrichum moss][pearly pussytoes-Sandberg's bluegrass-Wheeler's bluegrass-alpine alumroot]

[Poa scabrella-Heuchera cylindrica-Polytrichum sp. SP][Antennaria anaphaloides-Poa scabrella-Poa nervosa-Heuchera cylindrica]

H12 Formerly developed disturbed site: diverse ruderal species

H13 Woolly sedge-meadow foxtail-tiny mousetail-popcorn flower-spikerush

Carex pellita-Alopecurus pratensis-Myosurus minimus-Plagiobothrys sp.-Eleocharis sp.

H14 Ruderal Weeds. Disturbed and weedy. Probably upland.

H15 Bitterbrush(-creeping oregongrape)/elk sedge-Sandberg's bluegrass-tailcup lupine-foothill deathcamas-Bolander's yampah-largeflower triteleia-Oregon checkermallow-bigpod mariposa lily-pussytoes-fall dandelion-Parry's knotweed-babystars-cheatgrass-California brome(-Scouler's woollyweed)(-Oregon sunshine)

Purshia tridentata(-Berberis repens)/Carex geyeri-Poa scabrella-Lupinus caudatus-Zigadenus paniculatus -Perideridia bolanderi-Brodiaea douglasii -Sidalcea oregana-Calochortus eurycarpus-Antennaria spp.-Leontodon autumnalis-Polygonum parryi-Linanthus sp. -Bromus tectorum-Bromus carinatus(-Hieracium scouleri)(-Eriophyllum lanatum)

H16 Western needlegrass-Sandberg's bluegrass-tailcup lupine-elk sedge-pinegrass-longleaf fleabane -cheatgrass-prairie junegrass-common yarrow-pussytoes-bigpod mariposa lily-twin arnica

Stipa occidentalis -Poa scabrella-Lupinus caudatus-Carex geyeri-Calamagrostis rubescens-Erigeron corymbosus-Bromus tectorum-Koeleria macrantha-Achillea millefolium-Antennaria spp.-Calochortus eurycarpus-Arnica sorori

H17 Sandberg's bluegrass-dwarf yellow fleabane-threadleaf sedge-yampah-parsnipflower buckwheat-California brome-western needlegrass-bluebunch wheatgrass-Oregon checkermallow-arrowleaf balsamroot-Parry's knotweed-wormleaf stonecrop-bottlebrush squirreltail(-twin arnica)(-elk sedge)(-bigpod mariposa lily)(-tailcup lupine)

Poa scabrella-Erigeron chrysopsidis-Carex filifolia-Perideridia sp.-Eriogonum heracleoides-Bromus carinatus-Stipa occidentalis -Agropyron spicatum-Sidalcea oregana-Balsamorhiza sagittata-Polygonum parryi-Sedum stenopetalum-Sitanion hystrix(-Arnica sororia)(-Carex geyeri)(-Calochortus eurycarpus)(-Lupinus caudatus)

Broad flat-topped ridge with evidence of vernal pooling: muddy cracked areas with Navarettia, Linanthus. Calochortus peters out at transition from poly 47, but persists along shaded edge with poly 49. Same with tailcup lupine. One vernal pool area has annual hairgrass.

H18 (Sitka or mountain alder)/smooth brome-canada thistle-common teasel-Kentucky bluegrass-littlefoot nemophila -northwest cinquefoil-canada goldenrod-common yarrow-field pennycress-common mullein-sedges-Baltic rush

(Alnus sinuata or incana)/Bromus inermis-Cirsium arvense-Dipsacus fullonum-Poa pratense-Nemophila pedunculata-Potentilla gracillis-Solidago canadensis-Achillea millefolium-Thlaspi arvense-Verbascum thapsus-Carex spp.-Juncus balticus

H19 Bitterbrush(-common snowberry)/cheatgrass-dwarf yellow fleabane-elk sedge-Idaho fescue-bluebunch wheatgrass-yampah-wormleaf stonecrop-babystars-western needlegrass-common yarrow-crested wheatgrass-prairie junegrass

Purshia tridentata(-Symphoricarpos albus)/Bromus tectorum-Erigeron chrysopsidis-Carex geyeri-Festuca idahoensis-Agropyron spicatum-Perideridia sp.-Sedum stenopetalum-Linanthus sp. -Stipa occidentalis -Achillea millefolium-Agropyron cristatum-Koeleria macrantha

H20 (Sitka or mountain alder-golden currant-willows)/(common snowberry)/wheatgrass-meadow foxtail-oxeye daisy-canada goldenrod-common mullein-California false hellebore

(Alnus sinuata or incana-Ribes aureum-Salix spp.)/(Symphoricarpos albus)/Agropyron sp.-Alopecurus pratensis-Chrysanthemum leucanthemum-Solidago canadensis-Verbascum thapsus-Veratrum californicum

H21 Peachleaf willow/woolly sedge-meadow foxtail-Kentucky bluegrass-largeleaf avens-popcorn flower-tiny mousetail-field mint-Baltic rush-small fruited bulrush

Salix amygdaloides/Carex pellita-Alopecurus pratensis-Poa pratense-Geum macrophyllum-Plagiobothrys sp.-Myosurus minimus-Mentha arvensis-Juncus balticus-Scirpus microcarpus

H22 (Ponderosa pine)/bitterbrush(-common snowberry)/Idaho fescue-Sandberg's bluegrass-elk sedge-tailcup lupine-wormleaf stonecrop-longleaf fleabane -western needlegrass-babystars-spreading groundsmoke-common yarrow

(Pinus ponderosa)/Purshia tridentata(-Symphoricarpos albus)/Festuca idahoensis-Poa scabrella-Carex geyeri-Lupinus caudatus-Sedum stenopetalum-Erigeron corymbosus-Stipa occidentalis -Linanthus sp. -Gayophytum diffusum-Achillea millefolium

H23 Small fruited bulrush-Baltic rush-common monkeyflower-swordleaf rush-sedges

Scirpus microcarpus-Juncus balticus-Mimulus guttatus-Juncus ensifolius-Carex spp.

H24 [Southern beaked sedge-lakeshore sedge-Nebraska sedge-thick headed sedge-small fruited bulrush-Great Basin navarretia-lowland cudweed-tiny mousetail] & [common teasel-Great Basin navarretia-lowland cudweed-silverleaf phacelia-wheatgrass-bottlebrush squirreltail-littleflower penstemon-canada thistle-common yarrow-sheepsorrel-cheatgrass-smooth horsetail-hairy evening primrose-yellow sweetclover-scabland penstemon-Oregon checkermallow]

[Carex utriculata-Carex lenticularis-Carex nebrascensis-Carex pachystachya-Scirpus microcarpus-Navarretia intertexta-Gnaphalium palustre-Myosurus minimus] & [Dipsacus fullonum-Navarretia intertexta-Gnaphalium palustre-Phacelia hastata-Agropyron sp.-Sitanion hystrix-Penstemon procerus-Cirsium arvense-Achillea millefolium-Rumex acetosella-Bromus tectorum-Equisetum laevigatum-Oenothera villosa-Melilotus officinale-Penstemon deustus-Sidalcea oregana]

H25 (Ponderosa pine-lodgepole pine)/(common snowberry)(creeping oregongrape)(wax currant)(birch spiraea)(Woods' rose)(bitterbrush)(black twinberry)/Kentucky bluegrass-elk sedge-bottlebrush squirreltail-Oregon sunshine-cheatgrass-smooth horsetail-Chilean tarweed-common yarrow-scabland penstemon-northwest cinquefoil-bigflower agoseris

(Pinus ponderosa-Pinus contorta)/(Symphoricarpos albus)(Berberis repens)(Ribes cereum)(Spiraea betulifolia)(Rosa woodsii)(Purshia tridentata)(Lonicera involucrata)/Poa pratense-Carex geyeri-Sitanion hystrix-Eriophyllum lanatum-Bromus tectorum-Equisetum laevigatum-Madia sativa-Achillea millefolium-Penstemon deustus-Potentilla gracillis-Agoseris grandiflora

H26 Cattail

Typha latifolia

cattail monoculture

H27 (Bitterbrush)/parsnipflower buckwheat-pussytoes-Sandberg's bluegrass-wormleaf stonecrop-spreading groundsmoke-babystars-hairy brome-common yarrow-wallflower phoenicaulis-bottlebrush squirreltail-dwarf yellow fleabane-Oregon sunshine-onespike oatgrass-Oregon checkermallow-California brome

(Purshia tridentata)/Eriogonum heracleoides-Antennaria spp.-Poa scabrella-Sedum stenopetalum-Gayophytum diffusum-Linanthus sp. -Bromus commutatus-Achillea millefolium-Phoenicaulis cheiranthoides-Sitanion hystrix-Erigeron chrysopsidis-Eriophyllum lanatum-Danthonia unispicata-Sidalcea oregana-Bromus carinatus

H28 [(Bebb willow-coyote willow)/Baltic rush-southern beaked sedge-short beak sedge] & [southern beaked sedge-short beak sedge-Nebraska sedge] & [Nebraska sedge-common purslane-field mint-willowherb] & [Baltic rush-common purslane-willowherb-field mint]

[(Salix bebbiana-Salix exigua)/Juncus balticus-Carex utriculata-Carex simulata] & [Carex utriculata-Carex simulata-Carex nebrascensis] & [Carex nebrascensis-Portulaca oleracea-Mentha arvensis-Epilobium sp.] & [Juncus balticus-Portulaca oleracea-Epilobium sp.-Mentha arvensis]

H29 (Ponderosa pine-lodgepole pine)/common snowberry-creeping oregongrape(-bitterbrush)/Sandberg's bluegrass-elk sedge-tailcup lupine-spreading groundsmoke-Scouler's woollyweed-scarlet paintbrush-littleflower penstemon-Sierra pea-rosy pussytoes-wormleaf stonecrop-common yarrow-Oregon silene-Parry's knotweed

(Pinus ponderosa-Pinus contorta)/Symphoricarpos albus-Berberis repens(-Purshia tridentata)/Poa scabrella-Carex geyeri-Lupinus caudatus-Gayophytum diffusum-Hieracium scouleri-Castilleja miniata-Penstemon procerus-Lathyrus nevadensis-Antennaria rosea-Sedum stenopetalum-Achillea millefolium-Silene oregana-Polygonum parryi

H30 Common snowberry/northwestern sedge -western needlegrass-tailcup lupine-common yarrow-Sandberg's bluegrass-bottlebrush squirreltail-orchardgrass-Oregon sunshine-spreading groundsmoke-penstemon

Symphoricarpos albus/Carex concinnoides-Stipa occidentalis -Lupinus caudatus-Achillea millefolium-Poa scabrella-Sitanion hystrix-Dactylis glomerata-Eriophyllum lanatum-Gayophytum diffusum-Penstemon sp.

H31 [Wet meadow portion: Baltic rush-sedges-aster-woolly sedge-largeleaf avens(-canada thistle)] & [shrubland: Sitka or mountain alder-yellow willow-currant/sedges-cattail-star flowered false solomon's seal-western meadowrue-largeleaf avens]

[wet meadow portion: Juncus balticus-Carex spp.-Aster sp.-Carex pellita-Geum macrophyllum(-Cirsium arvense)] & [shrubland: Alnus sinuata or incana-Salix lutea-Ribes sp./Carex spp.-Typha latifolia-Smilacena stellata-Thalictrum sp. -Geum macrophyllum]

H32 (Sitka or mountain alder)(yellow willow)(black twinberry)(mallow ninebark)/sedges-great northern aster -largeleaf avens-cow parsnip-field horsetail-California false hellebore-musk monkeyflower-Baltic rush-western meadowrue-hooked buttercup-wintercress(-cattail)

(Alnus sinuata or incana)(Salix lutea)(Lonicera involucrata)(Physocarpus malvaceus)/Carex spp.-Aster modestus -Geum macrophyllum-Heracleum lanatum-Equisetum arvense-Veratrum californicum-Mimulus moschatus-Juncus balticus-Thalictrum sp. -Ranunculus uncinatus-Barbarea orthoceras(-Typha latifolia)

H33 Rubber rabbitbrush-wax currant-common snowberry-creeping oregongrape/scabland penstemon-silverleaf phacelia-elk sedge-bottlebrush squirreltail-bromes-rattail fescue-dalmatian toadflax(-butterweed groundsel)

Chrysothamnus nauseosus-Ribes cereum-Symphoricarpos albus-Berberis repens/Penstemon deustus-Phacelia hastata-Carex geyeri-Sitanion hystrix-Bromus spp.-Vulpia bromoides-Linaria dalmatica(-Senecio serra var. serra)

H34 Common snowberry-bitterbrush/Sandberg's bluegrass-bluebunch wheatgrass-cheatgrass-common yarrow(-elk sedge)-tall annual willowherb-whitestem blazingstar-scabland penstemon-bottlebrush squirreltail(-tailcup lupine)(-spreading groundsmoke)(-longleaf fleabane)(-Columbia puccoon)

Symphoricarpos albus-Purshia tridentata/Poa scabrella-Agropyron spicatum-Bromus tectorum-Achillea millefolium(-Carex geyeri)-Epilobium paniculatum -Mentzelia albicaulis-Penstemon deustus-Sitanion hystrix(-Lupinus caudatus) (-Gayophytum diffusum)(-Erigeron corymbosus) (-Lithospermum ruderale)

H35 [(Bebb willow-coyote willow)/Baltic rush-southern beaked sedge-short beak sedge] & [southern beaked sedge-short beak sedge-Nebraska sedge] & [Nebraska sedge-common purslane-field mint-willowherb] & [Baltic rush-common purslane-willowherb-field mint]

[(Salix bebbiana-Salix exigua)/Juncus balticus-Carex utriculata-Carex simulata] & [Carex utriculata-Carex simulata-Carex nebrascensis] & [Carex nebrascensis-Portulaca oleracea-Mentha arvensis-Epilobium sp.] & [Juncus balticus-Portulaca oleracea-Epilobium sp.-Mentha arvensis]

N Open water

S01 (Bitterbrush-common snowberry-chokecherry)/Sandberg's bluegrass-bottlebrush squirreltail-cheatgrass-creeping oregongrape-tall tumblemustard(-parsnipflower buckwheat-elk sedge-common yarrow-wax currant-scabland penstemon-birch spiraea-spreading groundsmoke-black twinberry-Columbia puccoon-chokecherry-whitestem blazingstar-miner's lettuce -slender phlox)

(Purshia tridentata-Symphoricarpos albus-Prunus virginiana)/Poa scabrella-Sitanion hystrix-Bromus tectorum-Berberis repens-Sisymbrium altissimum(-Eriogonum heracleoides-Carex geyeri-Achillea millefolium-Ribes cereum-Penstemon deustus-Spiraea betulifolia-Gayophytum diffusum-Lonicera involucrata-Lithospermum ruderale-Prunus virginiana-Mentzelia albicaulis-Montia perfoliata-Microsteris gracilis)

S02 Rubber rabbitbrush-bitterbrush/grasses

Chrysothamnus nauseosus-Purshia tridentata/grasses

S03 Willows-common snowberry/woolly sedge

Salix spp.-Symphoricarpos albus/Carex pellita

S04 Sitka or mountain alder-yellow willow-coyote willow(-black twinberry)/short beak sedge-southern beaked sedge-Nebraska sedge-small fruited bulrush-Canada thistle-largeleaf avens-common teasel-creeping buttercup-great northern aster -Baltic rush-watercress-common monkeyflower-lesser duckweed-western Jacob's ladder-bog St. John's wort-peppermint

Alnus sinuata or incana-Salix lutea-Salix exigua(-Lonicera involucrata)/Carex simulata-Carex utriculata-Carex nebrascensis-Scirpus microcarpus-Cirsium arvense-Geum macrophyllum-Dipsacus fullonum-Ranunculus repens-Aster modestus -Juncus balticus-Rorippa nasturtium aquaticum-Mimulus guttatus-Lemna minor-Polemonium occidentale-Hypericum anagaloides-Mentha x piperita

S05 Rubber rabbitbrush-common snowberry-creeping oregongrape/bottlebrush squirreltail-weedy grasses

Chrysothamnus nauseosus-Symphoricarpos albus-Berberis repens/Sitanion hystrix-weedy grasses

S06 Common snowberry-golden currant-wax currant(-birch spiraea)(-willow)/wheatgrass-canada goldenrod-field horsetail-sedges

Symphoricarpos albus-Ribes aureum-Ribes cereum(-Spiraea betulifolia)(-Salix sp.)/Agropyron sp.-Solidago canadensis-Equisetum arvense-Carex spp.

S07 (Ponderosa pine-lodgepole pine)/Sitka or mountain alder-willows(-black twinberry)(-birch spiraea) (-common snowberry)/small fruited bulrush-field horsetail-canada goldenrod-woolly sedge-Nebraska sedge-lakeshore sedge(-bittersweet nightshade) (-western water hemlock)(-Aster sp.)(-cattail) (-creeping spikerush)

(Pinus ponderosa-Pinus contorta)/Alnus sinuata or incana-Salix spp.(-Lonicera involucrata) (-Spiraea betulifolia)(-Symphoricarpos albus)/Scirpus microcarpus-Equisetum arvense-Solidago canadensis-Carex pellita-Carex nebrascensis-Carex lenticularis(-Solanum dulcamara)(-Cicuta douglasii) (-Aster sp.)(-Typha latifolia)(-Eleocharis palustris)

S08 [North end: Sitka or mountain alder-coyote willow-Bebb willow-black twinberry-common snowberry/Baltic rush-bluegrasses-Canada goldenrod-largeleaf avens(-California false hellebore)(-western Jacob's ladder)(-small fruited bulrush)] & [Sitka or mountain alder-coyote willow-Bebb willow-black twinberry-common snowberry/Baltic rush-canada thistle-Kentucky bluegrass(-California false hellebore)-largeleaf avens-yellow toadflax(-Oregon saxifrage)-falsegold groundsel -cinquefoils-canada goldenrod] & [Sitka or mountain alder(-black twinberry)/short beak sedge-southern beaked sedge-Nebraska sedge-western water hemlock -Oregon saxifrage-western Jacob's ladder-largeleaf avens-swordleaf rush]

[north end: Alnus sinuata or incana-Salix exigua-Salix bebbiana-Lonicera involucrata-Symphoricarpos albus/Juncus balticus-Poa spp.-Solidago canadensis-Geum macrophyllum(-Veratrum californicum)(-Polemonium occidentale)(-Scirpus microcarpus)] & [Alnus sinuata or incana-Salix exigua-Salix bebbiana-Lonicera involucrata-Symphoricarpos albus/Juncus balticus-Cirsium arvense-Poa pratense(-Veratrum californicum)-Geum macrophyllum-Linaria vulgaris(-Saxifraga oregana)-Senecio pseudaureus-Potentilla spp.-Solidago canadensis] & [Alnus sinuata or incana(-Lonicera involucrata)/Carex simulata-Carex utriculata-Carex nebrascensis-Cicuta douglasii-Saxifraga oregana-Polemonium occidentale-Geum macrophyllum-Juncus ensifolius]

S09 [Sitka or mountain alder-coyote willow-Bebb willow-black twinberry-common snowberry/Baltic rush-bluegrasses-canada goldenrod-largeleaf avens(-California false hellebore)(-western Jacob's ladder)(-small fruited bulrush)] & [Sitka or mountain alder-coyote willow-Bebb willow-black twinberry-common snowberry/Baltic rush-canada thistle-Kentucky bluegrass(-California false hellebore)-largeleaf avens-yellow toadflax(-Oregon saxifrage)-falsegold groundsel -cinquefoils-canada goldenrod] & [Sitka or mountain alder(-black twinberry)/short beak sedge-southern beaked sedge-Nebraska sedge-western water hemlock -Oregon saxifrage-western Jacob's ladder-largeleaf avens-swordleaf rush]

[Alnus sinuata or incana-Salix exigua-Salix bebbiana-Lonicera involucrata-Symphoricarpos albus/Juncus balticus-Poa spp.-Solidago canadensis-Geum macrophyllum(-Veratrum californicum)(-Polemonium occidentale)(-Scirpus microcarpus)] & [Alnus sinuata or incana-Salix exigua-Salix bebbiana-Lonicera involucrata-Symphoricarpos albus/Juncus balticus-Cirsium arvense-Poa pratense(-Veratrum californicum)-Geum macrophyllum-Linaria vulgaris(-Saxifraga oregana)-Senecio pseudaureus-Potentilla spp.-Solidago canadensis] & [Alnus sinuata or incana(-Lonicera involucrata)/Carex simulata-Carex utriculata-Carex nebrascensis-Cicuta douglasii-Saxifraga oregana-Polemonium occidentale-Geum macrophyllum-Juncus ensifolius]

S10 Common snowberry-grouse whortleberry-birch spiraea/elk sedge-Sierra pea-woodland strawberry-pussytoes-common yarrow-American vetch-Rocky Mountain iris-showy frasera –grasses

Symphoricarpos albus-Vaccinium scoparium-Spiraea betulifolia/Carex geyeri-Lathyrus nevadensis-Fragaria vesca-Antennaria spp.-Achillea millefolium-Vicia americana-Iris missouriensis-Frasera speciosa-grasses

V Developed/road. Sometimes very weedy.

W01 [Ponderosa pine-lodgepole pine/bitterbrush-common snowberry/tailcup lupine-Oregon sunshine-Virginia strawberry-bottlebrush squirreltail] & [ponderosa pine-lodgepole pine/common snowberry/tailcup lupine-common yarrow-Kentucky bluegrass-cheatgrass-littleflower penstemon]

[Pinus ponderosa-Pinus contorta/Purshia tridentata-Symphoricarpos albus/Lupinus caudatus-Eriophyllum lanatum-Fragaria virginiana-Sitanion hystrix] & [Pinus ponderosa-Pinus contorta/Symphoricarpos albus/Lupinus caudatus-Achillea millefolium-Poa pratense-Bromus tectorum-Penstemon procerus]

W02 Lodgepole pine/common snowberry

Pinus contorta/Symphoricarpos albus

W03 [Toe of slope: ponderosa pine-lodgepole pine/common snowberry-black twinberry/cleavers-canada thistle-common mullein-cheatgrass-Kentucky bluegrass] & [slope and top: ponderosa pine-lodgepole pine/(Bebb willow)(common snowberry)(Saskatoon serviceberry)/sheep fescue-Sandberg's bluegrass-wheatgrass-common mullein-common yarrow-narrowleaf skullcap-crested wheatgrass-chess-canada thistle(-wormleaf stonecrop)] & [ditch banks: ponderosa pine-lodgepole pine/Bebb willow-common snowberry-Saskatoon serviceberry/field horsetail-watercress-largeleaf avens-bluegrasses-willowherb-sedges-Baltic rush]

[toe of slope: Pinus ponderosa-Pinus contorta/ Symphoricarpos albus-Lonicera involucrata/Galium aparine-Cirsium arvense-Verbascum thapsus-Bromus tectorum-Poa pratense] & [slope and top: Pinus ponderosa-Pinus contorta/(Salix bebbiana)(Symphoricarpos albus)(Amelanchier alnifolia)/ Festuca ovina-Poa scabrella-Agropyron sp.-Verbascum thapsus-Achillea millefolium-Scutellaria angustifolia-Agropyron cristatum-Bromus secalinus-Cirsium arvense(-Sedum stenopetalum)] & [ditch banks: Pinus ponderosa-Pinus contorta/ Salix bebbiana-Symphoricarpos albus-Amelanchier alnifolia/Equisetum arvense-Rorippa nasturtium aquaticum-Geum macrophyllum-Poa spp.-Epilobium sp.-Carex spp.-Juncus balticus

W04 Ponderosa pine/bitterbrush(-common snowberry)/ tailcup lupine-Sandberg's bluegrass-pinegrass-elk sedge-Idaho fescue-rosy pussytoes-common yarrow-bottlebrush squirreltail-Oregon sunshine-dwarf yellow fleabane-Oregon checkermallow-California brome-cheatgrass-yampah-wallflower phoenicaulis-parsnipflower buckwheat-wormleaf stonecrop-twin arnica-bigpod mariposa lily-ballhead sandwort-tapertip onion-prairie junegrass(-Nevada peavine)

Pinus ponderosa/Purshia tridentata(-Symphoricarpos albus)/Lupinus caudatus-Poa scabrella-Calamagrostis rubescens-Carex geyeri-Festuca idahoensis-Antennaria rosea-Achillea millefolium-Sitanion hystrix-Eriophyllum lanatum-Erigeron chrysopsidis-Sidalcea oregana-Bromus carinatus-Bromus tectorum-Perideridia sp.-Phoenicaulis cheiranthoides-Eriogonum heracleoides-Sedum stenopetalum-Arnica sororia-Calochortus eurycarpus-Arenaria congesta-Allium acuminatum-Koeleria macrantha(-Lathyrus lanszwertii)

W05 Lodgepole pine-western larch-ponderosa pine/ bitterbrush-common snowberry/pinegrass-tailcup lupine-western needlegrass-littleflower penstemon-common yarrow-elk sedge-rosy pussytoes-kinnikinnick-scabland penstemon

Pinus contorta-Larix occidentalis-Pinus ponderosa/ Purshia tridentata-Symphoricarpos albus/ Calamagrostis rubescens-Lupinus caudatus-Stipa occidentalis -Penstemon procerus-Achillea millefolium-Carex geyeri-Antennaria rosea-Arctostaphylos uva-ursi-Penstemon deustus

Appendix C: Detailed Habitat Resource Strategies

The summary for each habitat is described in Chapter 10, Strategies for Park Resource Management.

Aquatic habitat enhancement options

Pending data acquisition from current and anticipated future monitoring in the project area, exploration of aquatic habitat enhancement options are speculative at this point. The options discussed below are conceptualized and form a preliminary list for further discussion. After data has been acquired a future natural resource management plan for the park will explore the best course of action to improve aquatic habitat.

a. No alteration of aquatic habitat

Pros:

-Low cost

Cons:

-No improvement of fish habitat

b. Remove Bates Pond

It is OPRD's goal to retain Bates Pond, and to pursue other options for fish habitat enhancement through a natural resource management plan. OPRD will work with natural resource agencies in developing a potential mitigation and compliance approach that can meet the required water quality standards.

Pros:

-Could contribute to more complete enhancement of habitat.

Cons:

-Could be very costly

-Would eliminate the last major vestige the mill. Would be opposed by the county and some current and former residents.

-Would eliminate the most scenic natural feature in the park.

-Would eliminate the most popular recreational feature, for fishing, swimming and boating.

c. Connect upper Bridge Creek with upstream opening of fish ladder by constructing an open fish bypass channel

Pros:

- Allows fish to pass from upper creek to fish ladder without being affected by pond water quality or potential fish predators.
- Reduces potential impact of pond water quality on lower Bridge Creek and the river (thermal loading, algal blooms, pH exceedances, etc.

Cons:

- May be difficult to construct given steep slopes and low (no) gradient between Bridge Creek/pond confluence and fish ladder upper entry.
- Reduces or eliminates water input to pond.

- Any existing fish barrier posed by the current design of the fish ladder would remain.

d. Connect upper Bridge Creek to lower Bridge Creek by-passing pond and fish ladder

Pros:
- Allows fish to pass from upper to lower Bridge Creek without being affected by the pond or potential fish ladder impedance.
- Reduces potential impact of pond water quality on lower Bridge Creek and the river (thermal loading, algal blooms, pH exceedances, etc.).
- May be difficult to construct without compromising dam.

Cons:
- Abandons investment in fish ladder
- Reduces or eliminates water input to pond

e. Gravity flow from upper Bridge Creek through a pipe to fish ladder base in warm seasons

Pros:
- Lowers stream temperature
- Could retain some flow for maintaining pond level
- No outflow from pond during periods of poor water quality

Cons:
- No fish passage between lower and upper segment of Bridge Creek in warm seasons

f. Convey cooler water from bottom of pond to bottom of fish ladder in warm seasons

Pros:
- Lowers water temperature in lower Bridge Creek
- Inexpensive if gravity feed

Cons:
- Maintains current "fish passage through pond issues" or eliminated passage during summer months
- Sufficient water quantity and quality benefits to Bridge Creek are questionable without further water balance study
- Other water quality impacts on Bridge Creek and Middle Fork John Day may not be reduced (pH, nutrient loading, algal toxins)

g. Increase lower Bridge Creek flow through soil before entering John Day River (i.e. infiltration galleries, bio-swales)

Pros:
- Improves water quality improvements temperature, nutrients, and other parameters through groundwater flow

Cons:
- Possible mobilization of any contaminants in soil fill of former mill site
- Reduces or eliminates fish passage in warmer months

h. Establish native riparian vegetation on all water bodies inside 100-foot buffer based on location of current alignment of the river and creeks

Pros:

- Improves water quality
- Provides fish habitat benefits
- Provides habitat for amphibians, birds, mammals
- Increases diversity in site's plant community
- Improves site aesthetics
- Does not impair pond recreation opportunities
- Fundable with external sources and partners
- Potential for public involvement
- Long-term lower maintenance than non-native plants or other development

Cons:

- None

i. Increase channel complexity, morphometry, structure, and dynamics of Bridge and Clear Creeks and MF John Day River (i.e. create eddies, high-flow channels, sinuosity, wetland benches, lower bank slopes, add large boulders and, wood to create pools and riffles)

Pros:

- Improves fish habitat in a cost-effective manner
- Fundable from external sources and partnerships
- Habitat enhancement can be conducted mostly within 100-foot setback
- Stabilizes banks

Cons:

- Increases possible lateral movement of stream or river channel that could effect proposed facilities

j. Reconnect lower Bridge Creek and Middle Fork John Day to historical floodplain

Pros:

- Flood storage and water quality benefits
- Opportunity for wetland enhancement
- expand fish habitat

Cons:

- Unknown quality of soil used to fill floodplain may limit restoration of floodplain

k. Increase shading of the pond through increasing aquatic vegetation and/or adding shading structures to portions of the pond.

Pros:

- Could improve pond habitat overall.
- Structures could be used by swimmers and paddlers.

Cons:

- Native pond species are not typically found in this area. Natural ponds are rare outside of alpine areas.

- Structures would need to be managed to avoid adding carbon to the system due to wood decomposition

l. Dredge portions of the pond to increase water depth.

Pros:

-Could improve habitat overall.

Cons:

- Can be challenging to get permit for working in waterway and completing dredging during seasons that would not affect protected fish.

Appendix D: Target Species Lists for Restoration

Riverine Riparian Vegetation: Target Species

The following list of species provides potential dominants for the riparian areas around the waterway. 'Workhorse' species that are of highest importance are listed first and are denoted by a bold text and a '*'.

Black cottonwood (Populus balsamifera ssp. trichocarpa)*
Red-osier dogwood (Cornus stolonifera)*
Coyote willow (Salix exigua)*
Bebb willow (Salix bebbiana)*
Wooly sedge (Carex pellita)*
Baltic rush (Juncus balticus)*
Ponderosa pine (Pinus ponderosa)*
Mountain alder (Alnus incana)*
Nebraska sedge (Carex nebrascensis)
Short-beaked sedge (Carex simulata)
Southern beaked sedge (Carex utriculata)
Dagger leaf rush (Juncus ensifolius)
Soft rush (Juncus effusus)
Black twinberry (Lonicera involucrata)
Common monkeyflower (Mimulus guttatus)
Western jacob's ladder (Polemonium occidentale)
Golden currant (Ribes aureum)
Oregon saxifrage (Saxifraga oregana)
Small-fruited bulrush (Scirpus microcarpus)
Canada goldenrod (Solidago canadensis)
California false hellebore (Veratrum californicum)

Areas where any bank regrading might be done would be appropriate for aspen groves.

Bates Pond Riparian Vegetation

'Workhorse' species that are of highest importance are listed first and are denoted by a bold text. Each species listed is followed by either a 'U' for upland, a 'W' for wetted edge, or both.

Black cottonwood (Populus balsamifera ssp. trichocarpa)U,W
Yellow willow (Salix lutea)W
Coyote willow (Salix exigua)W
Bebb willow (Salix bebbiana)W
Pinegrass (Calamagrostis rubescens) U
Elk sedge (Carex geyeri) U
Wooly sedge (Carex pellita)W
Baltic rush (Juncus balticus)W
Ponderosa pine (Pinus ponderosa)U
Mountain alder (Alnus incana)W
Common snowberry (Symphoricarpos albus) U,W
Birchleaf spiraea (Spiraea betulifolia) U,W
Creeping oregongrape (Berberis repens) U
Tailcup lupine (Lupinus caudatus) U
Yarrow (Achillea millefolium) U,W
Red-osier dogwood (Cornus stolonifera) W
Nevada peavine (Lathyrus lanswertii) U
Black twinberry (Lonicera involucrata) W,U
Golden currant (Ribes aureum) W,U
Canada goldenrod (Solidago canadensis) W,U

Upland Forest Establishment

The species palette for this area is listed below. 'Workhorse' species that are of highest importance are listed first and are denoted by a bold text and a '*'.

Ponderosa pine (Pinus ponderosa)*
Western larch (Larix occidentalis)*
Grand fir (Abies grandis)*
Snowberry (Symphoricarpos albus)*
Elk sedge (Carex geyeri)*
Pinegrass (Calamagrostis rubescens)*
Tailcup lupine (Lupinus caudatus)*
Lodgepole pine (Pinus contorta)
Grouse whortleberry (Vaccinium scoparium)
Birchleaf spiraea (Spiraea betulifolia)
Showy aster (Aster conspicuus)
Heartleaf arnica (Arnica cordifolia)
Creeping oregongrape (Berberis repens/Mahonia repens)

Dry, Disturbed Former Mill Site Soils

Target community composition: 'Workhorse' species that are of highest importance are listed first and are denoted by a bold text and a '*'.

Low density ponderosa pine (Pinus ponderosa)*
Low density lodgepole pine (Pinus contorta)*
Bitterbrush (Purshia tridentata)*
Snowberry (Symphoricarpos albus)*
Rubber rabbitbrush (Chrysothamnus nauseosus)*
Bluebunch wheatgrass Pseudoregneria spicata/Agropyron spicatum)*
Prairie junegrass (Koeleria macrantha)*
Bottlebrush squirreltail (Sitanion hystrix/Elymus elymoides)*
Yarrow (Achillea millefolium)*
Sandberg's bluegrass (Poa secunda)*
Scabland penstemon (Penstemon deustus)*
Wax currant (Ribes cereum)
Onespike oatgrass (Danthonia unispicata)
Idaho fescue (Festuca idahoensis)
Streambank wheatgrass (Elymus lanceolatus) may be of great value in covering expanses of ground quickly, but its similarity to the weedy species quackgrass may make management of quackgrass difficult.
Canada goldenrod (Solidago canadensis) and parsnipflower buckwheat (Erigonum heracleoides) may be of importance and aesthetic interest.
Western juniper (Juniperus occidentalis) might be planted occasionally for interest or on exceptionally dry and rocky ground

Wet, Disturbed Ground at Former Mill Site

Southern beaked sedge (Carex utriculata)
Woolly sedge (Carex pellita)
Lakeshore sedge (Carex lenticularis)
Nebrasca sedge (Carex nebrascensis)
Thick-headed sedge (Carex pachystachya)

Small-fruited bullrush
(Scirpus microcarpus)
Great Basin navarretia
(Navarretia intertexta)
Lowland cudweed
(Gnaphalium palustre)
Tiny mousetail (Myosurus minimus)
Soft rush (Juncus effusus)

Aspen forested wetland species palette:

Quaking aspen (Populus tremuloides)
Woolly sedge (Carex pellita)
Snowberry (Symphoricarpos albus)

Open Woodland

Target communities:
- Ponderosa pine/bitterbrush/elk sedge
- Ponderosa pine/Idaho fescue
- Ponderosa pine/bluebunch wheatgrass
- Ponderosa pine/elksedge
- Ponderosa pine/pinegrass

Appendix E: 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 F: Historic Vegetation Models and Sources

Historic vegetation information or modeling available for Bates:

- 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 Malheur National Forest 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.