NISQUALLY-MASHEL STATE PARK SITE MASTER PLAN
Washington State Parks and Recreation Commission

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NISQUALLY-MASHEL STATE PARK SITE

VOLUME 1
PARK SUMMARY & MASTER PLAN

Washington State Parks and Recreation Commission

November 2009

THE PORTICO GROUP

VOLUME 1 – PARK SUMMARY & MASTER PLAN
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II-A. INTRODUCTION AND VISITOR EXPERIENCE

In 2013, the Washington State Parks System will enter its 100th year. To celebrate this milestone and guide future development, the Washington State Parks and Recreation Commission adopted the Centennial 2013 Vision:

> *"In 2013, Washington's state parks will be premier destinations of uncommon quality, including state and regionally significant natural, cultural, historical and recreational resources that are outstanding for the experience, health, enjoyment and learning of all people."*

A stunning section of western Washington's landscape stretches between the Cascade Mountains and the expanse of the Pacific Ocean. Midway between the Nisqually River's delta with Puget Sound – '*whulge*' in the native Lushootseed language – and its headwaters high on Mt. Rainier (*Tacobet*), the people of Washington State have chosen to invest in a new state park. The Nisqually-Mashel State Park Site has steep-sided forested river valleys, dynamic floodplains and reforested plateaus. It embraces a remarkable story of people and their relationship to the land over millennia. From the earliest ancestors of the Salish and Sehaptin people who hunted, fished and gathered here, to European explorers, settlers and contemporary culture, people have interacted with and left their mark on this land. The stretch of the Nisqually River adjacent to the park, between the Mashel River and Ohop Creek, provides the highest quality salmon and steelhead spawning habitat along the river's journey to the sea. The new Nisqually-Mashel State Park Site will allow visitors to immerse themselves in this beautiful and productive landscape and to learn more of its stories.

Figure A-1: Park Site Photos

The Nisqually-Mashel State Park Site is wonderfully positioned to provide outdoor recreation and environmental education to meet the demands of visitors from an expanding regional, statewide, national and even international population. Not only is the park located within an hour's drive of Puget Sound urban centers, but it is adjacent to forested mountain trails, waterfalls and viewpoints.

Thirty minutes from the entrance to Mt. Rainier National Park, the Nisqually-Mashel State Park Site will provide an opportunity for every visitor to have a memorable experience. The master plan allows for individual and family access to the site's rich natural and cultural resources and amenities. This experience is accessible by people of all ages and abilities given the many facilities, environments and seasons of the park. Whether going for a hike, picnicking for an afternoon, camping for a week, going for a long backcountry horse ride, helping with salmon habitat restoration or engaging in Native American plant use programs, the Nisqually-Mashel State Park Site will provide recreational and educational experiences from which memories and learning are born.

The Master Planning Process

The Nisqually River Management Plan, a comprehensive planning document approved by the Washington State Legislature in 1987, recommended development of a major destination park at the confluences of the Mashel River and Ohop Creek with the Nisqually River. Washington State Parks and Recreation Commission took the lead on this project and began acquiring land in the early 1990s. The development and planning for Nisqually-Mashel State Park Site is informed by the Commission's Centennial 2013 Vision and Guiding Principles:

1. Create a park "with" the local community – State Parks hopes to engage local governments, tribes, non-profit organizations, businesses and local community members to jointly plan, construct and operate a park that is oriented toward visitors from throughout the state and beyond.
2. Build on a foundation of public participation – State Parks will seek inspiration and counsel from the public during each step of planning. State Parks will foster a two-way dialogue by establishing a temporary community exploratory committee, holding public workshops, meeting with interested organizations, providing timely information, and soliciting input from individual stakeholders.
3. Develop the park's niche – The Nisqually-Mashel property should be seen as part of a larger network of recreation, education and conservation opportunities in the Nisqually River corridor. It should seek to compliment existing opportunities and otherwise enhance the region's tourist economy.
4. Plan for financial sustainability – The Park has a goal to generate 50% of its operational budget through its revenue stream. Park planning will explore a full range of models to finance and operate the park. This may include developing

partnerships with other government agencies, tribes, non-profit organizations, foundations and private investors, in addition to employing traditional state and federal funding sources.

In 2006, the Washington State Legislature funded a master plan and allocated funds for Phase 1 design and permitting for the Nisqually-Mashel State Park Site. State Parks staff initiated work on the park's Classification and Management Plan (CAMP), formed a community exploratory committee, and led two initial public workshops to gather input on the park's development.

Building on CAMP planning work, community outreach, partnership building and many years of land acquisition and study, in 2007 State Parks selected The Portico Group, a firm of landscape architects, architects and interpretive planners, to lead a consultant team and prepare a master plan for the park. Through its completion, the plan will:

- Finalize the Classification and Management Plan
- Establish the park's long term boundary
- Prepare a set of specific park plans and guidelines, including:
  - Land Use and Capital Development Plan
  - Transportation and Circulation Plan
  - Design Guidelines
  - Stewardship Plan
  - Business Plan
- Define park implementation phases and support State Parks' partnering agreements
- Complete design, permitting and construction for Phase 1 park development

Stakeholders

The planning process actively involved key stakeholders, including Washington State Parks and Recreation Commission, the Nisqually Tribe, the Nisqually River Council, the Nisqually Land Trust, local government representatives, special interest groups and members of the community. Stakeholder feedback throughout the process expressed a desire to protect the Park's natural and cultural resources while providing or enhancing a variety of recreational opportunities, including hiking, biking and equestrian trails and camping facilities.

Figure A-2: Community Meeting, April 2008

Because of its rich history, the Nisqually-Mashel State Park Site is of interest to multiple Native American tribes, and State Parks is committed to working with those tribes with an interest in the park. The Nisqually Tribe, in particular, has expressed a special interest in the park and has worked with State Parks extensively during the master planning process. Members of the tribe have also expressed an interest in partnering with State Parks to develop and manage parts of the park, and have expressed willingness to invest significant financial resources into the park. A significant tribal role in the development and use of the park is expected, including an appropriate relationship between the Nisqually Tribe and other tribes. State Parks will continue to work with all interested tribes to define those roles.

Representatives of the Nisqually Tribe participated as partners in the development of Nisqually-Mashel State Park Site Master Plan. Input from the Tribe was a key foundation for the organizing philosophy and concept. The Tribe may be deeply involved in the park's focal People's Center and a portion of the site may be designated as a Tribal management area. The park's and the Nisqually Tribe's program will be activated through outreach, a Traditional Knowledge Camp, a recreated Leschi's Village, protection of the Shaker Cemetery, Mashel Prairie and Medicine Springs and the stewardship of river and fish resources. The Appendix includes a draft Letter of Intent and documentation of tribal input to the Master Plan.

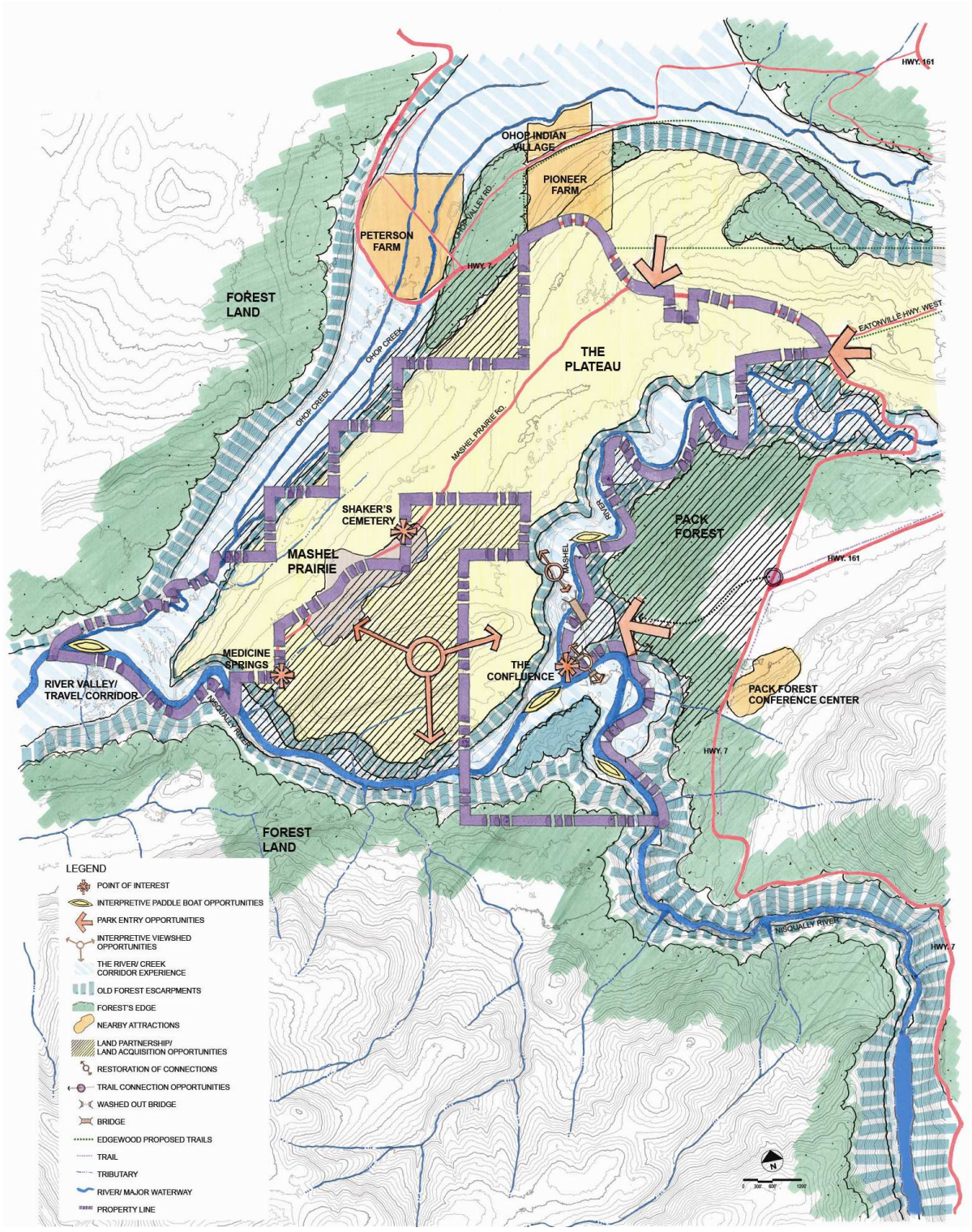

Figure A - 3: Opportunities and Constraints Map

Site Analysis

The park planning team visited the site several times over all seasons, examined existing data sources, interviewed stakeholders, and prepared site assessments and maps. Park planning issues, constraints and opportunities were identified and examined. The proposed park site was mapped and analyzed in terms of a number of factors, including:

- Regional and Local Context
- Cultural Features
- Natural Resources
- Site Character and Experiential Features
- Environmental Constraints

The site analysis made it clear that the precious cultural and ecological resources of the park site are both a significant opportunity and an important constraint to the ongoing planning process. Respect for environmentally critical areas directs primary park development to the upland plateau (Central Plateau) west of the Mashel River, bounded on three sides by rivers and steep ravines. Strategically located (and limited) access to waterways, wetlands and sites of cultural significance will allow visitors to experience the compelling character of the park and its history without compromising the very things that make it precious.

Site Planning Goals

Stakeholder input and the site analysis lead to the goals for the Master Plan, including:

1. Create a compelling and viable destination park - not just a camping backup facility for Mt. Rainier National Park. Seek a rich and exciting camping and recreational experience while establishing the park as a travel hub. Provide access to local and regional attractions and accommodate special/seasonal events and gatherings.

2. Base the park master plan on identified patterns, resources and values such as:
    a. Native peoples of the Puget Sound (specifically the Nisqually Tribe and Salish tribes of the Pacific Northwest);
    b. Environmental stewardship, conservation and sustainability; and
    c. Excellent recreational experiences in contact with the dynamic cultural and natural dimensions of the park, including: camping, interpretive opportunities, river access and links to regional recreation areas.

3. Develop the Park in the geographical and visual context of a Long-Term Park Boundary area.

4. Establish, in all phases of development, interpretive programming and facilities to illuminate the key stories of the park.

5. Locate intensive park use areas near SR 7, away from high value natural and cultural resource areas.

6. Protect and manage creek and river systems to provide for healthy habitat and wildlife enhancement – especially for salmon and steelhead.

7. Establish wildlife corridors within all areas of the park.

8. Identify and protect cultural and heritage resources – allowing for managed access, when considered appropriate, for educational purposes.

9. Maintain access to and from park private in-holdings. Coordinate with Pierce County to manage access and adjustments to Mashel Prairie Road.

10. Incorporate landscape initiatives into overall Park planning and design, including upland/plateau forest enhancement, meadow creation, Mashel Prairie restoration and sustainable vegetation management of utility corridors.

Site Alternatives

In March of 2008, the planning team developed and presented three initial park master plan concepts based on the site planning goals, site analysis and public feedback. Each alternative highlighted a different thematic aspect of the site's "spirit of place" to direct the form and function of the plan, help select programmatic activities and influence the appearance of physical elements. The three alternatives are presented here:

1. *People's Center:* This alternative reinforces the park's goal of becoming a "one of a kind" destination by partnering with Native American tribal people to express their long connection and history with the park site. It concentrates park services and camping at the north edge of the site's main plateau with tribal-focused activities closer to the confluence of the Nisqually and the Mashel Rivers.

2. *Conservation:* This alternative emphasizes the development of the park as a site for research and study of the forest. In this alternative, development of park services is concentrated on the east side of the Mashel River on land currently owned by the University of Washington as part of their Center for Sustainable Forestry at Pack Forest.

3. *Woodland Experience:* The intent of the third alternative is to amplify the visitor's sensory experience of the natural world as a means of generating long-lasting

memories and intensifying feelings of connection to the park. Park services and camping facilities are centrally located on the plateau west of the Mashel River.

Partner, stakeholder and community meetings led to the selection of a preferred plan – direction that became the basis for the Master Plan. Although it is based primarily on the People's Center alternative, the Master Plan incorporates program and physical aspects of all three alternatives.

Master Planning Implementation

The master plan documents an ambitious vision for what the Nisqually-Mashel State Park Site might look like fifty to a hundred years from now. With this long-term vision in mind, a phased implementation approach will shape and organize the Park's development in the near-term through a twenty-year phased implementation plan. The implementation strategy prioritizes the plan elements that most actively support the goal of becoming a destination park with a variety of recreational opportunities. Revenue-generating elements are programmed as early as possible to help make the park financially sustainable.

Business Plan

Finally, the goals for implementation of a new State Park at this site include an economic performance objective at build out of the park to generate sufficient operating revenues, through enterprise recreation and user fees that will offset up to 50% of annual operating expense. Another option that may offset up to 100% of expenses is for a private camping operator to construct and operate the facility within the park resulting in greater revenues to offset the State Park's expenses. If the Parks and Recreation Commission would like to consider this option, then an additional economic analysis should be completed.

As investments are made in camping, event space, equestrian activities, cultural attractions, trails, education programs and other activities, it will be necessary to test demand and feasibility through market confirmation and testing of project designs and development proposals. The quality of the visitor experience and the recreation amenities offered will have a direct effect on the potential of the park to generate revenue and become self supporting.

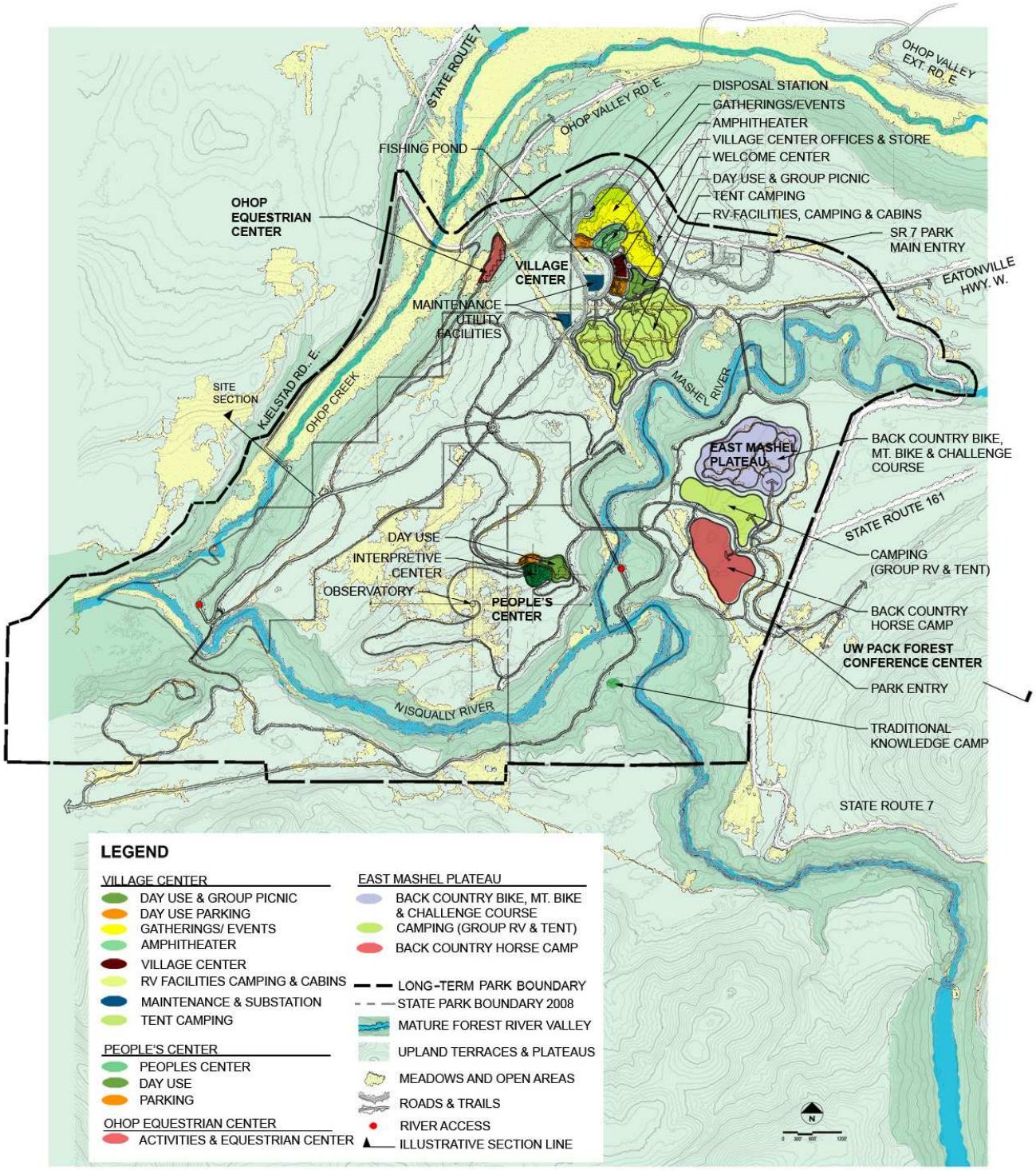

Figure A-4: Illustrative Master Plan

Visitor Experience Narrative

This narrative describes one possible experience sequence for a family, traveling to the Nisqually-Mashel State Park Site from a nearby urban area. As an introduction to the park's programs, activities and vistas, it highlights what a family might see, and what choices they might have, over the course of their stay.

New Entry from State Route 7

Park visitors arriving by car on their journey from the Puget Sound area find an inviting entry along State Route 7 (SR-7) announcing Washington State's newest State Park site. Turning onto the park entry road, visitors notice the Nisqually place name carved on the cedar entry sign; it provides a clue that this is a unique park and partnership reflecting the site's human use for thousands of years. Along the mile long entry drive, visitors begin to slow down as they pass several large wetlands and forest openings, before arriving at the Welcome Center. At the entry kiosk, a ranger describes the major destinations within the park: the Village Center, the People's Center, the Ohop Equestrian Center, and the East Mashel Plateau. After listening to the description of offerings, the family decides to go first to the park's most distinctive feature, the People's Center.

Passing the main intersection of the park, the family notes the wayfinding signs to the Village Center. They will return later to check into their cabin.

People's Center

Traveling south, the park entry road swings to the east providing a glimpse down a wide opening in the forest toward the Mashel Prairie. From there the road begins a gentle climb toward the summit of the park's central ridge. At the end of the road is the People's Center interpretive facility, parking, day use area and trail head. The center welcomes all visitors and shares the centuries-old history and tribal use of the site and greater watershed as a village, temporary camp and travel way.

An accessible trail leads up to the Observatory at the summit. With clear skies, the view of *Tacobet* (Mt. Rainier) to the east is stunning. Turning clockwise, views are revealed to the Olympic Mountains rising in the distant west and to the far north, the southern end of *Whulge* (Puget Sound). In the foreground below and to the west, is the view of the Mashel Prairie. The observatory circle is laid out and oriented to the cardinal directions, and the lands of the Nisqually River watershed. As the family arrives, an interpretive program is just beginning. A tribal interpreter explains the importance of this site to the Nisqually as the mid way point between *Tacobet* and *Whulge*. The family learns of the past and current use of the Mashel Prairie as a place to gather camas root. They also hear about Indian Henry's home near Medicine Springs and the somber story of the 1856 Mashel Massacre near the confluence of the Mashel and Nisqually Rivers.

After a chance to ask questions, the family continues on the loop trail back down slope, pausing on the boardwalk over a forested wetland, where at a wayside an interpreter is describing how the Nisqually people make use of the western red cedar found growing at this moist location. Continuing out to a dramatic overlook of the Nisqually River gorge, the visiting family gets their first glimpse of one of the park's most prominent features – the silvery Nisqually River far below.

Village Center

While the children run around the event lawn, the adults walk over to the village store to register for their cabin in the woods. As first-time guests, they appreciate the manager's description of the offerings available at the Village, including a day use picnic area, the separate campground loops for tents and recreational vehicles, and the group of cabins where they are staying. They learn that the amphitheater will host a ranger chat describing the forest reconstruction efforts that State Parks, University of Washington's Center for Sustainable Forestry at Pack Forest and the Nisqually Tribe are engaged in at the park. The flashlight walk to the Mashel Overlook, after the presentation, sounds intriguing as well, especially the idea of walking out over the 200 foot escarpment under the light of the full moon. Finishing registration, they take the manager's suggestion to sign up early for a morning trail ride departing from the Ohop Equestrian Center the next day.

Ohop Equestrian Center

In the morning, taking the western fork in the road at the Village entry, the visitors proceed down hill to the Equestrian Center, housed in the historic Milk Barn, overlooking the Ohop Creek valley. They find other children watching as the trail master and her assistants are demonstrating how to saddle a horse.

Like most novice riders heading out on a ride at Nisqually Mashel, the family heads southwest along the bluff edge above Ohop Creek. Dropping down to the creek via the existing road, the loop trail crosses upstream of the confluence with the Nisqually River. As they precede parallel to Kjelstad Road, the guide describes the early 19th and 20th century agricultural history of the Ohop Valley and the recent efforts by the Nisqually Land Trust to remove dikes and return the valley floor to a reconstructed floodplain. Several of the riders ask what the plentitude of blue stakes are for. They learn that these are newly planted willow saplings, the blue wrap meant to protect the tender shoots from grazing deer and foraging beaver. When they meet SR-7 again, they ride back uphill to the Milk Barn.

By completing the four-mile ride, the family has a new found sense of accomplishment. They are already talking about next year and the chance to go on a longer ride to the east, on the network of trails in the Pack Forest or to the new rails-to-trails project linking the park to the Eatonville town center.

Primary Loop Trail

On their third day at Nisqually-Mashel State Park Site, the family sets out on foot to explore the four-mile Plateau Loop Trail. Setting off from their cabin, the first destination is the Mashel Overlook, perched out over the bluff, amidst the towering Douglas fir and swaying cottonwood trees. Luckily they remembered to bring their binoculars to scout for bird life in the high branches.

From the overlook, the bluff trail heads south towards the People's Center, arriving at the juncture with the Canopy Bridge and trail to the East Mashel Plateau. Although not their primary destination, they could not resist walking out and back across this 1,200 foot long span over the Mashel - the longest pedestrian cable stay bridge span in North America. It is a remarkably light structure, more than a bit scary for someone afraid of heights, but exciting and beautiful.

The loop trail continues south a short distance to the People's Center, then returns via a traverse across the plateau. It takes visitors past the camas fields at the north edge of the Mashel Prairie and the adjacent wetlands, and through the regenerating forests back to the Village Center. The family makes a note to return in the future when the children are older to take the south side trail over the Nisqually River.

South Side Nisqually Loop Trail

As another option, the reconstructed bridge over the Nisqually, just upstream of the confluence with the Mashel, provides a glimpse of spawning steelhead and salmon. On a regular basis Nisqually Tribal interpreters describe traditional use of paddle boats for fishing, salmon habitat restoration efforts, and the use of plants including cedar and horsetail. On a somber note, this confluence is also the site of the Mashel Massacre, where many Nisqually were killed by the Washington Militia under the command of Territorial Governor Isaac Stevens.

For those participating in a Nisqually-led tour, the south bank stop at the Traditional Knowledge Camp provides insight into the learning center where tribal elders pass on skills related to fishing, berry collection, carving of cedar canoes, and weaving to younger generations.

The loop trail continues west, following the bluff line, immersed within the mature forest lining the banks of the river. Upstream from the confluence of the Nisqually with Ohop Creek, the trail crosses on a second canopy bridge that springs from the bedrock bluffs on both sides of river. A ridge top trail returns the visitor back to the main loop, which then leads back to the Village Center.

East Mashel Plateau

At the East Mashel Plateau the visitor finds more specialized uses, including the Back Country Horse Camp, Group Camping area and a Back Country Bike Challenge Course.

This acquisition from the University of Washington provides access to the confluence of the Nisqually and Mashel Rivers from SR-7, and a logical connection for visitors to the UW Center for Sustainable Forestry - Pack Forest Conference Center on the east side of SR-7.

On a typical weekend day, trucks and trailers are seen rolling into this side of the park. Back country horsemen saddle up and prepare to head out via the undercrossing at SR-7, a link to the network of trails and logging roads in Pack Forest. The group camping site for RV and tents provides space for large gatherings and family reunions. The back country bike and challenge course provides a separate use area with a diversity of courses testing the full range of rider's expertise. A loop trail around East Mashel Plateau is linked to the west side by the aforementioned canopy bridge near the People's Center, and a second bridge connecting back to the Village and campsites.

Lasting Memories

Upon leaving the Nisqually-Mashel State Park Site the family is thrilled to tell friends and neighbors about the many activities available at the park. They also couldn't get over how close the park was to other area amenities, including: Northwest Trek where they saw many birds and animals; Pioneer Farm Museum and Ohop Indian Village's re-creation of historic structures and settlement patterns; the Tacoma Power dams; Alder Lake's swimming and boating activities; and Mount Rainier National Park's spectacular scenery. They felt they made a connection, spanning millennia, with the Nisqually people and the dynamic landscape that exists between the mountains and the Sound – a relationship between people and the land.

II-B. LAND USE PLAN

All places lie at a unique intersection of geography and history. In some places, that intersection has led to events that are momentous and representative of major societal changes. The Nisqually-Mashel State Park Site is one such place.

It combines earth form, water flow, biological diversity, visual prospect, intimacy, and a profound accumulation of the life and events of many people. The site is in the middle reaches of the Nisqually River watershed – half way between the Nisqually River delta on the Puget Sound (*Whulge*) and Mount Rainier (*Tacobet*). Here, three waterways come together: Ohop Creek, the Mashel River and the Nisqually River. These waterways, formed on the mountain, gather power in its foothills and continue to carve through the glacial moraine materials that form the geologic base of the park. It's a geographic and biological transition point between forested cascade foothills and the southern Puget Sound prairies.

Figure B-1: Site Photos

Although the plateaus and hilltop forests of the park have been successively logged and replanted for many years, much of the mature fir, hemlock, cedar, cottonwood, alder and maple forests growing on the steeply banked valley edges and floodplains remain. Thus the park represents a very diverse Pacific Northwest eco-region – shaped by earthquakes, volcanic eruptions, floods, storms, fire and humankind.

Culturally, the park is also home to a rich convergence of people, traditions, events and values. For millennia, the ancestors of the Nisqually Tribe have found shelter and sustenance in the Nisqually River watershed. Beginning in the mid-1800's new non-Native American settlers began arriving.

Partnerships between the tribal groups, state and local governments and community groups will be important to the development of the park site. The site offers unique potential for conveying powerful stories of conflict, reconciliation and renewal.

Classification and Management Plan (CAMP)

The Long-Term Park Boundary for the Nisqually-Mashel State Park Site was determined by identifying those lands that have the highest potential to:

- Establish a sustainable environmental framework
- Provide for short-term (using existing roads) and long term access (when proposed circulation system is complete), for all transportation forms
- Provide scenic visual framework
- Identify land for recreational and educational use and interpretation

The Long-Term Park Boundary is established on the east by the State Route 7 (SR-7) highway right of way (including land currently controlled by the University of Washington's Center for Sustainable Forestry at Pack Forest and a small area owned by Tacoma Power). On the south, the Long-Term Park Boundary is defined by a line running roughly east-west from the southwest corner of the southernmost State Park property line (with a 600 foot adjustment southward to encompass an upland terrace/bluff and forest road). On the west it extends to the westernmost margins of the Ohop Creek Valley –from the Ohop Creek / Nisqually River confluence to the SR-7 highway corridor. The north boundary is located 300 feet north of the SR-7 highway right of way – extending to Pack Forest land at the SR-7-Mashel River Bridge. The goal at the north boundary is to create a parkway feel along the highway corridor. The current (2009) State Park property ownership area encompasses 1,230 acres. The total Long-Term Park Boundary area would include approximately 3,434 acres.

The CAMP includes a land classification map, Long-Term Park Boundary and a park management plan. It was generated by State Parks concurrent with the evolution of the master plan concept and stakeholder feedback. The CAMP is included in the Appendix to this document.

Master Plan Land Use Description

The park is composed of four broad geographic areas. Each area is described below in text, table and shown on the accompanying diagrams. Linking these zones is a circulation network, including roads, trails, bridges and overlooks. The site areas, described in detail below, are:

- The Central Plateau
- The East Mashel Plateau
- South Bank of the Nisqually
- River and Creek Valleys

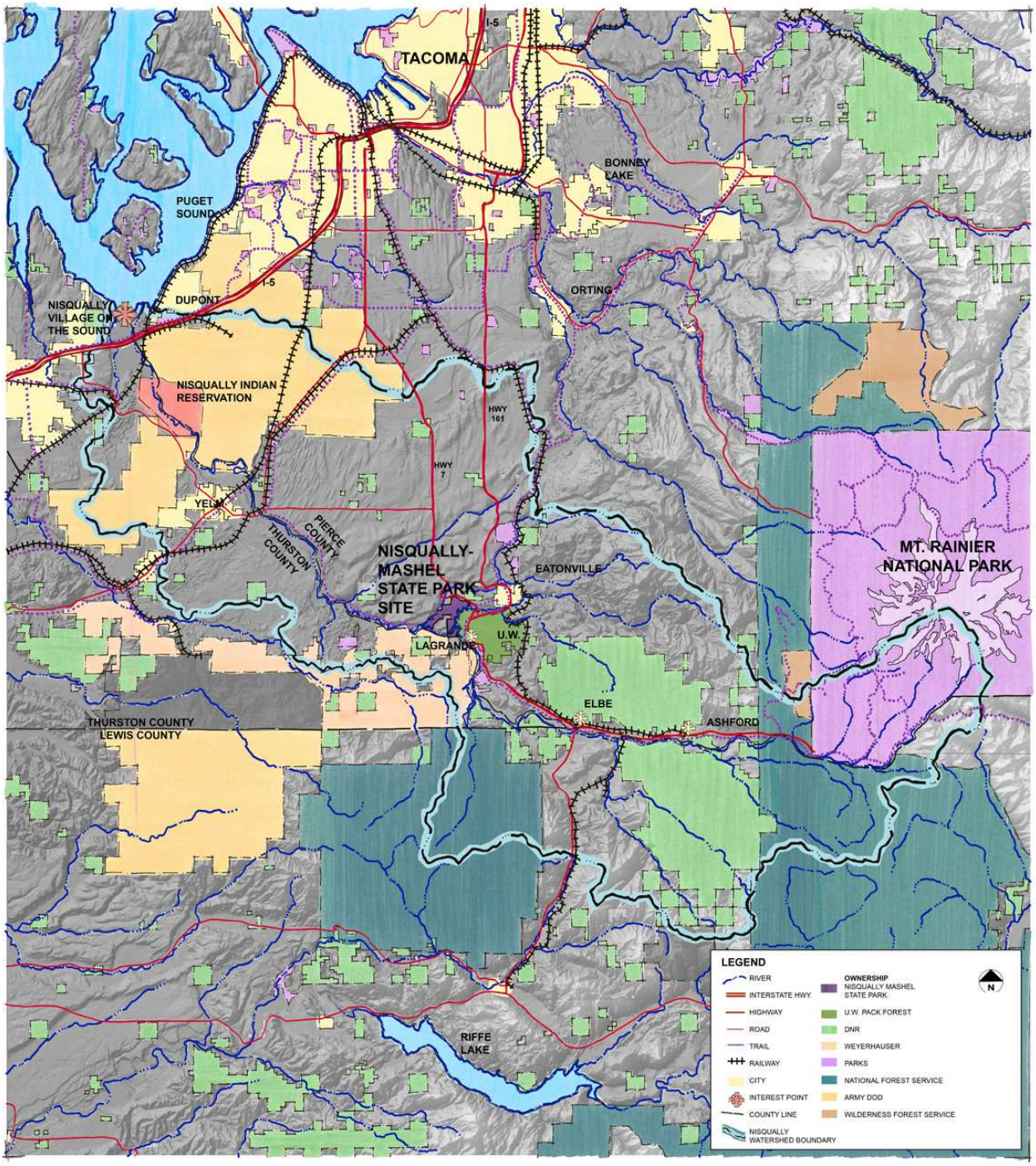

Figure B-2 Regional Area Map

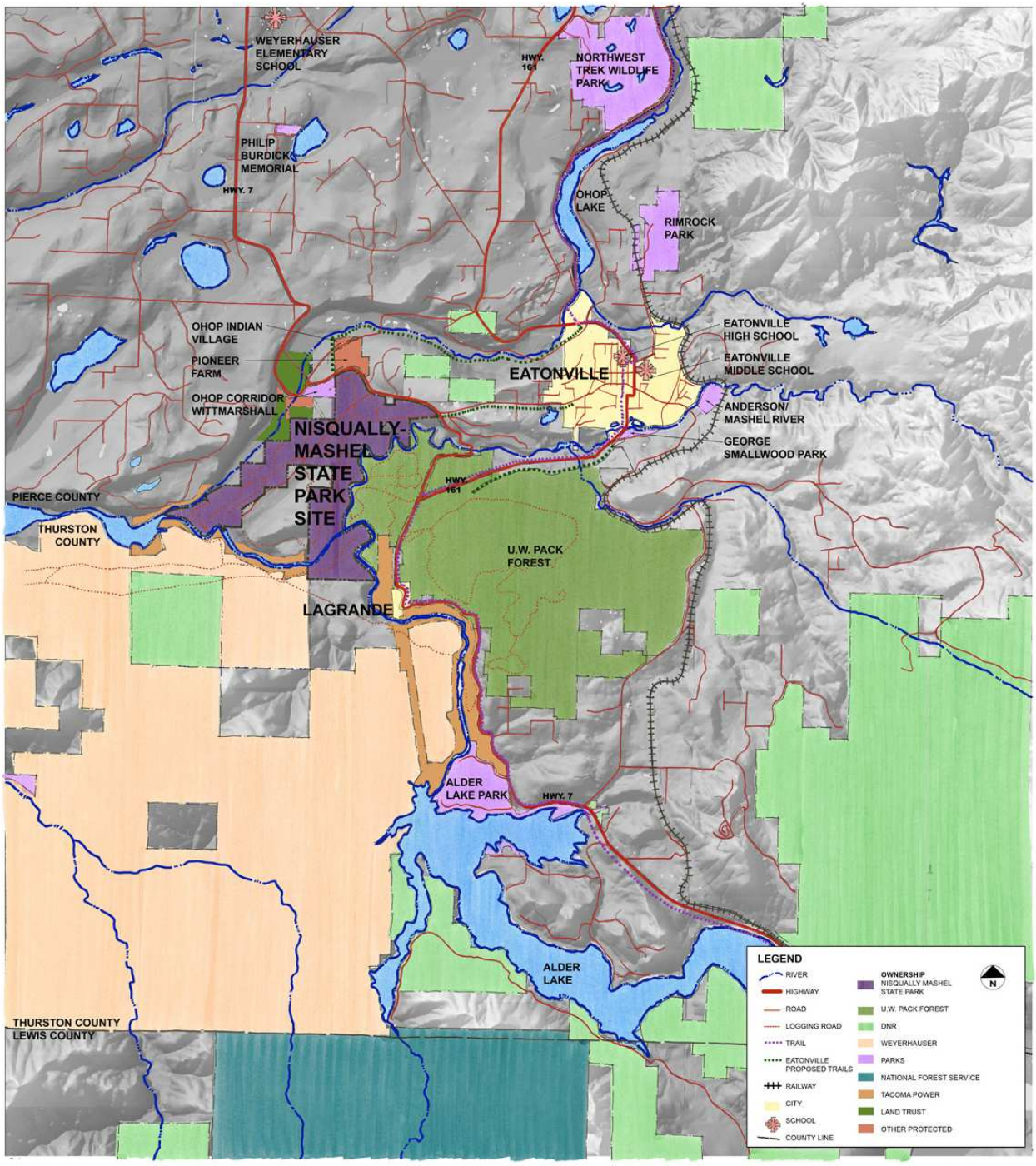

Figure B-3: Local Area Map

The master plan proposes centers of activity contained within the two plateau areas, as well as gathering nodes and trails at selected locations within the valleys.

The physical development of the park is clustered in two primary nodes – the Village Center and the People's Center – both on the Central Plateau. Secondary and tertiary nodes include the Ohop Equestrian Center above Ohop Creek; camping, biking and backcountry horse facilities on the East Mashel Plateau; river access points; and high bridges serving as both river crossings and as destinations in themselves. The Village Center and People's Center are linked by a paved multi-use loop trail that serves both pedestrians and bicyclists. A network of spurs and secondary loops, including some dedicated equestrian and bicycle trails, provides access to other destinations and allows for trips of varying length and experience.

The Central Plateau

The central area of the park is located on the plateau bounded on the east by the Mashel River, on the south by the Nisqually River and by Ohop Creek to the west. This portion of the park is the primary land use and development area. All major development on the plateau, with the exception of the People's Center, is located northward close to SR 7, away from the park's critical areas and forest resources. The Central Plateau contains the park's Village Center, People's Center and Ohop Equestrian Center.

Park Entry and Welcome Center

Located astride the park entry road, the State Parks Welcome Center provides for visitor information, orientation and potentially fee collection with drive thru lanes. Park gates allow for periodic closure and access control. The modest building provides space for service windows, office, restrooms and storage. A small staff parking area and outside rest area and table is provided.

Village Center

Several buildings are clustered around the park commons – the core of the Village Center. This key park area sets the stage for all park activities and programs. It also serves as the orientation point for the park's interpretive programs and facilities. Cabin Rental and Tent and RV camping areas are adjacent to the dramatic Mashel River bluff.

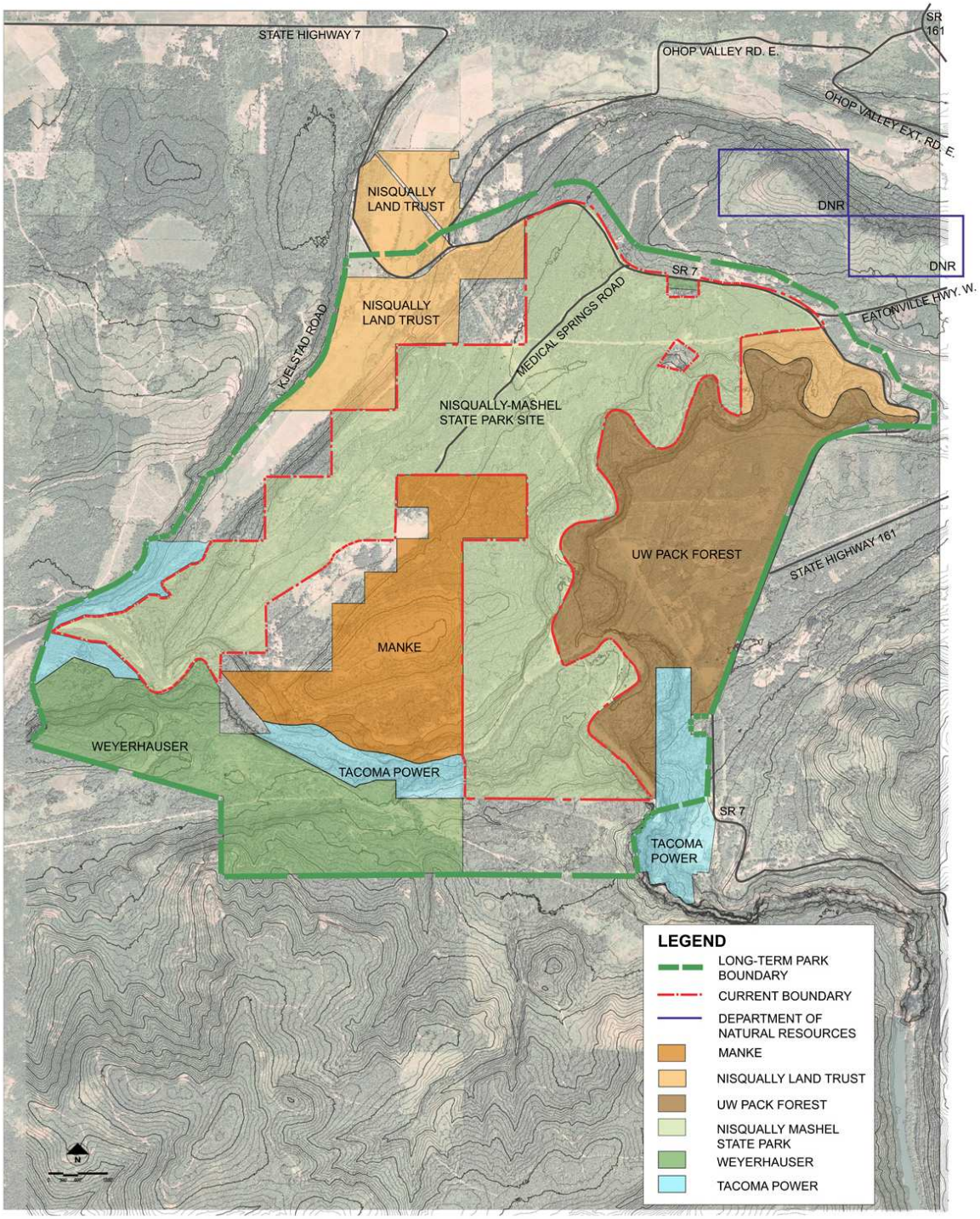

Figure B-4: Major Property Owners within the Long Term Park Boundary

Figure B-5: Village Center Commons

Paved multi–use trails provide easy and accessible movement throughout the Village and to the Ohop Equestrian Center. Maintenance and utility facilities are also located in strategic proximity to the Village Center.

The landscape of the village center – and throughout the rest of the park – will use native plantings and demonstrate Low Impact Development practices in treating storm water runoff. At build out the Village Center will include:

- Headquarters Building
- Camp Store
- Laundry
- Overnight Residence for permanent or seasonal employees – potentially located as a second floor above the headquarters building
- The Great Meadow, a multi-acre opening of the existing forest - developed to the north and to the east of the Village Center. The Great Meadow provides areas for events and program activities, stormwater fishing pond, meadow habitat, views to the mountain and a setting for Village Center facilities.
- Forest thinning and clearing will provide light, views, grass activity areas, and access to the great meadow.
- Fishing Pond fed from storm water runoff of impervious surfaces. This large storm water and fishing pond is sited west of the Village Commons complex and near day use, event area parking and maintenance areas. The pond may require seasonal additions of water to support fishing use.

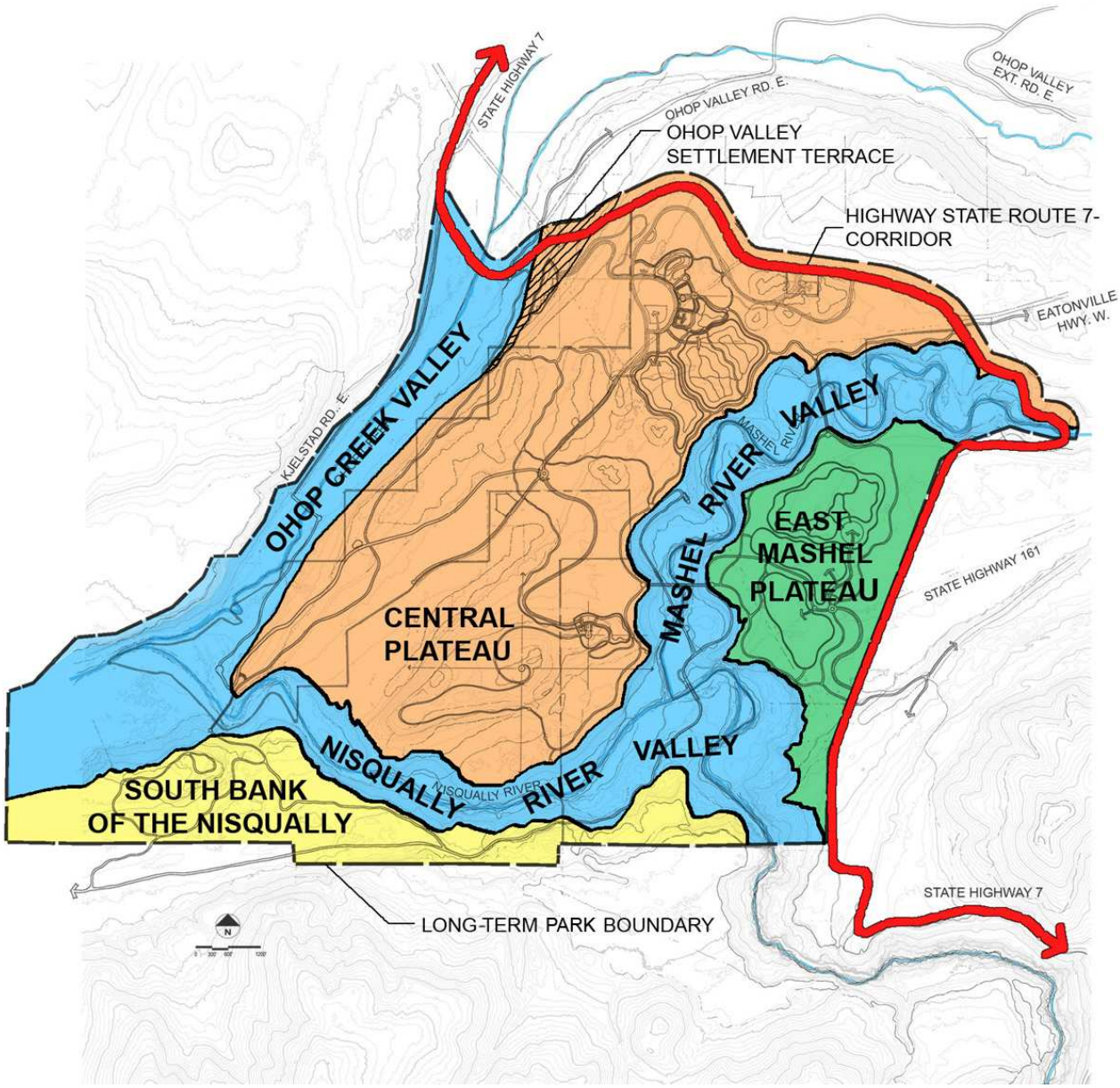

Figure B-: Development Areas

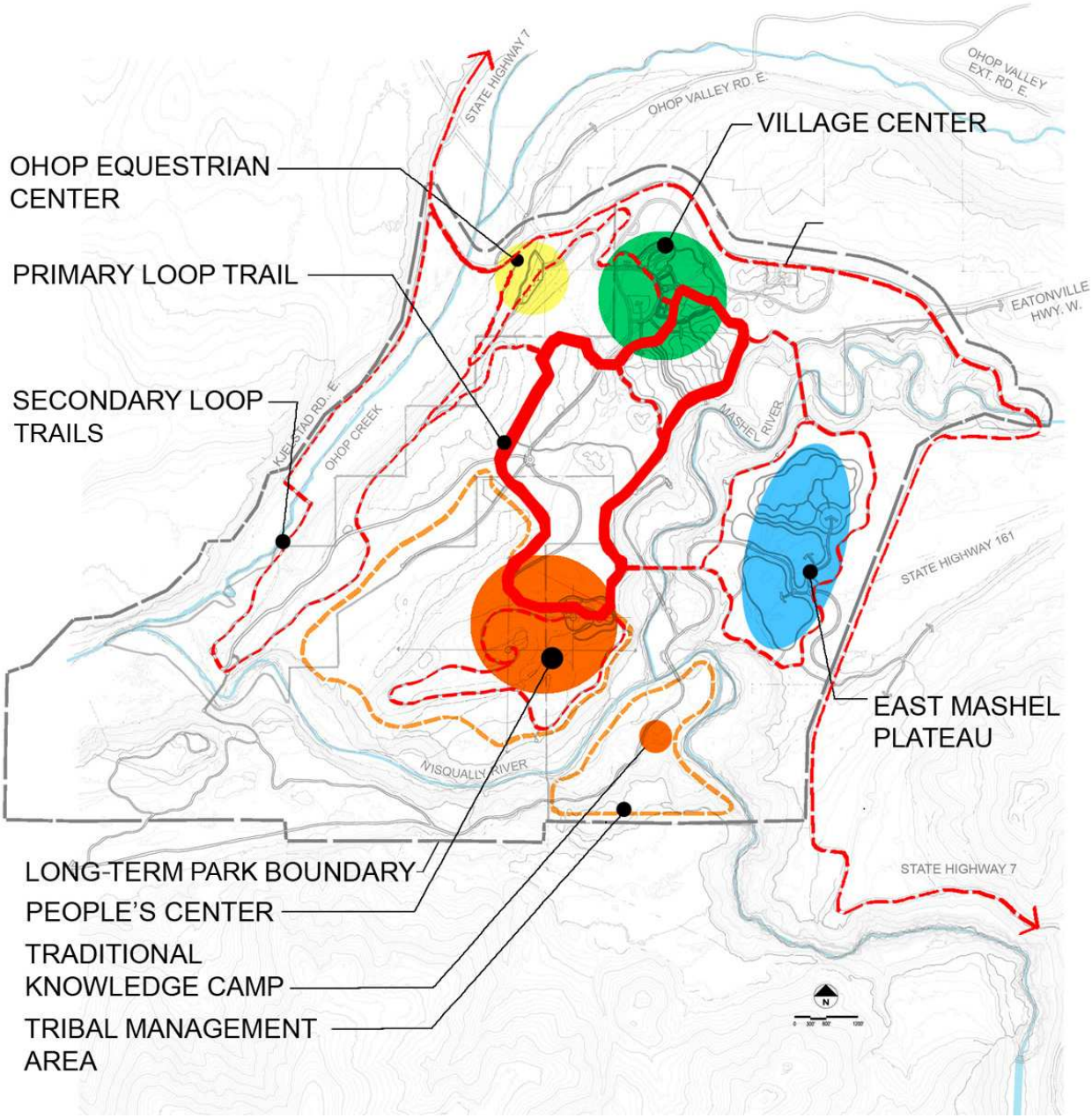

Figure B-7: Conceptual Organization

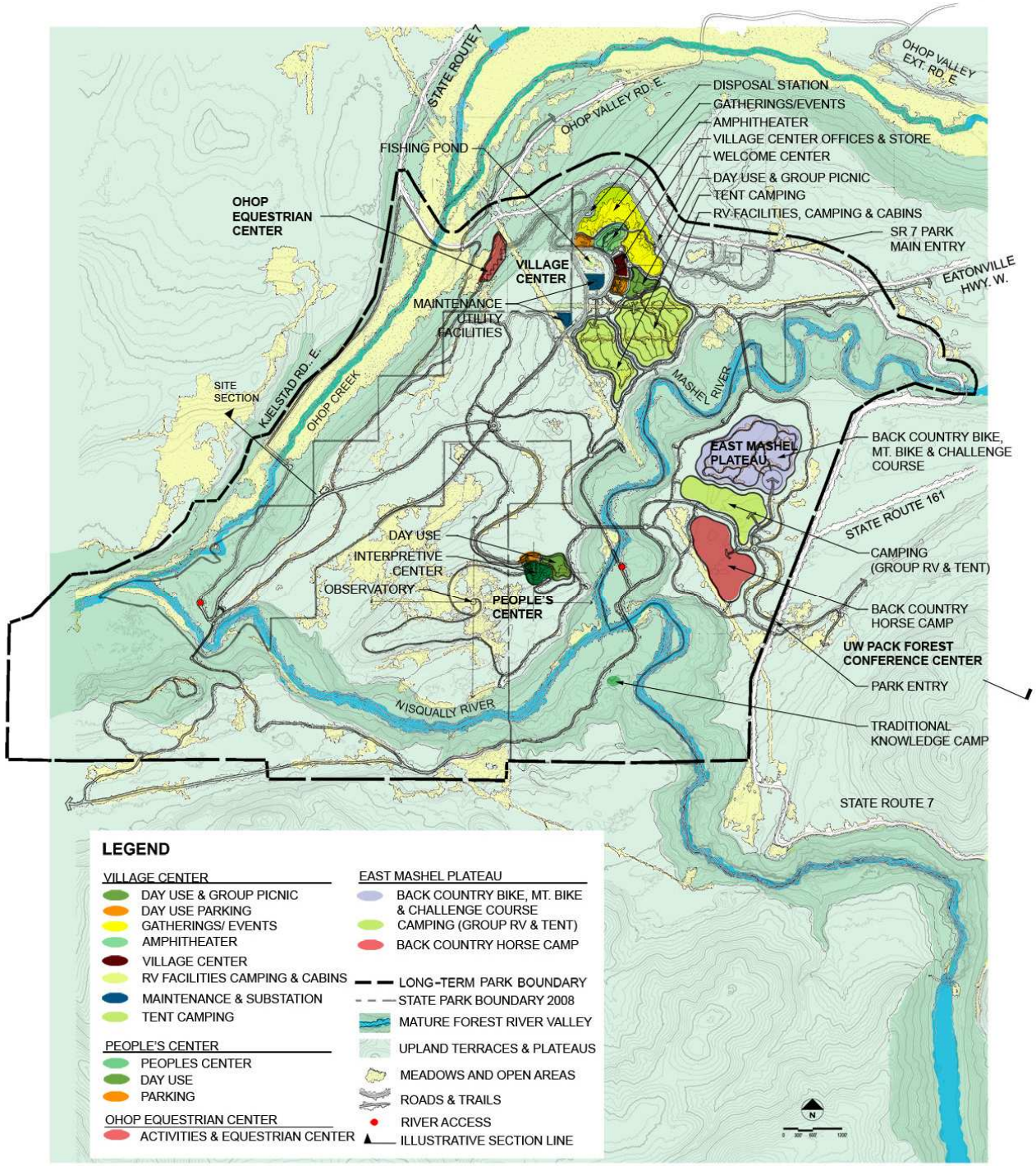

Figure B-8: Illustrative Master Plan

- Gathering and Event area, comprised of a terraced earth and grass amphitheatre; a covered stage with equipment and storage facilities; restroom and concession facility; and a 200-vehicle event parking meadow.

Day Use and Group Picnic Area

Adjacent to the Village Center is the day use and group picnic area. An information and interpretive kiosk will orient visitors to the offerings of the park. Picnic shelters and uncovered picnic tables, both for small and large groups are provided. A woodland themed play structure allows the younger visitor to exercise and release energy accumulated during the drive to the park. All facilities will include power, water, and accessible trail access.

Camping Areas

Three adjacent and separate camping areas are sited south of the Village Center. They include camp loops for recreational vehicle camping, vehicle and tent camping, and cabins. As the "living" area of the park, camping areas provide a range of flexible and comfortable camping experiences for both first timer and experienced campers; those

Figure B-9: Campground Sketch

with recreational vehicles and those with tents; campers who desire a cabin experience; and backcountry horse campers. Camping types are segregated into clustered cabins, RV areas (both individual and group) and vehicle/tent camping. A camp site density of from three to five sites per acre (3 to 5/acre) will guide camping area site design and layout. No remote area camping is currently envisioned for the park.

In support of the camping loops, the park will provide a range of the following amenities:

- Host Camp Site
- Kiosks
- Recycling/Refuse Center
- Restrooms and Water Sources
- Play Areas
- Picnic Shelters (at group camps)
- Camp Area clearings/meadows for habitat diversification, play, picnicking and views
- Camp Sites for RVs and tents with varying levels of service:
    - Full Hookup services (power, water, WIFI, sewer) at RV loops
    - Basic services (water and power) at tent loops
    - No services at tent loops

Maintenance and Infrastructure Facilities

The central maintenance and shop complex is adjacent to the village center, located within the area bounded by the village loop road. This area, and the adjacent substation at the intersection of the Bonneville Power Administration and Tacoma Power rights of way, provide for Ohop Mutual Light Company, water well(s), tank storage and distribution, wastewater treatment facilities as well as vehicle and equipment storage.

Facilities are set back from park roadways, the Village Center and camping areas – allowing for retention and enhancement of screen from existing forest vegetation. This complex will include:

- Central Maintenance and Shop Offices and Bays
- Equipment Storage
- Loading Dock
- Wood and Materials Storage
- Vehicle Parking
- Security Fencing

Ohop Equestrian Center

Located on a terrace above Ohop Creek, the Ohop Equestrian Center utilizes the historic Milk Barn as its base of operations, capitalizing on the natural connection between the Ohop Creek valley's settlement history and the new equestrian uses. This zone of the park provides opportunities to experience and interpret the agricultural and ecological development within the creek's floodplain. The Center is the starting point for trail rides along the park's equestrian trails and may also host related activities like hay rides or barn dances.

Figure B-10: Milk Barn

Rehabilitation and adaptive reuse of the existing barn provides for the concessionaire's stabling and corral needs. The area will also include a sustainable manure waste handling center. A small visitor parking area is provided at the end of the spur road leading from the village center.

People's Center

The People's Center is the focus of cultural interpretation at the Nisqually-Mashel State Park Site. The access road rises up the site's central ridge to a false summit where the interpretive facility is located. An arrival plaza, drop-off, turnaround and parking for 200 cars are provided. The interpretive center includes exhibits, tribal program space and equipment/materials storage. Outside spaces include a gathering area and trailhead that leads to the high bridge, the Observatory and a reconstructed Leschi's village.

This facility, proposed for development in partnership with the Nisqually Tribe, is the primary destination within the park and will provide significant opportunities to convey the park's unique character and interpretive message. The larger Nisqually Tribal Management Area may eventually encompass managed forest, restored Mashel Prairie,

and rehabilitation, protection, interpretation of the Shaker Church, Indian Henry Cemetery, Leschi's Village and Medicine Springs.

Figure B-11: Observatory

The Observatory is located on the high point of the site, at a previously logged meadow. The circular observatory plaza and surrounding seat wall is oriented to the four cardinal directions and distant landmarks: Mt. Rainier (*Tacobet*), the Olympic Mountains and the Puget Sound (*Whulge*). Portions of the current cleared area will be maintained to limit tree and high shrub development in order preserve the key view orientations. Interpretive materials and panels will enhance visitor knowledge of the terrain and historical sites within the park. The Observatory will also provide a place for ceremonial and educational programs.

Leschi's Village is conceived as a re-creation of the Nisqually Chief Leschi's tribal village. At this time little is determined as to the scope, functions and character of Leschi's Village. It is presumed that the village will be a sacred place and provide opportunity for visitors to see the style and character of pre-Columbian and post-Columbian Native American villages and the lifestyle they represent.

Other planned facilities, include:

- Equipment/materials storage building
- Day use areas
- Potential for water well and associated equipment building and security facilities

East Mashel Plateau

The East Mashel Plateau area supports three primary land use areas: Backcountry Horse camp, Group RV/Tent camp and Backcountry and Challenge Course Bike area. These areas are accessed from an entry off of SR 7 (across from the University of Washington's Center for Sustainable Forestry at Pack Forest) and managed through a Welcome Center and vehicle control points. Trails and access roadways connect eastside park users to the Mashel River bluff, bridges and confluence areas. The eastside park area provides immediate access to nearby Pack Forest conference facilities, forest and regional trails.

Park Entry and Welcome Center

The park's second Welcome Center will provide visitor information, orientation and potential fee collection at drive thru lanes. Park gates allow for periodic closure and access control. The modest building provides space for service windows, office space, restrooms and storage. A small staff parking area and outside rest area and table is provided.

Camping Areas

Two camping areas are provided on the East Mashel Plateau, a Backcountry Horse Camp and a Group RV and Tent Camp. The horse camp and associated truck and trailer parking is provided for 50 to 100 sites within a 40 acre area. The area has easy access to the SR 7 undercrossing and Pack Forest trail system. The Group RV and Tent Camp area provides park expansion areas tailored to this segment of the camping market.

Backcountry and Challenge Bike Course

To meet the growing demand for recreational mountain bike use, the master plan provides a 60 acre bike-focused area on the northern portion of the East Mashel Plateau. This self-contained area avoids potential incompatibilities with pedestrian or equestrian users.

South Bank of the Nisqually

The area on the south side of the Nisqually provides for a Tribal managed Traditional Knowledge Camp, and trail access to a proposed future Thurston County regional trail. The camp is located on a terrace above the 100-year floodplain and provides space for tribal elders to pass on knowledge to younger tribal members related to traditional use of the land for shelter and sustenance. The South Bank of the Nisqually is accessed by two bridges, one high bridge above the Ohop/Nisqually confluence and one low bridge over the Nisqually near the Mashel confluence.

River and Creek Valleys

The majority of the Mashel and Nisqually rivers and Ohop Creek valleys and their side slopes are protected and managed to provide for the health of habitat, wildlife, critical slopes, river hydrology, and scenic values. Trails and five low bridges (including the existing Mashel River Bridge) are planned along with controlled access to the two confluence areas – each with interpretive viewing platforms, seasonal river access and limited vehicle loading and parking.

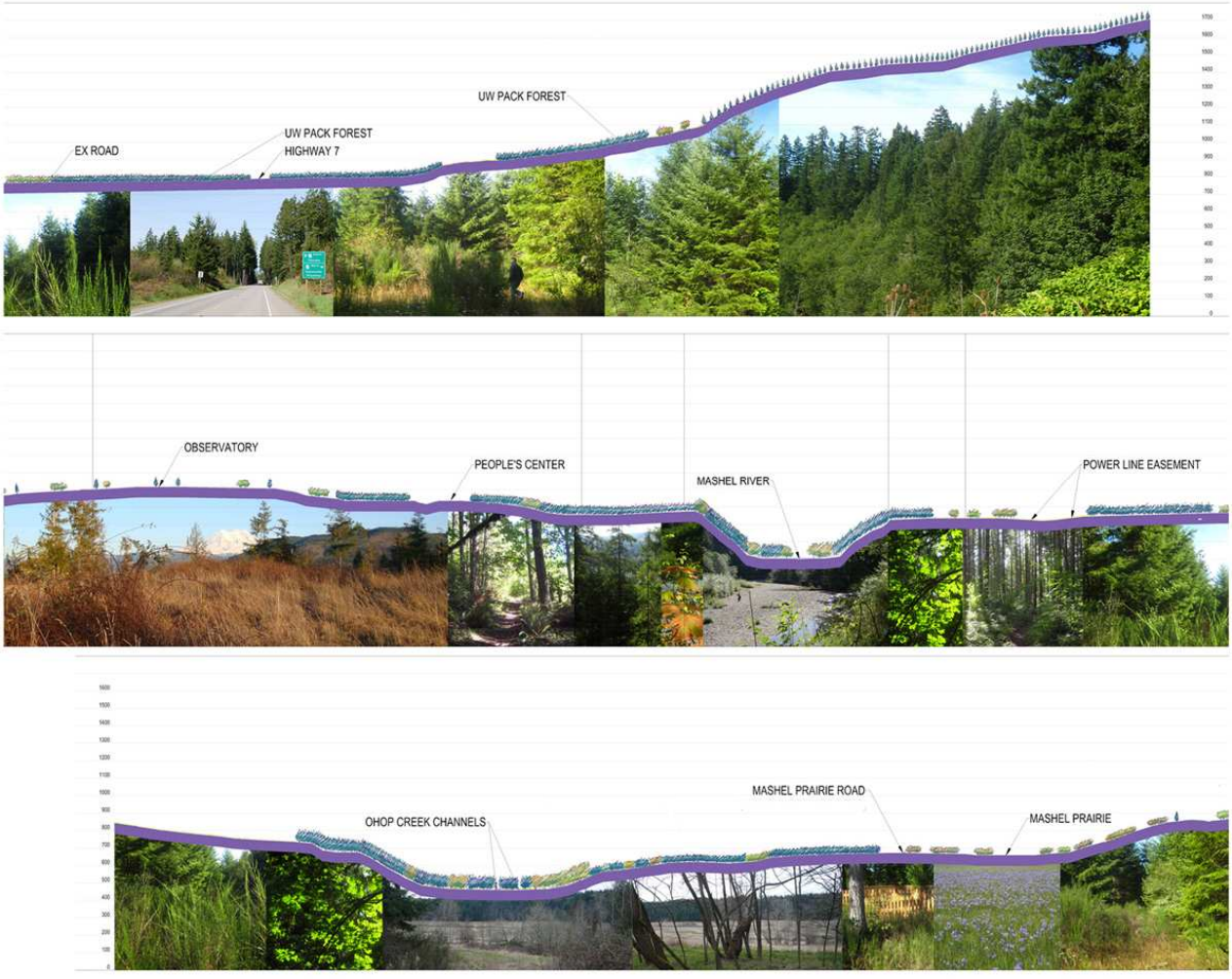

Figure B-12: East – West Section

Development and Land Use Issues

The master plan addresses 10 primary development and land use issues:

1. Land Acquisition
   Additional land acquisition, and access and use agreements are necessary for both short and long term park development, these include:
   Short-Term Agreements
   - The section of land in middle/east edge of park (Manke Timber Company)
   - The in-holding alongside SR 7 on the north boundary of the park (Weyerhaeuser Timber Co. and an adjacent residential parcel)
   - The in-holding along the edge of Mashel River bluff in northeast part of park (Former landfill)
   - The Mashel/Nisqually River confluence (UW Center for Sustainable Forestry at Pack Forest)
   - Access agreements for use of the East Mashel Plateau and to connect to the Pack Forest Conference Center and trail system (UW Center for Sustainable Forestry at Pack Forest)
   - Water right, or well by purchasing existing in-holding
   - Historic Milk Barn parcel (Nisqually Land Trust)

   Long-Term Agreements
   - Access agreements or purchase for park development of the East Mashel Plateau (UW Center for Sustainable Forestry at Pack Forest)
   - Purchase of residential properties along Mashel Prairie Road.

2. Vehicle Access/Entry
   Replacing the existing SR 7 / Mashel Prairie Road intersection with a safe vehicle access point for park visitors is necessary. The current intersection with SR 7 has turning movement and sight distance limitations.

3. Access to In-holdings
   The park must maintain access to in-holdings and homes along Mashel Prairie Road.

4. Wetland Identification
   A number of wetlands and their associated buffers were identified throughout the park site and immediate area. More detailed delineation efforts will likely identify additional unmapped wetlands in other areas of the park, which subsequent design implementation projects must address.

5. Water Source
   None of the park's land parcels have an associated water right. The park lies outside of the Town of Eatonville's Urban Growth Boundary and is not within its water district. It is unlikely the park can receive water from an approved off-site source. The State should initiate application for a water right and begin process to drill a well.

6. Trail Access at the Mashel River
   The lost connection, due to a landslide adjacent to a bend in the Mashel River channel, between the park's Central and East Mashel Plateaus remains an important circulation route. The master plan proposes a bridge to span the landslide, to minimize impacts to the riparian area and allow continued migration of the river channel. When improvements are designed and constructed, these potential impacts will be evaluated and reviewed with the Nisqually Tribe. Steps will be taken to potentially mitigate sediment flow into the river the river and mitigate potential obstructions to river migration to the extent possible.

7. Nisqually River Bridge
   A bridge over the Nisqually River, to replace the one washed out in an earlier flood, is needed upstream of the confluence with the Mashel River. It will provide access to park lands on the south side of the Nisqually River.

8. Long Term Trail Connections
   The best opportunity for trail connectivity comes from the north and northeast along multi-use trails proposed by the Town of Eatonville, Pierce and Thurston counties and the National Park Service. Both counties show future trail connections to the State Park Site, one on each side of the Nisqually River. Either involves over 20 miles of trail, through many private holdings. Park planning must consider these future southern and southwestern connections – but realize that implementation is likely very long term.

9. River Access
   Nisqually River access for rafters, kayakers and boaters is proposed at the river's confluences with Ohop Creek and the Mashel River. State Parks will identify time periods that will not impact fisheries resources and develop management guidelines through a separate process to control access. Washington Department of Fish and Wildlife has indicated that fishing will be closed on the two rivers and creek when public use and access within the park increases.

10. Easements and Use Agreements
    To fully implement the master plan, existing easements and use agreements must remain in place and development of new agreements are required, including:
    - Bonneville Power Administration, Tacoma Power (power line corridors)
    - Pierce County road and access point off SR 7, and related access to private in-holdings (Mashel Prairie Road)
    - UW Center for Sustainable Forestry at Pack Forest (East Mashel Plateau)
    - Nisqually Land Trust (east slope of the Ohop Creek Valley)
    - Tacoma Power (south side of Nisqually River)
    - Weyerhaeuser Timber Company (south side of Nisqually River)
    - Washington State Department of Natural Resources (North of SR 7 and South of Nisqually River)

Park Utilities Information

The utilities for the park will conform to State Parks' standards, and will support the clusters of activity defined in the Master Plan. A summary of the utilities constraints, opportunities and expectations is as follows:

Potable Water

Two wells with storage tanks and distribution piping are proposed to serve the park. In addition, an on-site chlorine generation system will disinfect the water system.

Two wells are located to serve the Village Center and the East Mashel Plateau and adjacent areas. The number and size of the wells will determine regulatory requirements and future test borings, test well pumping rates, peak use, and fire flow requirements. At a minimum it is assumed that a well, well pump, storage tank, and distribution piping are included in the potable water system. The water distribution systems follow the main roadways, and in many areas also follow the power and telephone systems. Where practical, a common utility trench is proposed. Residual monitoring and disinfection is part of the onsite generation system.

Wastewater Treatment

A relatively simple onsite treatment system will store wastewater solids in septic tanks near each restroom or building, while the effluent is pumped in small diameter pipelines to a sand filter and drain field system. Electrical feeds will serve pumps and the centralized treatment facility. These systems meet all regulatory requirements and typically require smaller leachate fields due to improved effluent quality over traditional septic tanks. The collection pipelines would follow the roadways and trails. The collection pipelines will follow the main roadways, similar to the power lines. Alternate approaches may examine the potential for a composting system.

Restrooms are to serve buildings, gathering places, and campsites. Restrooms are also to serve outlying Welcome Centers and are piped to nearest centralized treatment center. Assumptions related to the number of campsites served by each restroom and restrooms including showers are included in the calculations.

Solid Waste

No solid waste handling services are included. Solid waste removal and handling is typically contracted directly with a nearby municipality or private company such as LeMay Enterprises (Pierce County Refuse). Containers and hauling are provided by the private company with little capital cost to the facility. Minimal infrastructure is required to store trash bins. Container storage areas typically include a paved pad with curbing and bollards if necessary and are incidental to the cost of the site improvements.

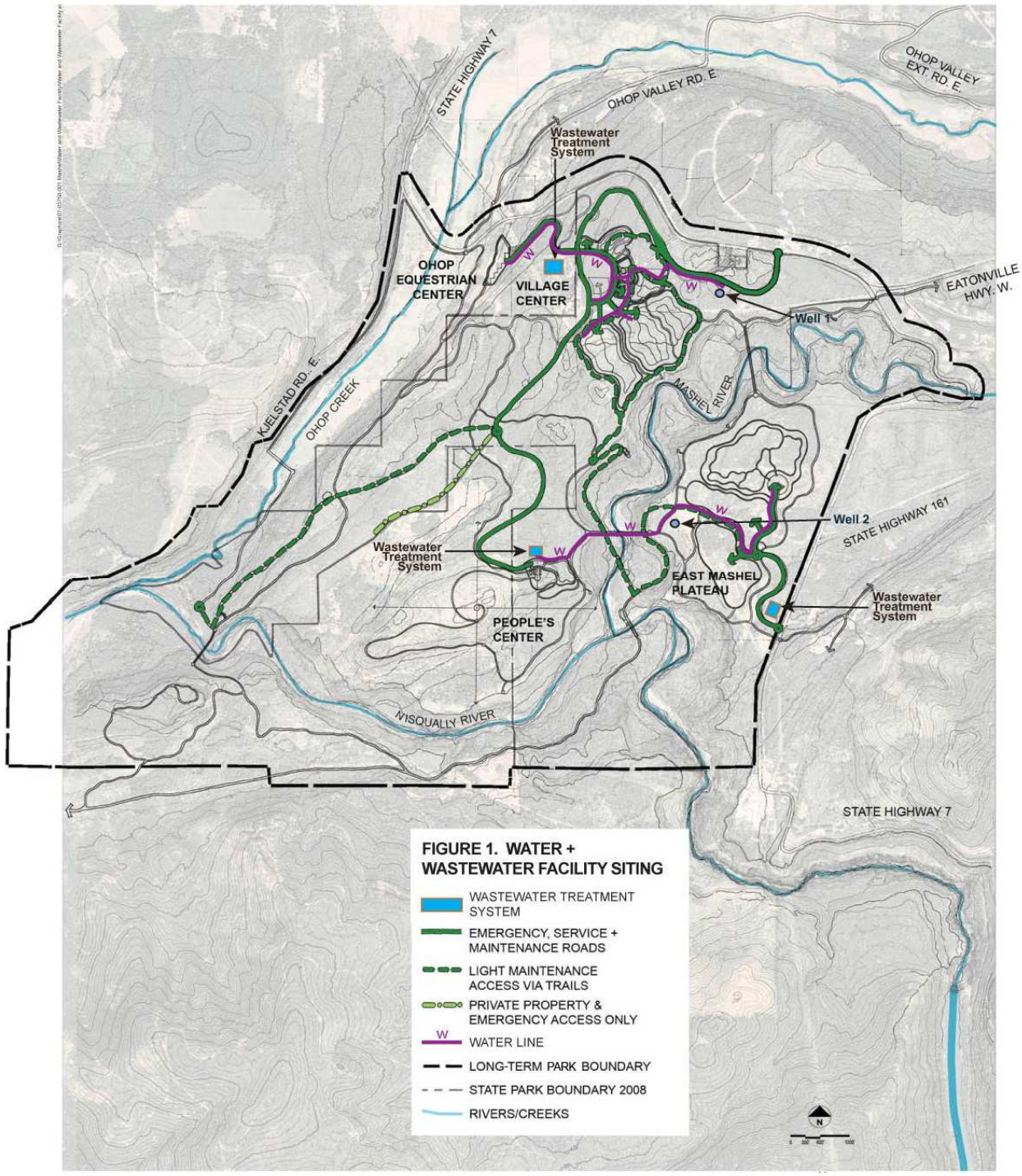

Figure B-13: Wastewater Facilities Plan

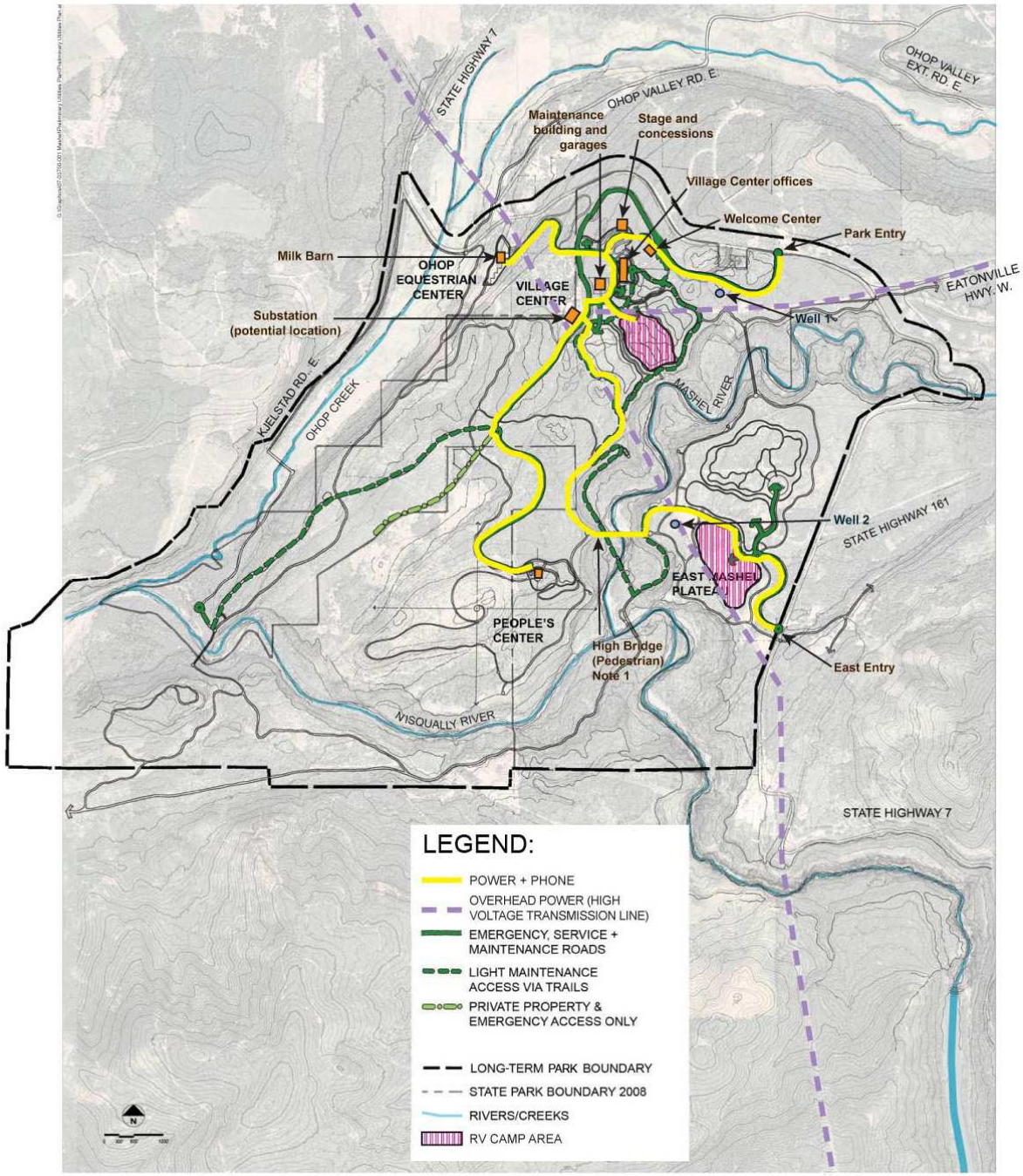

Figure B-14: Preliminary Utilities Plan

Electrical Power

A Bonneville Power Administration (BPA) high voltage power line bisects the site running northwest. Branching off this transmission line is a Tacoma Power overhead transmission line that supplies power east to Eatonville via a substation on Lynch Creek. The local electrical utility is Ohop Mutual Light Company. Ohop Mutual is planning to build a substation where the Tacoma Power transmission line ties to the BPA transmission line. Ohop Mutual has an existing power distribution line (overhead) that supplies power to local residences along Mashel Prairie Road. This is a potential electrical power source for the State Park. Burial is recommended for these existing overhead power lines to improve park aesthetics.

The proposed power distribution system planned to serve the following Park facilities:

- Village Center (offices and residences)
- Maintenance Area
- Entrance Gate (Street lights and Entrance signs)
- Amphitheater Site
- East Entrance Gate (Lighting and Signage)
- People's Center
- Ohop Equestrian Center (Milk Barn)
- Cabins and RV Sites near the Village Center and on the East Mashel Plateau
- Water supply wells

The distribution system will provide high voltage buried power to all the main electrical service areas. Transformers, located at each main service area to step the power down for local distribution to the buildings, camp sites, residences and other structures are required. The power lines are shown following the roadways to simplify construction. To extend power to the East Mashel Plateau, conduits along the underside of the high level pedestrian bridge are recommended. This route is more cost effective than following the much longer route down to the low level vehicle bridge and back up the east side of the valley.

Telephone Service

Rainier Connect provides local telephone service for the Eatonville mid-Nisqually River watershed area. Once service is available to the park site, a commercial phone system will provided to the following locations:

- Village Center
- Ohop Equestrian Center (Milk Barn)
- Amphitheater Site
- Maintenance Area
- People's Center
- Park Staff Residences

In addition to the Park's internal phone system, the phone company can install a pay phone at the two main campground areas. A common trench with 12" separation for phone and power lines is recommended.

Internet Service

Internet service is also available from the local phone company, Rainier Connect.

SUMMARY TABLE OF PARK LAND USE: AREAS, FACILITIES AND ELEMENTS

Park Development Area/Element	Central Plateau and Ohop Creek Valley	Description	East Mashel Plateau	Description	South Bank of the Nisqually	Description
Vehicle Entry and Access	New entry along SR 7 Interim entry at existing Mashel Prairie Road & SR 7	1 entry with Primary Park Sign 1 acre	New entry along SR 7 @ UW Center for Sustainable Forestry at Pack Forest Conference Center	1 entry with NMSP Eastern Mashel Plateau Camp sign 1 acre	Vehicle access via Thurston County - logging roads (not currently permitted)	2 access points via bridge and overland logging road
Welcome Center	Park Welcome Center: Check-in Station Orientation	1 Welcome Center 1 acre	Park Welcome Center: Check-in Station Orientation	1 Welcome center 1 acre		
Visitor Services	Village Center : Village Commons Headquarters Store Day use area	1 Facilities cluster 5.1 acres 6.5 acres				
Camping*	RV Group/Individual Vehicle/Tent Cabins	70 acres - 130 sites 20 cabins	Backcountry horse Vehicle/Tent RV Group/Individual	40 acres – 50-100 sites 36 acres - 150 sites	Remote camping	1 acre – 4 sites
Specialty Recreation	Outdoor gathering meadow - amphitheater Fishing pond and associated meadow Equestrian Center at Ohop Valley: Milk Barn events center Training corrals	20 acres 5 acres 4.3 acres	Mountain/ Backcountry Bicycle Challenge Course and Event Area Mashel River Confluence	60.5 acres		
Destinations & Attractions	People's Center Observatory / clearing Leschi's Village Shaker Church Reconstruction Cemetery Springs (protected/managed)	6.1 acres 80.0 acres 5.0 acres 1.0 acres 1.0 acres 10.0 acres	Access to UW Center for Sustainable Forestry at Pack Forest Conference Center, Museum, Trails Mashel River Confluence		Traditional Knowledge Camp Native American Management Area	5 acres 80 acres

Park Development Area/Element	Central Plateau and Ohop Creek Valley	Description	East Mashel Plateau	Description	South Bank of the Nisqually	Description
Roadways	Use of existing Mashel Prairie Road (Including in-holder portion) and logging roads New park roadway from highway to Visitor Center & camping areas & Mashel Prairie Road to People's Center	6,425 LF 17,550 LF 12 acres	Use of existing logging roads New park roadway from highway to Village Center & Camping Areas	5,400 LF 5,000 LF 4 acre corridor	Use of existing logging roads (not currently permitted)	
Parking	Welcome Center Village Center Day Use Gathering Event Camping Equestrian Center People's Center Ohop Creek -controlled Tribal Areas – controlled	10 50 100 400 30 50 200 10 10	Welcome Center Day Use Camping Mashel River - controlled	10 30 20 10	Tribal Areas - controlled	6
Trails	Multi-use (pedestrian & bike) Pedestrian Equestrian	21,700 LF 11 acre corridor 29,500 LF 10.8 acre corridor 28,050 LF 10.3 acre corridor	Multi-use Pedestrian Equestrian	4,100 LF 2 acre corridor 17,675 LF 8.9 acre corridor 13,000 LF 6.6 acre corridor	Pedestrian – ½ on existing logging roads and trails	19,300 LF 6.6 acres
Bridges, Crossings & Overlooks	Two bridges over Ohop Creek Two Highway 7 crossing River Valley overlooks	2 low bridges 1 grade separated undercrossing 1 at grade 5 overlooks	Four bridges over the Mashel River One highway crossing River Valley overlooks	2 High Bridges 2 low (one existing and one new) 1 grade separated undercrossing 2 overlooks	Two bridges over the Nisqually River River Valley overlooks	1 high bridge 1 low bridge 1 overlook

Park Development Area/Element	Central Plateau and Ohop Creek Valley	Description	East Mashel Plateau	Description	South Bank of the Nisqually	Description
Utilities and Maintenance Infrastructure	Water well(s)	Potential for 2 wells 1 @ Village Center 1 @ People's Center 1 - 2 acres	One well	1 well 1/2 acre	Potential for 1 well	1 well 1/4 acre
	Drainage system	Each development area	Drainage system	Each development area	Drainage System	Each development area
	Wastewater System (s): Localized: Compost Toilets near-term, and Centralized/package treatment facility long-term	2 compost 1 central facility 1 acre	Wastewater System: Localized Compost Toilets near-term, and Centralized/ package treatment facility long-term	2 compost 1 central facility 1 acre	Localized Compost	1 Compost
	Power: Ohop Mutual Light Co. substation	Power distribution Alternative energy Underground along road and trail corridors	Power	Power distribution Alternative Energy Underground along road and trail corridors	Alternative Energy	
	Communication	Telephone, WiFi	Communication	Telephone, WiFi	Communication	Telephone, WiFi
	Dump Station	1.5 acres	Dump Station	1.5 acres		
	Maintenance/Shop facilities	1 compound 3 acres		1 small facility 1 acre		

Park Development Area/Element	Central Plateau and Ohop Creek Valley	Description	East Mashel Plateau	Description	South Bank of the Nisqually	Description
Long-Term Park Boundary 3,434 acres **Current State Park** 1,230 acres						
Total Park Development Area = 525.20 acres		265 acres		165 acres		94.6 acres
Estimated Cleared Area Required – All Park Areas = 234 acres		148 acres		76 acres		10 acres
Total Roads – Paved/Unpaved = 40,375 LF 7.65 Miles Does not include camp areas		23,975 LF 4.54 Miles		10,400 LF 1.97 Miles		6,000 LF 1.14 Miles
Total Trails Paved /Unpaved = 133,325 LF 25.25 Miles		79,250 LF 15 Acres		34,775 LF 6.59 Miles		19,300 LF 3.66 Miles

* The densities for each defined camping area can range from 3 to 15 sites per acre. This density range reflects, at the low range, existing state park campground standards and enterprise recreation RV campgrounds at the high end.

II-C. TRANSPORTATION AND CIRCULATION PLAN: ROADS, TRAILS, BRIDGES, OVERLOOKS AND CROSSINGS

State Route 7 Highway Corridor

SR 7 is a key regional transportation corridor along the park's northern and eastern boundary, from the Ohop Creek Valley eastward to UW Center for Sustainable Forestry at Pack Forest. The highway provides the two primary entries to the park – the main entry to the park's Central Plateau and the other at Pack Forest. Three trail crossings of SR 7 are also planned – two grade-separated under crossings and one at-grade crossing.

Much of the corridor is owned by State Parks, UW or Nisqually Land Trust. There are some privately held properties along the north side of the highway corridor between the Ohop Creek Valley and Mashel River Bridge. Management of the corridor will maintain and enhance the riparian and forest vegetation while creating a rich visual "State Park" experience.

Vehicle Circulation

The new entry drive from SR 7 along the north side of the park is located mid-way along a straight and level portion of the highway, maximizing sight distance for both east and west bound traffic. The new entry road leads to internal park roadways that provide vehicular access and parking to the Village Center, People's Center and the Ohop Equestrian Center on the park's Central Plateau. This new road sweeps to the west immersed in the forest setting, first passing the park Welcome Center on its way to the main park intersection leading east along a loop drive to the Village Center and west to the Ohop Equestrian Center. The Village loop also provides paved access to the three main campground loops.

The park road continues south, utilizing a portion of the existing Mashel Prairie Road. A new roundabout provides limited vehicular access to existing in-holding properties along Mashel Prairie Road. From the controlled access roundabout, a western leg follows an existing unpaved road grade to the limited river access point near the confluence of Ohop Creek and the Nisqually River. A new road to the east leads to the false summit of the central ridge and the People's Center.

The second entry off of SR 7 is located across from the entry to UW Center for Sustainable Forestry at Pack Forest. This roadway provides access to the East Mashel Plateau and the Backcountry Horse camp, Group RV/Tent camp and Backcountry and Challenge Course Bike area. An existing unpaved road grade provides a limited river access point near the confluence of the Mashel and Nisqually Rivers.

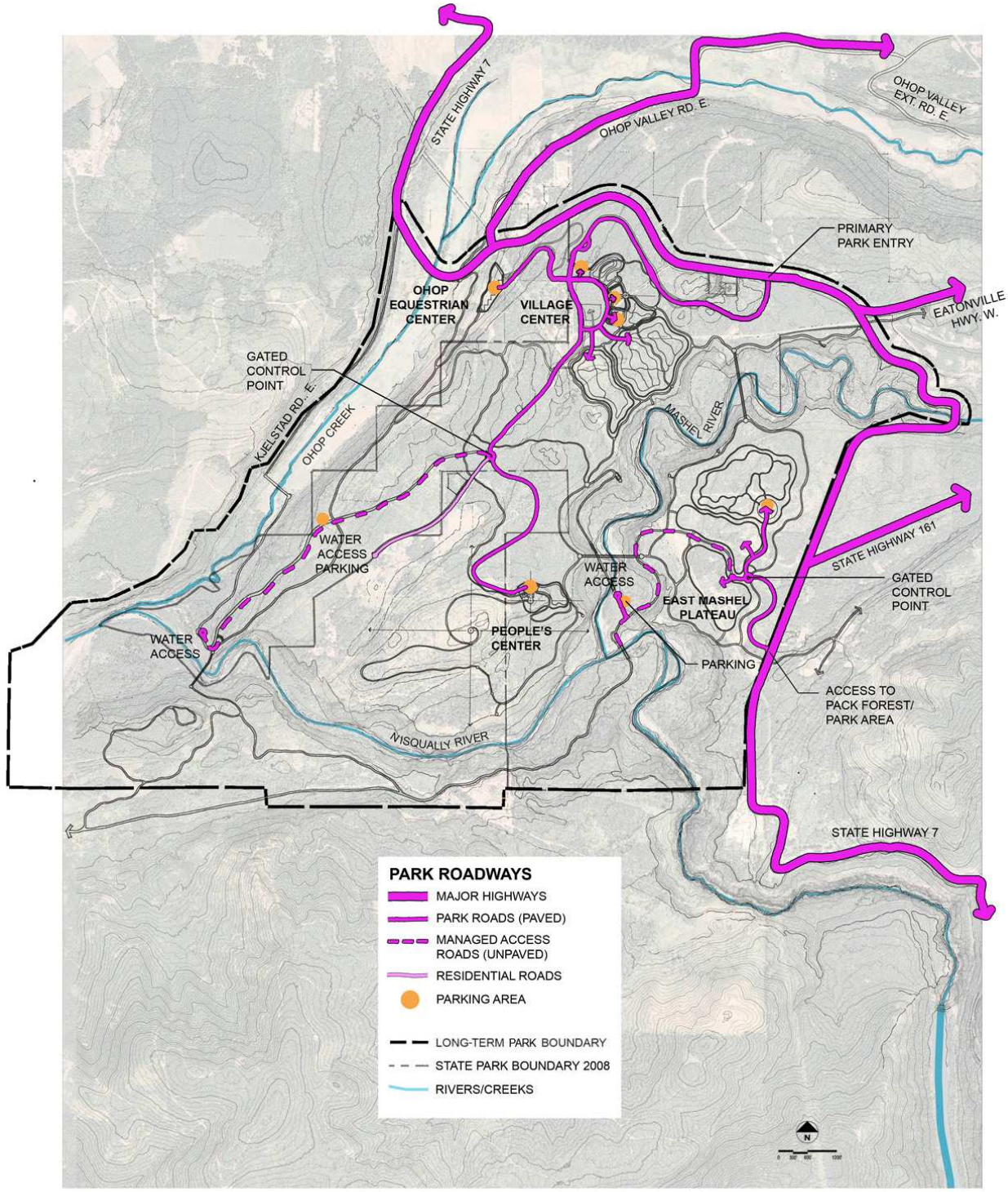

Figure C-1: Vehicle Circulation Plan

Emergency, Service and Maintenance access

Emergency, service and maintenance access is provided via these same roads and drives. In addition, an existing logging road descends to the west bank of the Mashel River, and a replacement low bridge provides access between the Central and East Mashel Plateaus.

Trails

The park is stitched together by a network of trails, some of which are shared by multiple modes of transportation, some of which are devoted to individual modes.

A paved multi-use bike and pedestrian trail connects, via a primary loop, the Village Center and the People's Center. Spur trails link to the Ohop Equestrian Center to the west and across the Mashel River to the facilities on the East Mashel Plateau. Both of these spur trails link to regional connections (the Ohop Valley Trail and the connection to Pack Forest and Eatonville trails). The main park roads are also open for bike use.

In addition to these paved trails, unpaved trails and boardwalks provide pedestrian access to other areas of the site. These include loops around Ohop Valley, the Observatory, the South Side of the Nisqually and the East Mashel Plateau.

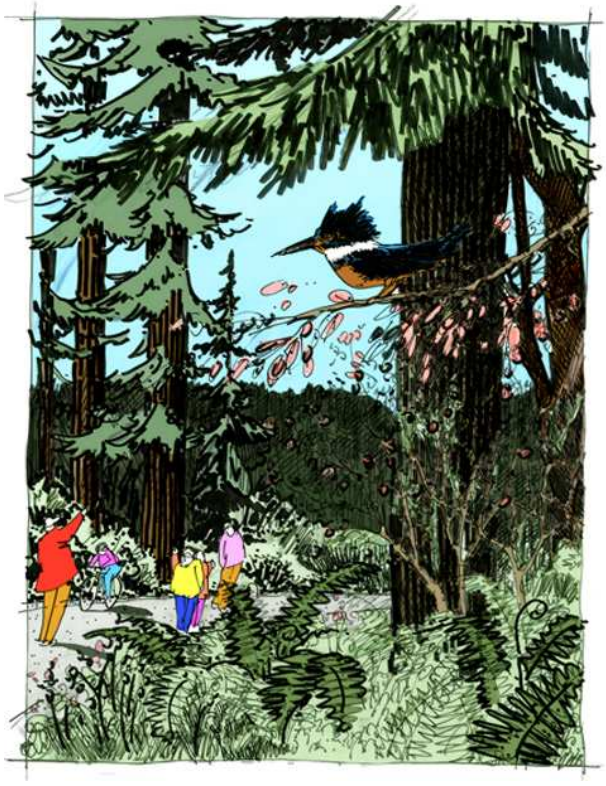

Figure C-2: Trail

Equestrian trails occasionally share or parallel pedestrian and multi-use trails, but usually maintain a separate circulation system. Recreational riders originating at the Ohop Equestrian Center follow mostly existing roads down to the confluence of the Ohop with the Nisqually, cross Ohop Creek and parallel Kjelstad Road E. north up to the SR 7 crossing of the creek valley. It is possible to ride up to the People's Center and over to the existing logging road down the west side of the Mashel River valley, across on a low bridge to the Backcountry Horse camp on the East Mashel Plateau. The undercrossing at SR 7 provides access to trails in the Pack Forest.

Bridges and Overlooks

The topography of river valleys shapes the park's circulation system. The plan includes three high bridges spanning the Mashel and Nisqually Rivers from plateau edge to plateau edge. These high bridges provide connection between park land use areas, extraordinary canopy and up-in-the-air experience and allow visual access to river corridors without directly impacting them. Trails along the bluff edges will also occasionally lead to dramatic cantilevered platforms that look down on the river valleys.

<u>High Bridges</u>

- North Mashel River Bridge – Village Center to East Mashel Plateau (pedestrian only)
- South Mashel River Bridge – People's Center to East Mashel Plateau (pedestrian and bike accessible)
- Nisqually River Bridge at confluence with Ohop Creek (pedestrian only)

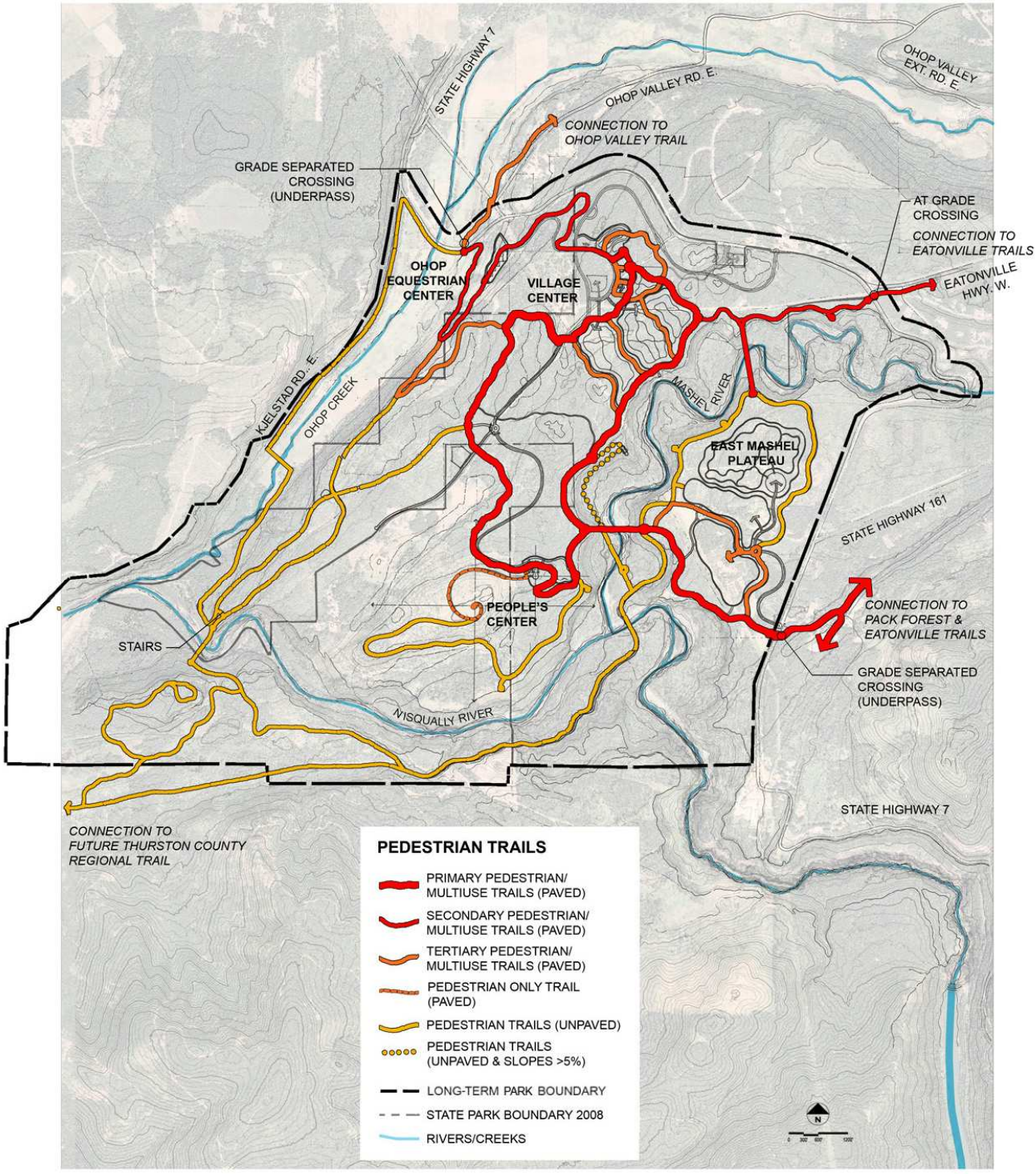

Figure C-3: Pedestrian Circulation Plan

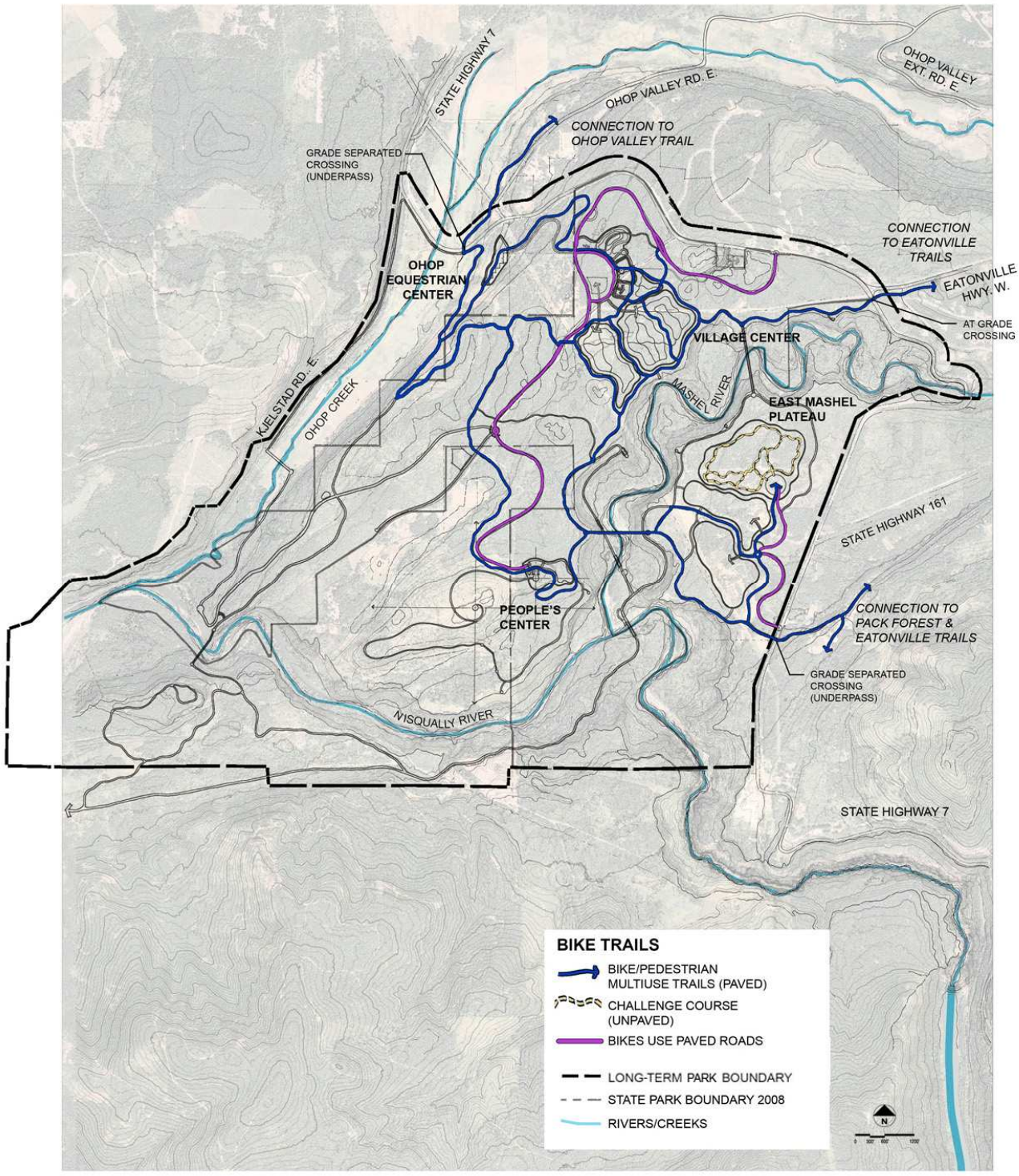

Figure C-4: Bike Circulation Plan

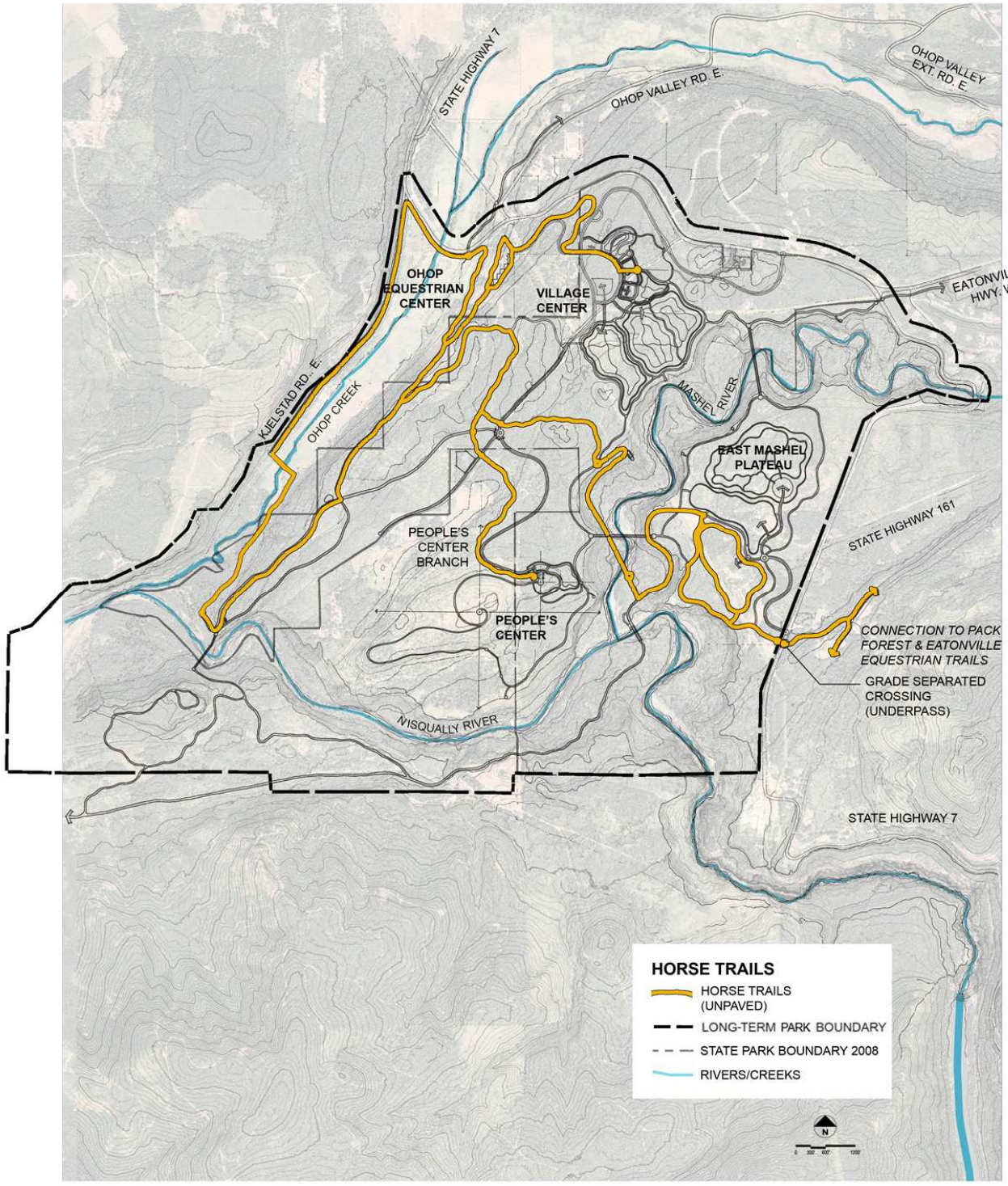

Figure C-5: Equestrian Circulation Plan

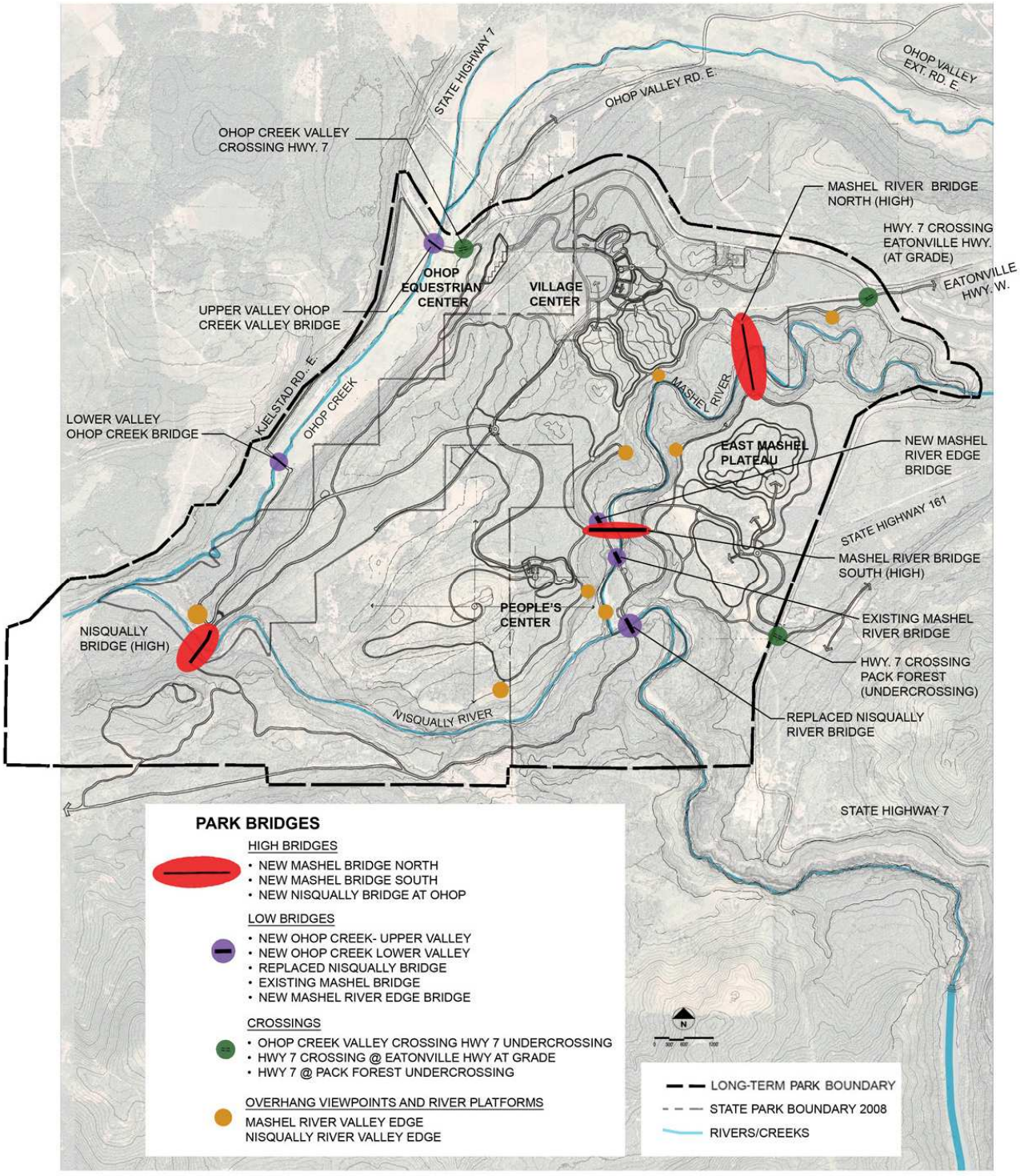

Figure C-6: Bridges and Crossings

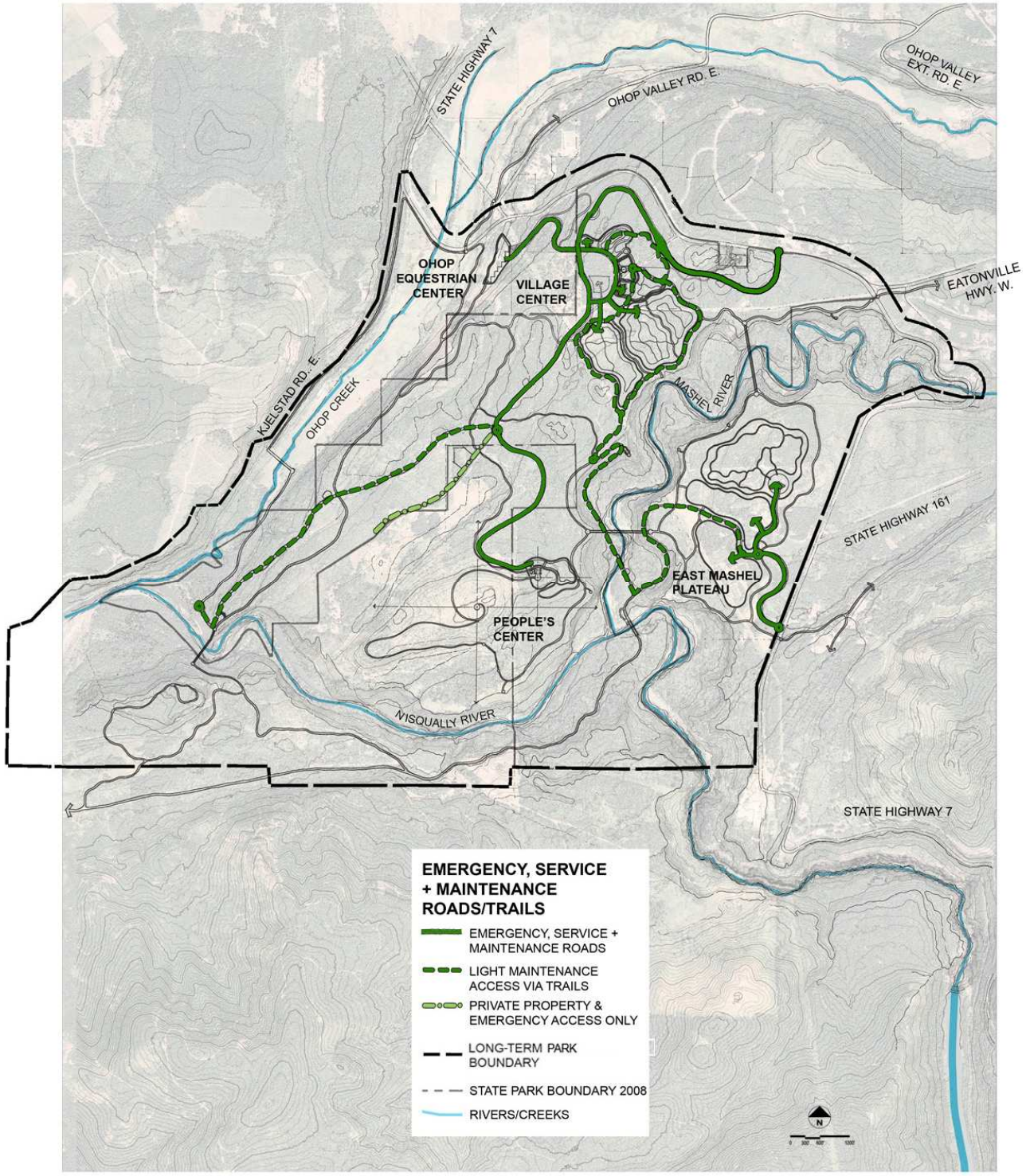

Figure C-7: Service Circulation Plan

Figure C-8: High Bridge with Interpretive Panels

Low Bridges

As mentioned in the Land Use Plan (Development and Land Use Issues) and in the Stewardship Plan (River and Creek Valleys Stewardship Prescriptions), potential impact will be studied with the Nisqually Tribe and mitigation measures and potential evaluated.

- North Ohop Creek Bridge
- South Ohop Creek Bridge
- Mashel River Edge Bridge (at washed-out section of old logging road)
- Existing Mashel River Bridge
- Nisqually River Low Bridge at Mashel River/Nisqually River Confluence

Overlooks

These important park elements provide a dramatic and focused experience for the visitor. Perched on the edge of valley bluffs, or over river currents, these overlooks are located to support the interpretive and educational message of the park while allowing people to experience each quality of the season, view, and place. Overlooks are set back from primary trails and accessed by way of spur trails that enhance the feeling of reaching a special place.

Figure C-9: Overlook

Highway Crossings

- SR 7 Undercrossing at Ohop Creek Valley (Pedestrian/Bike)
- SR 7 At-Grade Crossing at Eatonville Highway W. (Pedestrian/Bike)
- SR 7 Undercrossing at UW Pack Forest (Pedestrian/Bike/Equestrian)

Transit

The park site is not currently accessible by transit service. The nearest Pierce County Transit bus route service is located 13 miles away in Graham. As the Park is developed and visitation increases, there may be demand for shuttle service between Eatonville, the Park site and Mt. Rainier. A logical pick-up point is the Village Center.

II-D. INTERPRETIVE PLAN

Introduction and Main Message

An interpretive approach is central to the development of the Master Plan for Nisqually-Mashel State Park Site. Central to the interpretive approach is the development of a main message, that statement that if able to be repeated by the park visitor, means they "got it," they understand what makes this place special. Along with establishing the primary message that permeates all aspects of the design and character of the park, the Interpretive Plan defines education and interpretive themes in the park and includes conceptual interpretive goals and media strategies.

The main message for the Nisqually Mashel State Park Site is much more than about information taken away, it is a statement about the importance of this place culturally and environmentally and a goal for future cultural reconciliation—its purpose for being.

Message

Edges meet, lines merge, circles touch.... this point of connection is a tangent…. This park site is a dynamic tangent, where regenerated woodlands push against camas meadows, restored salmon runs leap against rushing waters, where two different cultures meet to hear each other's stories and come away changed.

Meaning

These prairie and river edges are the ancestral homes of the Nisqually Indian Tribe, who have in turn been hosts to other nations, tribes, bands and the "Bostons." It is here where the new pioneering culture clashed with the indigenous culture; where volunteer soldiers of the then Washington Territory engaged a small number of Nisqually in a skirmish now known as the Mashel Massacre.

Purpose

At this site, Washington State Parks and Southern Coast Salish peoples join to demonstrate and honor the story of these restored landscapes and cultures. Through the act of restoration, they reconcile past differences with new understandings, and with respect for both the land and people. This restoration and reconciliation is the purpose of this state park, and the message it will convey to its visitors.

Park as Destination

What would make people want to visit the Nisqually-Mashel State Park Site? What would make it a destination (one of the master plan goals)? To identify and support the characteristics of a destination park, the interpretive approach focuses on understanding the Park's physical attributes and its cultural connections; this is the activity of finding the site's "spirit of place." It is the essence of the cultural landscape—the geology, geography, ecology of a place and how they informed the associated prehistoric, historic and contemporary cultures.

For the Nisqually-Mashel State Park Site, an outstanding and unique element is the long history of use by the Squalli-Absch people: specifically the Nisqually Tribe and as a crossroads for the Puyallup and Yakama. This is not only a story of past events and relationships but of a strong and living culture that continues through the present and will reach far into the future. It is the story that can be best told by members of the Nisqually Tribe as aboriginal Native Americans who, as environmentalists and scientists, will help to make this new park a destination.

Interpretive Voice and Point of View

An interpretive experience is delivered in many ways, from the subtle presence of a boardwalk that demonstrates the importance of protecting an environment by reminding the visitor to stay on the path, to an audiovisual presentation that transports the visitor to another time in history. Each piece of "media" speaks with or reflects the point of view of the supporting organization or institution.

For the Nisqually-Mashel State Park Site, the Interpretive Plan establishes two voices. First is the *authentic voice*, which comments from experience. This speaker lives in the world being interpreted—that of the Nisqually and Salish speaking people. A second, equally important voice is *authoritative voice*, whose comments are based on scholarly experience, speaking as one who studies the world being interpreted. This second voice is also sometimes described as the voice of the scientist, or in the case of Washington State Parks, the forester and biologist.

Interpretive Themes and Content Topics

Three themes – *culture, conservation and renewal* – tie the interpretive plan together, and will be woven through all efforts to bring the interpretive messages to the park visitors.

The main message is expressed in the theme of *Culture*, which focuses on Northwest Native American life-ways and history at the park site. The People's Center, proposed as a signature feature in the master plan, establishes the centrality of this Southern Coast Salish story with a focus on the life-ways of the Nisqually people and will play a crucial role in making the park a unique and compelling destination. Other formal and informal interpretive elements will provide opportunities for Nisqually Tribal Partners to share their culture and communicate this primary theme.

The main message is expressed in the theme of *Conservation*, manifested in the stewardship ethic that will inform all physical development on the site and be interpreted for visitors by way of formal environmental education and informal interpretation. Conservation is an umbrella theme that includes preservation, restoration, and an exploration of our values as a culture.

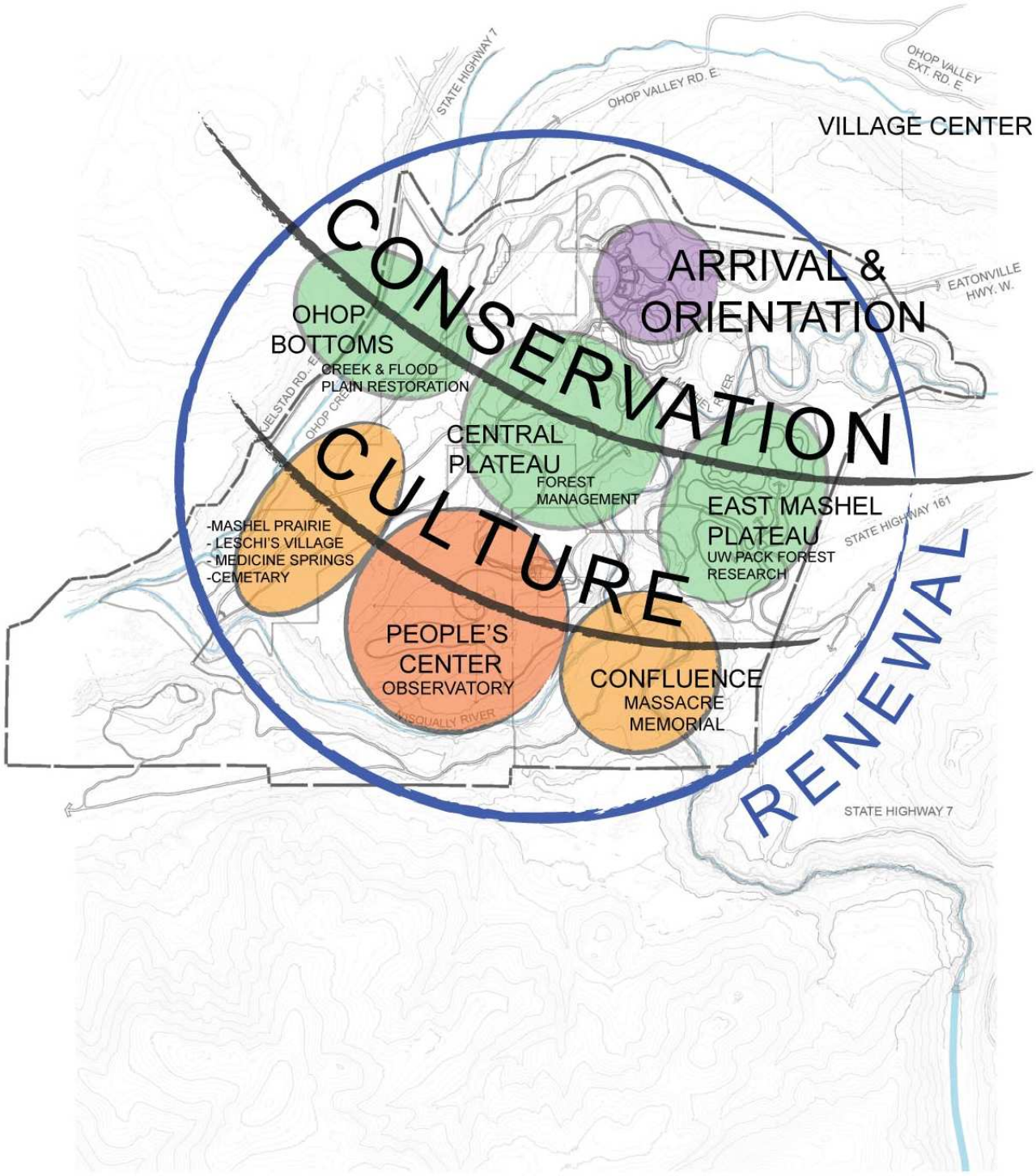

Figure D-1: Interpretive Emphasis Areas

The main message is expressed in the theme of *Renewal* referring to the physical and spiritual restorative experience of being in nature; further it is the restoration of Nisqually cultural practices at this place. The Park will provide, and highlight through interpretation, opportunities for compelling nature-based experiences, from crossing the Mashel River Gorge high in the canopy of old growth trees to watching salmon spawn in the gravel stream bed of the Nisqually. A strong focus on the Renewal theme will serve to intensify visitors' memories of the park, reinforce the stewardship ethic and help visitors understand their, and the Nisqually's, relationship with the natural world.

Culture

This park is one of a group of Nisqually Tribal camps that tells the larger story of a people. "We did not practice any agriculture. The abundance of cedar (with endless uses) and salmon (which could be preserved through smoking) gave us the resources needed for trading, accumulating wealth, and developing a sophisticated society."

~NISQUALLY TRIBAL INPUT DOCUMENT

The content elements supporting the cultural theme focus initially on Northwest Native Americans and specifically on Nisqually life-ways related to this site. Topics emphasize the fact that the Nisqually occupied, and still occupy, this watershed.

1. A Living Culture – Yesterday, Today and Tomorrow
    a. Nisqually Tribe from the beginning
    b. Nisqually Tribal ties to the Puyallup and Yakama
    c. Salish Tribes of the Nisqually watershed
    d. Tribes of the Medicine Creek Treaty
    e. Historic use of this land
2. Lushootseed, Salishan Language of the Northwest Coast
    a. Role of story in culture
    b. Cultural differences in the documentation of history
3. Historic Resource Use and Future Management by the Tribe
4. Tribal Restoration, and Protection of the Land and Resources, as an Integral Aspect of the Culture
    a. Fishing/hunting
    b. Water/the rivers/salmon
    c. Forests/the cedar
5. *Whulge* to *Tacobet* (Sound to Mountain)
    a. This is the center of the watershed
    b. Pre-contact life
    c. Nisqually spiritual relationship to *Tacobet*

6. Mashel Massacre Story
    a. "Ownership" of the land
    b. Governor Isaac Stevens and the Indian Wars
    c. Chief Leschi, last chief of the Nisqually
7. A Living Culture, Reconciliation and Rejuvenation
    a. Washington State reinstatement of Chief Leschi's honor
    b. The creation of this park site

Conservation

For hundreds of years this land has provided resources to a living, growing community. Through research and study, the structure of this forest, meadow and watershed is being recreated and protected. It was different 100 years ago. In 100 years it will be different still. It has evolved over time and will continue to evolve in the future. We can affect that evolution.

This content focuses specifically on conservation, defined as "management for maximum benefit over a sustained period of time." Topics consider historic and current uses of the land, benefits of conservation, and information about the desired outcomes of current management practices with geology as an introduction.

1. The Formation of this Land
    a. Plate tectonics
    b. Glaciers and the ice age floods
    c. Beneath your feet
2. River, Salmon and Steelhead Restoration and Recovery
    a. Water source and points of pollution
    b. River restructuring goals, plan and form
    c. Salmon and seasonal stream access restrictions
3. Forest Structure and Succession
    a. Logging practices
    b. Succession research
    c. Forest age today
4. Environmental Context and Impacts
    c. Geology
    d. Agriculture
    e. Logging
    f. Suburban growth
    g. Wetlands

Renewal

Meadow, wooded edge, glade lit by a shaft of light. We are alone in a group. Imagination is informed by the senses—sight, sound, touch. Rushing water and the odor of damp. Experiences with nature become deeply ingrained memories of this place, memories that for some go back before time. It is a time to renew an understanding of nature's place and make a new understanding of this place.

This theme is more emotional and experiential than informational. Its topics are those moments — accidental and structured — that reinforce an experience in nature and are physically restorative. Content may be more poetic and inspirational than educational or didactic.

1. Re-creation, Rejuvenation, Refuge, Spiritual Renewal – Experiences of a Special Place
    a. Eagles soaring
    b. Feet in the creek
    c. At the edge of the glade and meadow
    d. In the tree canopy
    e. "Fly" through the trees, over the water
    f. Getting to the summit
    g. Seeing stars dark night
2. Revealed Views: Unfolding, Sequenced, Surprise
    a. *Tacobet* (Mt. Rainier)
    b. Olympic Mountains
    c. River below
    d. Bluff above
3. Walk, Hike, Wade
    a. Boardwalks along an edge or out over the edge
    b. Decent to discover the water
    c. Ascent to the summit
    d. Scale, high and wide, low and intimate
4. Pause
    a. Just listen, smell, feel
    b. Consider all who have lived here before you...and all who will come after

Interpretive Objectives

In developing an informal learning experience, it is valuable to divide interpretive objectives into three elemental categories: **learning outcomes, emotional impact,** and **behavioral impact**. At a master planning level the description of these objectives is naturally broad. In later phases these objectives are refined and made more specific to the project at hand.

Learning Outcomes:

1. The visitor will know that the park is located on the ancestral lands of Nisqually Tribe and that the tribe is still here.
2. The visitor will know that forests change over time and that understanding this change enables us to better conserve and manage them as a resource.
3. The visitor will know that the rivers and creek in this park are a part of the Nisqually River watershed and require protection.

Emotional Impact:

1. The visitor will understand the Nisqually Tribe's connection to this place and their relationships with other nations, tribes and bands of Native Americans.
2. The visitor will feel positive about the forest and stream reconstruction efforts of Washington State Parks, the Nisqually Tribe and the University of Washington Center for Sustainable Forestry.
3. The visitor will feel wonder at the diversity of the prairie meadow, forest and grassland environments.

Behavioral Impact:

1. The visitor will be supportive of the renewal of the Nisqually Tribal culture and the reconciliation efforts of the state of Washington.
2. The visitor will support the expansion of the protected parklands through the contribution of time or money.
3. The visitor will support forest and stream conservation – politically, financially and through the visitor's own actions.
4. The visitor will want to return for future programs, and will spread the word about the wonderful qualities of the Park.

Interpretive Media

Studies have demonstrated that visitors take away a very limited amount of information from any informal learning experience. It often quoted that; "The chief aim of interpretation is not instruction, but provocation" (Freeman Tilden, Principles of Interpretation, *Interpreting Our Heritage*). Successful interpretation generally enables the visitor to take away one important, provocative message. This message is the basis for the interpretive approach; the themes and topics outlined to support and reinforce the message are the base material for the content and storyline of the plan. This message laid out at the start of this section is one of challenge, change, restoration and reconciliation; a story told from many points of view.

At the Master Plan phase, the plan identifies media that are likely suitable to the various themes and messages. A variety of media, in a number of locations and featured throughout the Park, will convey the themes outlined above and support the goals for learning, emotional affect and behavior. Repetition is a proven device for learning, so the main message and its supporting themes and topics will be presented in multiple forms

using the voices described earlier. Following is an outline of media elements organized by theme and Park location.

Location	*Story / Media*
Throughout the park	Story Trees, cut from timber salvaged from the park site with interpretive graphic panels, address each theme connected to that spot on the site. This multifaceted form allows the display of multiple topics and points of view.
Culture Theme	
The People's Center	Squalli-Absch as living culture – yesterday, today, and tomorrow – presented in an interpretive center using audio, visual and didactic exhibits to introduce the full range of themes and topics.
Observatory	Celestial Observatory Story Circle at the high point of the site. A place to learn about Southern Coast Salish life-ways, tell camp stories, or simply lie in the grass and look at clouds, birds or stars.
Woodland/Meadow	Journey to Leschi's Village from the People's Center and Observatory. This is a seasonally recreated village used by the Tribe for interpretive programs and experiences including Nisqually use of seasonal materials, salmon, cedar and camas.
Traditional Knowledge Camp	Set above the southern banks of the Nisqually River. This is a reserved site and facility for use by the Tribe for traditional education. It may be open by invitation to others for special programs run by the Nisqually Tribe.
Confluence	From the east end of the South High Bridge over the Mashel River down to the confluence of the Mashel and Nisqually Rivers, down to the confluence itself, the story of the Mashel Massacre is told. Interpreters from the Tribe are supported by Story Poles at significant locations.
View to *Tacobet* (Mt. Rainier)	Views to the mountain are staged and framed to direct the visitor's view to this top of the watershed ("mother of waters") and icon for the Pacific Northwest.
Cultural Sites	Leschi's Village is the departure point for other cultural sites including the Shaker Cemetery, Medicine Springs and others. At these locations there is the opportunity to interpret the story of contact between the Nisqually and immigrants.

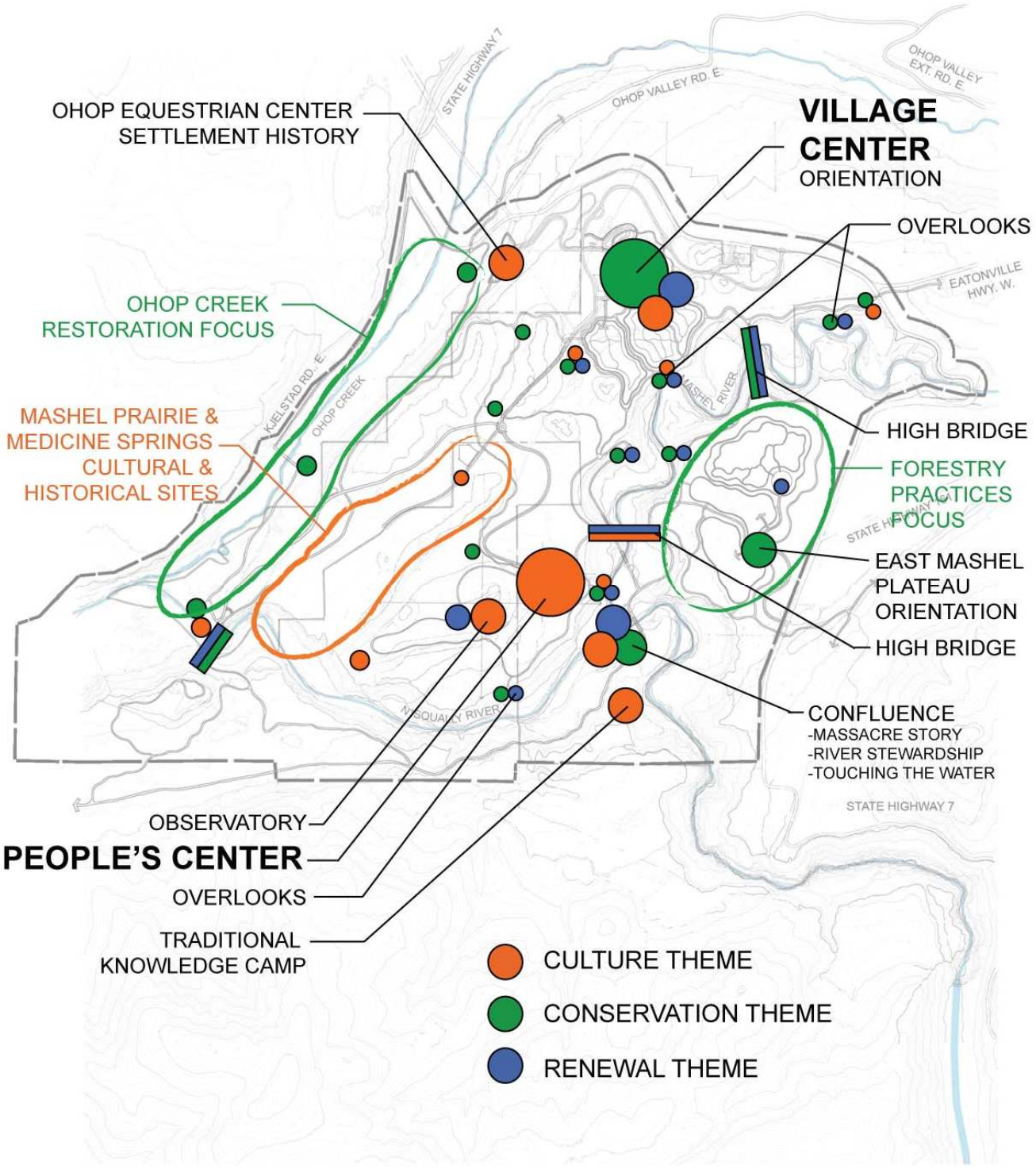

Figure D-2: Interpretive Locations

Conservation Theme	
Park Entry	Orientation to the Park and its unique offerings using traditional elements such as interpretive graphics, event notifications, murals and large format maps. The park amphitheater is located here at this concentration of services. Programs here focus on the conservation theme, support the renewal theme and introduce the culture theme.
East Mashel Plateau	Access to the adjacent University of Washington Center for Sustainable Forestry at Pack Forest. Etched basalt and granite cairns describe meadow, forest succession and river restructuring. These cairns track from the grasslands at Ohop Creek across the site to Pack Forest.
Renewal Theme	
Observation Platforms	At select points along the bluffs overlooking the rivers and creek, framed views reveal the lands and waters below. Each is selected to interpret a cultural or conservation theme, while always supporting the renewal theme. It is at these locations Washington State Parks and their Partners initiate the documentation of the next 100 years of change.
Canopy Bridge(s)	Extended, raised canopy bridges provide opportunities to walk through the old growth canopy at the edge of the eastern bluff, affording a canopy view of actual forest succession. Primary supports for the renewal theme, the bridges are also a platform for the conservation theme. The high bridge nearest the confluence of the Nisqually and the Mashel can also be a location to tell the story of the Mashel Massacre as part of the culture theme.
Walks and Rides	Personal encounters with nature are necessary for health. A walk in the woods or along a stream is an important part of experiencing the renewal theme. Trails of different scales are available for people, horses and bikes. ADA-compliant portions of the trail system ensure that the State Park is available to visitors of all abilities.

Adjacent Interpretive Opportunities

In immediate proximity to the Nisqually Mashel State Park are two existing facilities that offer interpretive programming. Their programs are supportive of the main message and interpretive themes outlined here for the Park. Great opportunities are possible regarding teaming with these neighbors.

University of Washington, Center for Sustainable Forestry at Pack Forest

According to their website, the University of Washington's Center for Sustainable Forestry at Pack Forest

> "…provides a field location for faculty, staff, and students from the University of Washington's College of Forest Resources to teach, study, conduct research, and demonstrate modern forest management.
>
> The interpretive program at Pack Forest provides a number of opportunities to learn about forest ecology, forest management, new ideas in forestry, and what the University of Washington is doing at Pack Forest today. These opportunities range from self guided trails, and displays in the gatehouse, to naturalist-led trail walks and a curriculum on forest ecology for elementary to middle school students.
>
> Pack Forest also provides opportunities for the public to hike, bike, horseback ride, stroll or roll along a barrier-free self guided trail, or hunt during hunting season."

Pioneer Farm Museum and Ohop Indian Village

The Pioneer Farm Museum and Ohop Indian Village provides interpretation of the experience of settlers homesteading in Washington State in the 1880s. A seasonal "Indian Village" interprets the Native American history of the area.

II-E. STEWARDSHIP PLAN

Introduction

The Nisqually-Mashel State Park Site is located in the heart of the Nisqually River watershed near Eatonville, Washington, in the Cascade foothills of southern Pierce County and northern Thurston County (see *Figure B- 2: Regional Area Map*). The park lies midway along the Nisqually River between the river's delta at Puget Sound and its headwaters on Mount Rainier. It is situated on the boundary between the Southwest Cascades and the Puget Lowland ecoregions (Pater et al. 1998). Three significant water bodies are located within the park: the Nisqually River, Ohop Creek, and the Mashel River. Those streams bring together important ecological processes and areas rich in cultural history. The landscape of the park is highly variable, with dense, mature forested river valleys and terraced floodplains; steep slopes and bluff faces; complex stream corridors; South Puget prairie; and rolling plateaus and ridges characterized by forests of various ages that reflect a history of logging activity.

This stewardship plan for the Nisqually-Mashel State Park Site provides strategies for effectively managing the natural and cultural resources of the park. This plan is intended to protect the park's diverse system of recreational, cultural, historic, and natural sites. The geographic scope of this plan was limited to the existing Nisqually-Mashel State Park Site boundary; however, stewardship guidance is also provided for areas within the proposed long-term boundary to the extent possible based on available data for the area. This plan describes current resource conditions within the park; provides stewardship prescriptions that are specific to the important resources within the park; and discusses regulations, park safety, climate change, and stakeholder coordination.

The vision for the Nisqually-Mashel State Park Site is to create a multi-use park while preserving the site's natural and cultural resources for future generations and providing for exceptional visitor experiences. The vision will bring challenges in terms of balancing recreational use with resource protection. For example, the park is adjacent to one of the most important steelhead and Chinook salmon spawning reaches in the Nisqually River watershed. Although recreation within the riparian corridors of the Nisqually River and the Mashel River is a desired element of the park, preservation of critical species and critical habitat is also a driver of park objectives. In addition, access to the Nisqually and Mashel rivers is predominantly on steep slopes and, in some areas; the banks are eroding, limiting safe public access. This plan provides stewardship strategies that are essential for successfully balancing difficult issues such as these.

Park stewardship includes both short-term and long-term challenges. Short-term challenges include managing the introduction and spread of invasive species and implementing forest thinning (as prescribed by the *Nisqually-Mashel State Park Forest Health Plan*) to reduce fuel loading and accelerate the development of old-growth stand characteristics. Long-term stewardship challenges include protecting unique and high-quality habitats such as the park's wetlands and the Mashel Prairie, maintaining wildlife

use by limiting public access to valuable wildlife habitats, protecting the rich cultural resources within the park, and protecting park infrastructure.

In general, actions necessary for stewardship of the park's resources will include the following:

- Seasonal or permanent closures of park trails, camping areas, or other use areas for restoration or protection of park resources.
- Exclusion of the public from sensitive areas, such as wildlife corridors; migration corridors; spawning reaches of the Nisqually River, Mashel River, and Ohop Creek; nest sites; fragile vegetation communities; and sensitive cultural resources.
- Active restoration to retain or improve ecological functions and protect cultural resources.
- Adaptive management to address issues before they become problems and to ensure a high level of protection for park resources, including existing high-quality habitats, habitat used by wildlife, places of cultural significance, and park infrastructure.

The stewardship program for the Nisqually-Mashel State Park Site will use Washington State Parks' team of resource specialists to work with park staff, park users, and other interested parties to balance the complex and often conflicting demands of environmental protection, cultural preservation, and outdoor recreation. Conservation activities at the park will include an inventory and assessment of natural and cultural resources, management planning, applied research, stewardship training, and activities related to special topics of statewide significance such as salmon recovery and preservation of wildlife corridors.

Stewardship Plan Development

This stewardship plan was developed using a number of existing resources for reference and guidance, by synthesizing stakeholder priorities gleaned from discussions and workshops, and by conferring with Washington State Parks staff. Observations during two site visits in early 2008 helped in the preparation of site descriptions and provided a context for the stewardship prescriptions. Site visits and the documents developed to support park site planning covered areas within the existing park site boundary. Much less information was available on the additional properties included within the proposed long-term boundary. As a consequence, some areas of this plan have more detail than others.

The documents consulted during the development of the plan range from regional planning documents to park-specific assessments. They are described in the following subsections and included as appendices to this Master Plan.

Nisqually-Mashel State Park Rare Plant and Vegetation Survey
In 2006, LYRA Biological conducted an assessment of vegetation within the existing park site boundary and prepared a report documenting onsite plant communities and

observations while surveying for rare plant species (LYRA Biological 2006) (see Appendix K). Although no rare plants were observed within the existing park site boundary, the report provides a list of rare plants that would be expected to be found based on site conditions. The report also includes detailed observations of plant community associations and their distribution, and identifies several rare plant associations found in the park area including lodgepole pine - Douglas-fir / salal forest, Douglas-fir - Pacific madrone / salal forest, and Douglas-fir / beaked hazelnut / sword fern – threeleaf foamflower forest.

Nisqually-Mashel State Park Forest Health Plan

In 2008, the Center for Sustainable Forestry at Pack Forest, University of Washington (UW), completed the *Nisqually-Mashel State Park Forest Health Plan*, which includes a forest health assessment and a forest management plan for the park (Ettl and Emmons 2008) (see Appendix F). The forest health plan includes prescriptions for forest management within the existing park site boundary park based on field surveys of plantation-dominated stands, an examination of corresponding forest modeling results, and an assessment of existing data from LYRA Biological (2006). The plan also includes prescriptions for improving the quality of wildlife habitat in the park. The prescriptions seek to accomplish this goal mainly through forest practices that promote old-growth forest conditions. Forest management prescriptions are designed to strategically accelerate stand development in previously logged areas through a series of silvicultural thinnings, and to increase forest species diversity by planting a greater diversity of tree species.

Cultural Resources Survey of Proposed Nisqually-Mashel State Park

Eastern Washington University conducted a cultural resources survey of the area within the existing park site boundary in 2008 and documented the results of research and onsite investigations (Emerson and Ives 2008) (see Appendix G). The survey investigated ten 10-acre cultural resources survey parcels distributed through the site in areas with potential for park development. The survey included a thorough analysis of historical records and discussions with people with local knowledge of the property and its history. Although no cultural resource sites were previously recorded at the site, the survey identified and recorded three prehistoric archaeological sites within the proposed Nisqually-Mashel State Park Site (Emerson and Ives 2008.) An additional prehistoric site and numerous historic cultural resources were identified within 1 mile of the existing park site boundary. The report concluded that most of the park site appears to have a low to medium probability to contain unrecorded cultural resources; however, riverine settings and the Mashel Prairie are considered high probability areas.

Nisqually River Management Plan and Nisqually Watershed Stewardship Plan

The *Nisqually River Management Plan* and the *Nisqually Watershed Stewardship Plan* were developed through a state-level effort to preserve the Nisqually River. The effort

was motivated by evidence that the river's integrity was being threatened by human activity.

Washington's 1971 Shoreline Management Act designated the Nisqually as a "river of statewide significance." In 1985, the Washington State Legislature approved Substitute House Bill 323, directing the Washington State Department of Ecology to prepare an overall management plan for the Nisqually River. In response to the legislature's direction, the Department of Ecology established the Nisqually River Task Force in 1985 to develop a management plan. The task force comprised a wide range of stakeholders in the river basin, including timber, agriculture, and hydropower interests; conservation and environmental organizations; private landowners; resource management agencies; and the Nisqually Indian Tribe. In 1987, the final recommendations of the task force were published as the Nisqually River Management Plan and adopted by the legislature (Nisqually River Task Force 1987).

The Nisqually River Management Plan focused only on the riparian corridor of the Nisqually River and the lower 3 miles of the Mashel River. Subsequently, it was decided that the management zone should be expanded to encompass the entire Nisqually River watershed, which prompted the development of the Nisqually Watershed Stewardship Plan. That plan provides recommendations and implementation guidelines for stewardship of the economic, cultural, and natural resources of the entire river basin (Nisqually River Council undated).

Other Plans and Documents

Also consulted for the development of this stewardship plan were the following:

- *Nisqually Chinook Recovery Plan and Updates* (Nisqually Chinook Recovery Team 2001 and 2008).
- *Nisqually Watershed Chinook Salmon Recovery Plan – 3 Year Work Program 2008-2010* (Nisqually Chinook Recovery Team 2008).
- *Environmental Constraints Report: Nisqually-Mashel Property* (Herrera 2008).

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Land Use History

The land constituting the Nisqually-Mashel State Park Site has supported a wide variety of human uses. User groups have included Native Americans (predominantly the Nisqually Indian Tribe), early European pioneers and settlers, logging operations, and now Washington State Parks and associated entities. Currently, the park's neighbors are the UW Center for Sustainable Forestry to the east, a mixture of private timberlands to the south and west, low-density rural housing to the north, and agricultural land (i.e., Ohop Valley) and land owned by the Nisqually Land Trust to the west.

Native American Use

The Nisqually River watershed is home to the Nisqually Indian Tribe, and one of the tribe's important winter village sites was located near the mouth of the Mashel River. Nisqually tribal history has played a significant role in shaping the landscape and rich cultural resources of the park.

The state park is the site of the 1856 Mashel Massacre, which was part of the Indian Wars of Western Washington. There is a privately owned cemetery in the Mashel Prairie area that is thought to include the grave of Indian Henry, believed to be a Klickitat or Yakama who crossed the Cascade Mountains to live with the Mashel bands. Indian Henry was widely known as an excellent woodsman and guide and the subject of many tales passed down over the years.

Human-made fire most likely played an important role in shaping the landscape in the Mashel Prairie and near the Mashel River (Emerson and Ives 2008). Gathering of traditionally used plant species likely helped to disperse some plant species and to influence the growth of plant populations and the development of plant community composition.

European Settlement and Development

In the last 200 years, life in the Nisqually watershed has undergone many of the same changes that have taken place throughout America during that time period. The Ohop Valley was settled by Europeans in the 1800s, after which European settlement increased and produced changes in historical land use. European influence, agriculture, industrial practices, and religious beliefs characterized the dominant culture.

By 1915 the Weyerhaeuser Company had purchased much of the land within the existing park site boundary, although most of the virgin timber had already been harvested (Emerson and Ives 2008). The Weyerhaeuser Company continued to conduct logging operations on the property until the property was purchased by Washington State Parks.

Park Establishment

Washington State Parks began studying this site based on recommendations in the *Nisqually River Management Plan* (Nisqually River Task Force 1987), which was approved by the Washington State Legislature in 1987. That plan identified the need for a "major destination area/put-in site at the confluence of the Nisqually and Mashel rivers together with trails up the Mashel River." Washington State Parks began working with the newly formed Washington Wildlife and Recreation Coalition in 1989 to establish a statewide program for acquisition and development of habitat and recreation sites. The Nisqually-Mashel site was identified as a funding opportunity for this program, and, since 1990, State Parks has received funding from the Washington Wildlife and Recreation Program to facilitate the accumulation of 1,230 acres.

In 2005, the Washington State Parks Commission formally identified a Centennial Plan goal to develop the new Nisqually-Mashel State Park Site. The agency received a capital appropriation for the 2005–2007 biennium to prepare a master plan for the park, including the development of a classification and management plan (CAMP) as a first step. Since spring 2006, a number of public meetings and workshops have been held to provide forums for public interest in the development of the park.

The majority of public comments addressed protecting and interpreting the park's natural and cultural resources, including low-impact development methods, acquiring the adjacent Manke Timber property, and providing a variety of recreational experiences, particularly hiking, equestrian, and biking trails. An exploratory committee comprising key stakeholders (including Washington State Parks, the Nisqually Indian Tribe, the Nisqually River Council, the Nisqually Land Trust, local government agencies, special interest groups, and members of the community) was also formed in June 2006 to provide guidance on park planning issues and the CAMP process. By October 2008, after a thorough analysis and public review of various conceptual design alternatives, the conceptual plan for the park began to materialize.

Currently, the park site encompasses 1,230 acres. Park planning efforts have identified expansion opportunities that would result in an eventual park area of 3,434 acres. The boundary of this extended area is referred to as the *Long-Term Park Boundary* (see *Figure B-4: Major Property Ownership within the Long-Term Park Boundary*). The Long-Term Park Boundary was determined through stakeholder meetings and the CAMP process to promote the acquisition of lands that would best facilitate: the development of a sustainable park framework, provision for short-term and long-term access (for all forms of transportation), and optimization of the park's scenic attributes. The Long-Term Park Boundary is delineated on the east by State Route (SR) 7 (extending the current park site boundary eastward to annex portions of Pack Forest and some property owned by Tacoma Power); on the south by an east-west line extending from the southwest corner of the existing park site (with a 600-foot buffer southward to encompass an upland terrace/bluff and forest road); on the west by the westernmost extent of the Ohop valley; and on the north by SR 7 (buffered 300 feet north of its right-of-way).

The total area of planned development within the park is 525 acres, which is 15 percent of the area within the Long-Term Park Boundary. The remaining 85 percent of the park area (2,909 acres) consists of preserved natural areas, including forests, meadows, wetlands, and riparian zones. The projected total length of roads (paved and unpaved) in the park is 7.65 miles. The projected total length of trails (pedestrian, bike, and equestrian) is approximately 25.25 miles. Eight bridges are planned within the park, in addition to eight scenic overlooks.

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Natural Resources

This section generally describes the existing conditions of natural resources within the Nisqually-Mashel State Park Site. Additional details can be found within studies prepared on behalf of the Nisqually-Mashel State Park Site and cited within each section.

The variety of natural resources located within the Nisqually-Mashel State Park Site is truly compelling and includes: forests of varying age; rare plant associations; rivers, creeks and their riparian areas; wetlands; prairies; and habitat for many aquatic and terrestrial wildlife species including several listed species. These important natural resources are described in more detail in the following subsections.

Geology and Soils

When glaciers extended into the Puget Sound basin, including the park vicinity, they carried material that had been scoured from the surrounding landscape and more distant regions in northern Washington and Canada and deposited it under the glaciers. The deposited material formed dense basal till and moraines. During periods of glacial retreat, rivers flowing out of the base of melting glaciers deposited material called *glacial outwash*, which is similar in character to river gravel bars, sand shoals, and other sorted and mixed material deposits. The landscape character of the park was probably affected by the Nisqually Glacier as alpine glaciers extended to the park vicinity.

The park is located predominantly on glacial outwash terraces that have been incised by the erosive action of the rivers and streams in the area. Along the riparian corridors, river terraces of the Nisqually River, Ohop Creek, and Mashel River are the dominant landforms.

The soils in the park were derived from glacial outwash and, in places, are characterized by a volcanic ash component that was deposited during the cycles of eruptions of Mount Rainier, Mount Saint Helens, and other volcanoes. The rivers redistributed soils deposited by glaciation, volcanic activity, sediment and bedrock erosion, and other sources along the river valleys and terraces. The poorly developed glacial soils are classified as Aquic Xerofluvents (SCS 1955). The Kapowsin, Barneston, and Everett soil series found within the park are included in this classification, and all of the soils are coarse and well-drained, enhancing the effects of summer droughts (SCS 1955). Canyons and other steep-bank areas are dominated by the Kapowsin gravelly loams. Upland sites in the park form the Mashel Plateau that consists of a combination of Kapowsin gravelly loams and Barneston gravelly coarse sandy loams. The Spana series is present in the Mashel Flats just outside the park boundary, and those soils may be coincident with the Mashel Prairie. The Barneston and Everett series are generally poor soils that are associated with lower densities of forest stands and slower stand development. Moister soils are often associated with the clayey loam Bellingham series (NRCS 2008).

Plants and Wildlife

Plant associations found in the park site, although primarily dominated by Douglas-fir, exhibit significant variety and have been identified using categories defined by species composition, landscape position and ecology, and land use history. Secondary plant assemblages are present as inclusions (small, unique community patches) or as mosaics (complex interlocking or interspersed patches) within the landscape matrix of the identified primary vegetation type.

During a vegetation survey in 2006, LYRA Biological identified a total of 283 vascular plant taxa on the Nisqually-Mashel State Park Site (280 species, with 3 of these species represented by 2 subspecies) (LYRA Biological 2006). Of those, 89 species were nonnative, accounting for 32 percent of the total. Although no rare or protected plants were observed on the park site during the surveys, several unique plant associations were observed.

LYRA Biological conducted a search of the Washington Natural Heritage Program (WNHP) geographic information system (GIS) database (which tracks rare plant taxa in the state, including endangered and threatened species) and a thorough review of WNHP's other off-line maps and habitat descriptions (WDNR 2008). The investigators identified 16 WNHP species with a moderate to high likelihood of occurring in the park but found only one "watch" (not formally tracked) species (Sierra marsh fern (*Thelypteris nevadensis*) occurring on ravine slopes adjacent to the Mashel River (LYRA Biological 2006).

The vegetation survey documented a considerable amount of potential habitat within the park for several listed plant species (LYRA Biological 2006). Historical occurrences of tall bugbane (*Acaea elata*, formerly *Cimicifuga elata*), a state and federally listed rare plant, have been recorded at several locations in Pierce County, one within 3 miles of the existing park site boundary. Western burning bush (*Euonymus occidentalis*) may also occur at the Nisqually-Mashel State Park Site. Western burning bush is a threatened species and is typically found in forests within shaded draws and ravines.

Many wetlands within the park are open-canopied and suitable habitat for a variety of sedge species. Two listed sedges were identified in the pre-field review, Buxbaum's sedge (*Carex buxbaumii*) and bristly sedge (*C. comosa*), with a known occurrence less than 5 miles from the park). Several other rare species that may inhabit the park include northern bog aster (*Aster borealis*), bulb-bearing water-hemlock (*Cicuta bulbifera*), water howellia (*Howellia aquatilis*), floating water pennywort (*Hydrocotyle ranunculoides*), and Nuttall's quillwort (*Isoetes nuttallii*). All of these species have been observed in similar wetland habitats, within 3 to 7 miles of the existing park site boundary.

Forest plant community associations were surveyed and are documented in the *Nisqually-Mashel State Park Forest Health Plan* (Ettl and Emmons 2008). The largest sections of mature forested habitat within the park site occur in the riparian areas of the Nisqually

and Mashel rivers. These areas of mature riparian forest are unique and increasingly rare in the Puget Sound area.

Other unique plant associations observed in the rare plant survey (LYRA Biological 2006) are shown in Table 1 along with their LYRA polygon locations shown on Figure E-1: Map of Nisqually-Mashel Park Site Lyra Biological Polygons.

Wildlife habitats in the park vary dramatically, and this variation is highly correlated with the variation in the park's land use history. The unlogged floodplain terraces and steep slopes in the river canyon are characterized by mature, coniferous, riparian forests (dominated by Douglas-fir, western hemlock, and western red cedar) and immature floodplain communities (dominated by red alder). The upland plateau areas exhibit a legacy of logging and represent varying stages of plantation forest regeneration. Wetland areas are characterized by flood-tolerant deciduous species (including Oregon ash and red alder) and emergent plants (sedges and rushes) and are typically found associated with drainages, stream corridors, depressions, and/or hydric soils. The Mashel Prairie is identified as a unique and important habitat, and its creation and persistence was most likely supported by traditional burning practices.

State priority wildlife species occur in all major riparian corridors within and adjacent to the park, including the Nisqually River, the Mashel River, and Ohop Creek. These species include the bald eagle, osprey, turkey vulture, and Pacific Townsend's big-eared bat (WDFW 2008). In addition, there are waterfowl concentrations in wetlands and riparian zones within and adjacent to the park. Other park site terrestrial residents include cougar, beaver, black bear, deer, and elk.

According to the results of the Pierce County Biodiversity Assessment and GAP Analysis (Brooks et al. 2004) and site-specific assessments of the habitat types in the Nisqually-Mashel State Park Site, the greatest potential contribution of the area to regional wildlife conservation, locally and across the Puget Lowland ecoregion, would result from: (1) protection of the prairie habitat in the Mashel Prairie, (2) maintenance of relatively undeveloped riparian corridors, and (3) conservation of large (more than 150 acres) tracts of relatively contiguous evergreen forests (Brooks et al. 2004). Although encountering increasing pressures from agricultural and residential development downstream, the park site can be viewed as part of a larger corridor that provides near continuous forest cover from the Cascade Mountains to the South Puget Sound (Ettl and Emmons 2008).

Three major rivers and streams define the park boundaries: the Nisqually River, the Mashel River, and Ohop Creek. In addition, numerous seasonal and intermittent streams flow from the high terraces down into the canyon and ravine areas of the major drainages. The rivers and streams support a wide variety of fish species, several of them federally and state protected. The Nisqually River provides important breeding, feeding and migrating habitat for five species of Pacific salmon—Chinook, coho, pink, chum, and steelhead—as well as sea-run cutthroat trout.

Table 1. List of rare plant associations observed at the Nisqually-Mashel State Park Site (LYRA Biological 2006).

Abbreviation	Association Name	Common Name	LYRA Polygon Location(s)	Status[1,2]
PICOC2-PSME/GASH	*Pinus contorta* var. *contorta* – *Pseudotsuga menziesii* / *Gaultheria shallon* forest	lodgepole pine - Douglas-fir / salal forest	23	G1G2S1
PSME-ARME/GASH	*Pseudotsuga menziesii – Arbutus menziesii* / *Gaultheria shallon* forest	Douglas-fir - Pacific madrone / salal forest	35, 39	G3S2
PSME/COCO6/POMU-TITR	*Pseudotsuga menziesii / Corylus cornuta / Polystichum munitum –Tiarella trifoliata* forest	Douglas-fir / beaked hazelnut / sword fern – threeleaf foamflower forest	36, 37	GNRS2?
PSME/GASH-HODI	*Pseudotsuga menziesii* / *Gaultheria shallon – Holodiscus discolor* forest	Douglas-fir / salal – oceanspray forest	4, 7, 8, 20, 21, 22	G2G3S2
PSME/GASH/POMU	*Pseudotsuga menziesii* / *Gaultheria shallon* / *Polystichum munitum* forest	Douglas-fir / salal / sword fern forest	4, 5, 6, 14, 16, 17, 19, 20, 2123, 25, 26, 27, 28, 29, 32, 34, 3537,43 44, 45	GNRS3S5Q
PSME-THPL/OXOR	*Pseudotsuga menziesii – Thuja plicata / Oxalis oregana* forest	Douglas-fir – western redcedar / Oregon oxalis forest	18, 30, 32, 33, 40, 42, 46	G3G4S2
PSME-TSHE/VAOV2/POMU	*Pseudotsuga menziesii – Tsuga heterophylla* / *Vaccinium ovatum* / *Polystichum munitum* forest	Douglas-fir – western redcedar / evergreen huckleberry / sword fern forest	3, 38	G3S1

Abbreviation	Association Name	Common Name	LYRA Polygon Location(s)	Status[1,2]
TSHE-PSME/POMU-DREX2	*Tsuga heterophylla – Pseudotsuga menziesii / Polystichum munitum – Dryopteris expansa* forest	western hemlock – Douglas-fir / sword fern – spreading woodfern forest	2, 10, 11, 18, 30, 32, 36, 39, 40, 42	G3G4S3
CAVE6	*Carex vesicaria* herbaceous vegetation	blister sedge herbaceous vegetation	4	G4QS?

[1]Status Codes (See http://www1.dnr.wa.gov/nhp/refdesk/communities/index.html for detailed descriptions):

Global:
- G1 = Critically imperiled
- G2 = Imperiled
- G3 = Very rare and local throughout its range, found locally in a restricted range, or otherwise vulnerable to extinction
- G4 = Widespread, abundant, and apparently secure
- G5 = Demonstrably widespread, abundant, and secure
- GNR = Globally not rated

Washington State:
- S1 = Critically imperiled
- S2 = Imperiled
- S3 = Rare or uncommon
- S4 = Widespread, abundant, and apparently secure
- S5 = Demonstrably widespread, abundant, and secure
- Q = Taxonomic status is questionable/numeric rank may change
- ? = Unknown/unclassified

[2]Where there is more than one numeric range rank (e.g., G2G3), it is used to indicate the range of uncertainty in the status of a species or community.

Figure E-1. Map of Nisqually-Mashel Park Site polygons surveyed by LYRA within the existing boundary (Lyra Biological 2006).

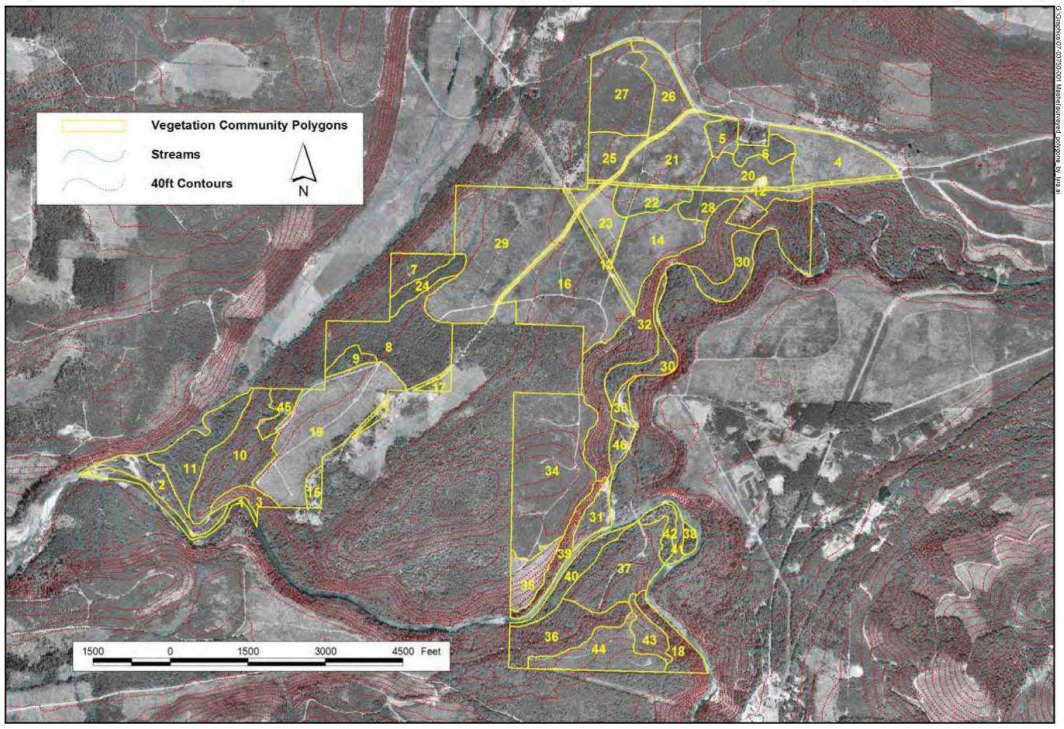

Figure E-1. Map of Nisqually-Mashel State Park Site polygons surveyed by LYRA (LYRA Biological 2006).

The systems of the Nisqually River, the Mashel River, and Ohop Creek are dynamic and depend on natural hydrologic and geomorphic disturbances to maintain their functions. Flood events sometimes cause rivers and streams to abandon old channels and carve new ones through riverside brush and forests. Floods deposit logs and sediments, which support soil development and vegetation growth and influence the distribution of stream gravels, which support aquatic species. Young willows and alder aggressively colonize freshly scoured sites, and resist the sun and rain until other species can become established. Such processes can be observed in the riparian corridors of the Nisqually-Mashel State Park Site. The patterns of channel formation and vegetation communities seen in the riparian areas tell the story of numerous past floods and forests that grew and fell and now provide the backbone of the park site's riparian systems.

The riparian areas are also significant in that they provide vital wildlife movement corridors and connect habitats from Mount Rainier to Puget Sound.

Wetlands

Wetlands are a common feature in the park, the largest density and extent being associated with the main river corridors. Other wetlands are associated with drainage systems, topographic depressions, and/or specific soil types.

Wetland areas were mapped based on the National Wetlands Inventory (USFWS 2008), county wetland inventories (Pierce County 2006; TRPC 2002), and hydric soil information from the Natural Resources Conservation Service (NRCS 2008). Those data sources provide coverage of predominantly larger wetland areas in the park and are documented in the environmental constraints report (Herrera 2008). The wetlands shown in the report are not based on comprehensive field surveys or wetland delineations; therefore, the coverage is not complete or exhaustive, but the report provides an estimate of the overall pattern of the larger wetlands systems in the park and should be used as a basis for field verifying the actual presence of wetlands and adding newly observed wetland areas.

Numerous springs flow out of the upper terraces of the park, providing unique habitats and contributing water to streams and wetlands. Some, such as Medicine Springs, also have a long history of human use.

The wetlands in the park provide unique plant and animal habitats, store and filter stormwater runoff, provide base flows to streams and rivers during summer droughts, impound floodwaters, and provide nutrients and other food sources to downstream aquatic resources.

Upland Forests

The mature, primary forests of the canyon slopes and river terraces are almost exclusively the Douglas-fir–western hemlock–western red cedar forest type. In contrast, the young plantation forests of the upland flats are largely the Douglas-fir forest type, though there

are also several notable, large wetland communities and one rather sizable plantation of the lodgepole pine–Douglas-fir forest type (a rare forest community and unusual in this part of the Puget Trough) (LYRA Biological 2006).

A very small amount of the Douglas-fir–Pacific madrone forest type occurs at the boundary of the upland flats and canyon slopes, just north of the Nisqually River, where it occupies a very narrow (50 to 100 feet), intermittent strip along the uppermost slopes and canyon rim (Herrera 2008).

Both the red alder–bigleaf maple forest type and the wetland community type are under-represented in the forest community associations identified (Herrera 2008), because many of the patches of these forest types are less than 2 hectares in size; therefore, they are recorded as minor components of the more extensive Douglas-fir and Douglas-fir–western hemlock–western red cedar–dominated forest types throughout the park.

The upland forests provide habitats for many wildlife species, and they support and protect adjacent riparian and wetland areas by providing shade and organic materials such as detritus and woody debris. A wide variety of wildlife species, including black bears, elk, deer, coyotes, bobcats, raptors, song birds, woodpeckers, owls, and other animals, use habitats within the park.

Mature forests, as well as younger forests with less common species assemblages, are becoming increasingly rare. The presence of these habitats within the Nisqually-Mashel State Park Site provides a unique opportunity to preserve some of Washington's least common natural landscapes for future generations.

Bluffs, Mashel Prairie, and Power Line Corridors

The bluffs above the river corridors in the park provide unique habitats in terms of both structure and vegetation communities. Included are the bluff forests dominated by Pacific madrone and the bluffs above the confluence of the Nisqually and Mashel rivers, which are inhabited by nesting colonies of cliff swallows. The prairies and bluffs are rare ecological systems. The bluffs show the processes of glaciation, erosion, and deposition and have developed unique vegetation communities and animal inhabitants.

The Mashel Prairie is unique in that it is an emergent wetland area that has been maintained by a long history of human use and active management. It provides a rare example of South Puget prairie habitat that once was more widespread and supported human populations with food and fiber for many thousands of years. Moderately to poorly drained Spana loam and Dupont muck soils associated with the Mashel Prairie indicate poor drainage as opposed to excessive drainage conditions typical of many Puget Lowland prairies. In response, wetland plant species constitute a significant portion of the vegetation found within the Mashel Prairie. The prairies were formed by glacial processes that created the soils and landform conditions to support them.

Although not naturally derived, the power line corridors within the existing park site boundary provide views that provide a landscape context for the park. Along some

corridors, the glaciers of Mount Rainer (the source of the Nisqually River) are visible high above. Other corridors provide views of hydroelectric facilities and the river systems that frame the park. The views allow visitors to experience the surrounding natural beauty as well as the park's unique natural history.

Power line corridors are subject to frequent disturbance from vegetation maintenance activities and represent a stark contrast to the park's natural landscape. The corridors provide linear routes for movement and edge habitat that is preferred by many species. They often serve as vectors for noxious weeds and other invasive species.

Cultural Resources

Culturally, the park represents a rich convergence of people, traditions, events, and values. For 10,000 years, native peoples, ancestors of the Nisqually Indian Tribe—Squali Absch or people of the grass–people of the river—have hunted, fished, and gathered in the Nisqually River watershed from the Whulge (Puget Sound) to Tacobet (Mount Rainier). The Nisqually River served as a meeting and trading hub for the Nisqually people and their interactions with other Salish Tribes. The park site provided both permanent and seasonal village sites for the Nisqually. Members of the Nisqually Tribe Parks Committee provided this description: "The Nisqually and their relatives, the Salish Tribes of the Pacific Northwest, were unique in what is now the continental United States. We did not practice any agriculture. The abundance of cedar (with its endless uses) and salmon (which could be preserved through smoking) gave us the resources needed for trading, accumulating wealth, and developing a sophisticated society."

European settlement in the late 1800s resulted in many changes, including the establishment of agricultural homesteads in the Ohop Valley, an increase in land clearing, and widespread logging of forested land across the upland plateau areas in the Nisqually-Mashel State Park Site.

The many culturally significant resources within the park vary from prehistoric village sites to structures associated with early European agricultural settlements. Native American tribes that have ties with park land include the Nisqually Indian Tribe, Yakama Nation, Puyallup Tribe, Muckleshoot Tribe, Chehalis Tribe, and Squaxin Island Tribe. Native American tribes may have ties to several land areas within or adjacent to the Park including:

- Mashel Prairie area
  - Indian Henry Cemetery and Shaker Church site
  - Medicine Springs
  - Chief Leschi's Village (potentially)
- Mashel Massacre site (confluence of the Mashel River and the Nisqually River)
- Mashel River and Ohop Creek confluences with the Nisqually River
- Ohop Creek, Mashel River and Nisqually River Valleys

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The Mashel Prairie is located in the west-central portion of the park site, and it represents one of the most culturally significant sites within the park's proposed Long-Term Park Boundary. The Nisqually Indian Tribe's famous leader, Chief Leschi, lived in a village in the area in the early- to mid-nineteenth century. Indian Henry (Soo-Too Let), another famous Native American, lived in the Mashel Prairie from approximately 1864 to 1895. His grave is still well maintained and frequently visited at the site where the Shaker Church (built in 1913) and cemetery used to be located. Prairies were so important to these native residents that the local people were ethnographically known as "prairie people" (Emerson and Ives 2008). Medicine Springs, which is located near the southern end of the Mashel Prairie, represents an area of immense spiritual significance to the Nisqually people.

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Areas within the park site were the scene of events associated with the Puget Sound Indian War of 1855–1856. One such event was the Mashel Massacre, which occurred near the confluence of the Nisqually River and the Mashel River. That area represents a significant cultural landscape feature within the park. Although different accounts exist for the massacre, it is known that Governor Stevens ordered the stealth attack on a Nisqually encampment here in 1856, resulting in the deaths of a group of Nisqually men, women, and children.

The Ohop Valley cultural landscape, including the Old Milk Barn, represents historically significant areas from the perspective of late 1800s European settlement in the Nisqually-Mashel area.

Resource Stewardship

This section describes overall prescriptions for park stewardship specific to the park site's resources and anticipated uses.

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Resource stewardship activities at the Nisqually-Mashel State Park Site will include protection of natural and cultural resources, scenic resources, management of public access and education opportunities, and management of trail and campsite use to prevent resource and infrastructure degradation. To conserve the park's valuable natural and cultural resources, the following general management strategies will guide stewardship activities:

- Preserve existing high-quality resources, including mature forests, rivers and riparian areas, wetlands, bluffs, the Mashel Prairie, and other unique features.
- Conduct thorough plant inventories to verify the absence of sensitive and rare plant species in areas planned for development. It is recommended that all high-quality habitats be managed as if sensitive plants are present until their absence has been confirmed through inventories.
- Enhance degraded resources, including removing invasive species. Prevent invasive species from displacing native communities of plants and animals.

- Manage young forests to provide diverse habitats in the future, and improve ecological functions in riparian areas consistent with the park site's forest health plan.
- Protect water quality and natural flow regimes critical to long-term viability of aquatic biodiversity.
- Prevent fragmentation of riparian corridors, floodplains, and contiguous upland habitat blocks.
- Protect existing cultural resources.
- Inform and inspire visitors by providing access to and information about natural and cultural resource features. Increase public awareness of the biological diversity and intact ecology of the park's ecosystem.

The following subsections describe stewardship for the park site's natural, cultural, and scenic resources; public access and education; and management of trail and campground use to prevent resource and infrastructure degradation.

Endangered, Threatened and Listed Species

Washington State Parks is required by the Endangered Species Act (ESA) to protect endangered and threatened species, and to avoid any actions that might jeopardize their survival or adversely modify their critical habitats. In addition, stewardship of the Nisqually-Mashel State Park Site will actively promote the conservation of state-listed as well as federal candidate species.

The currently known listed species of plants and animals that occur near or at the Nisqually-Mashel State Park Site are provided in Tables 2 and 3. Recovery plans approved by the U.S. Fish and Wildlife Service and National Marine Fisheries Service provide recommendations for some listed species recovery should the park choose to participate in recovery plans. However implementation of recovery measures can pose enormous technical and fiscal challenges which need to be addressed by park planners before such action is taken.

Nevertheless, Nisqually-Mashel State Park Site staff will be responsible conserving the park site's rare animals and plants and enforcing the laws protecting endangered, threatened and candidate species.

Stewardship Prescriptions:

1. Manage the Nisqually-Mashel State Park Site to protect existing occurrences of state or federally listed or candidate species to the approval of jurisdictional agencies.
2. Manage the Nisqually-Mashel State Park Site in consultation with natural resource regulatory agencies to determine how best to manage habitat for protected species recovery.

Table 2. State and federal threatened or endangered plant species documented in or near Nisqually-Mashel State Park Site.

Species	Federal and State Status*
Arenaria paludicola (marsh sandwort)	Federally Endangered; State Potentially Extirpated
Aster borealis (northern bog aster)	State Threatened
Euonymus occidentalis (western burning bush)	State Threatened
Isoetes nuttallii (Nuttall's quillwort)	State Sensitive
Lathyrus torreyi (Torrey's peavine)	Federal Species of Concern; State Threatened
Polystichum californicum (California swordfern)	State Threatened

*Status information was gathered on November 25, 2008, from the Washington Department of Natural Resources Washington Natural Heritage Program (WNHP) website: http://www1.dnr.wa.gov/nhp/refdesk/lists/plantrnk.html.

Table 3. State and federal threatened or endangered animal species documented in or near the Nisqually-Mashel State Park Site.

Species	Scientific Name	Federal and State Status
Bull Trout	*Salvelinus confluentus*	Federal Threatened, State Candidate
Canada Lynx	*Lynx canadensis*	Federal Threatened, State Threatened
Chinook Salmon	*Oncorhynchus tshawytscha*	Federal Threatened, State Candidate
Marbled Murrelet	*Brachyramphus marmoratus*	Federal Threatened, State Threatened
Mazama (Western/Roy), Pocket Gopher	*Thomomys mazama*	Federal Candidate, State Threatened
Steelhead	*Oncorhynchus mykiss*	Federal Threatened, State Candidate

Source: WDFW 2008.

Riparian Areas and Wetlands

The riparian corridors and their adjacent wetlands within the park site are generally highly functional and well-developed systems with minimal intervening management required. The primary focus of management in those areas will be to preserve and maintain the existing high-quality habitats by limiting infrastructure development and use of the area to a level that will not adversely affect riparian processes and by removing invasive species to prevent habitat degradation.

Wetlands within the park site that are not adjacent to a riparian area have been affected by previous timber harvesting. To promote wetland recovery, future management will require stewardship that protects existing processes in the wetlands by allowing them to

recover. In addition, forest practices will be used to encourage development of the structure, characteristics, and species composition of mature wetland systems.

Stewardship Prescriptions:

1. Ensure all park activities occurring in or near riparian areas, wetlands, and shoreline zones are consistent with local, state, and federal regulations protecting such areas.
2. Designate and protect vegetated buffer areas along all riparian corridors and wetlands consistent with local, state, and federal regulations.
3. Restore buffer areas disturbed by past activities or future park construction or maintenance activities to an equal or better condition than prior to disturbance.
4. Coordinate riparian stewardship with the Nisqually Indian Tribe, adjacent landowners, and other stakeholders within the watersheds of the Nisqually River, Mashel River, and Ohop Creek. In this way the park will leverage the effectiveness of local initiatives by applying them at the park site's landscape scale.
5. There are small pockets of invasive plant species, such as Scotch broom (*Cytisus scoparius*) and butterfly bush (*Buddleja davidii*), along riparian corridors, often associated with areas having current or past road access and extensive unregulated day use. Prompt removal of these pockets will reduce the opportunity for these species to spread into other areas of the park. The known locations of invasive species are provided in the section on invasive species and pest management found later in this plan.
6. Within the park's rivers and creeks, woody material will generally be allowed to remain. If trees fall into the creek they will improve fish and other animal habitat and will be left unless they are causing flooding in developed park areas. Trees may be placed in the creeks if and where needed to enhance fish habitat, as recommended by a qualified fisheries biologist.
7. Allow no timber harvesting in forested wetlands for at least 5 years. At the end of 5 years, have a qualified forester evaluate the condition of previously harvested forested wetlands to determine whether prescribed thinning or other forest practice would assist in improving stand structure for the purpose of accelerating mature wetland forest character.
8. Where present, remove or improve hydrologic barriers that are adversely affecting wetland hydrologic flows such as roads with no, plugged or undersized culverts; fill, dams or other water control structures; and filled or plugged ditches or drains.
9. Install typical structures such as nest boxes or platforms, perch logs, or brush piles to improve wildlife use of wetlands with seasonal or perennial open water.

Forest Lands

Stewardship of forest land within the Nisqually-Mashel State Park Site will implement the management recommendations found in the Nisqually Mashel State Park Forest Health Plan (Ettl and Emmons 2008) (Appendix F). The 2008 forest health plan provides a comprehensive analysis of the management actions that will support the long-term health and integrity of the forested areas in the park. Well-planned thinning and re-establishing species diversity in plantation forests, preservation of contiguous tracts of forest, and sighting high-intensity visitor use and development in the youngest and most degraded forests will enhance and protect forest land resources and minimize impacts from park development and visitor use.

The forest health plan recommends no treatments for most stands dominated by hardwood species, and for those stands with trees too small for thinning at this time. For other stands the plan provides specific thinning recommendations and time frames, as well as recommendations for planting species to increase forest species diversity.

The Nisqually-Mashel State Park Site will pursue certification under the Forest Stewardship Council's (FSC) Pacific Coast Standard. The 2008 forest health plan will provide the required planning to obtain this certification. The benefit of forest certification is that it assures the prescribed forestry practices are sustainable, as the FSC standard is broadly accepted as a means of demonstrating sustainable forestry. The forest health plan will be consulted for the specific steps needed to achieve this certification.

Stewardship Prescriptions:

1. Implement the management recommendations found in the Nisqually Mashel State Park Forest Health Plan (Ettl and Emmons 2008).
2. Implement the management recommendations found in the Nisqually Mashel State Park Forest Health Plan (Ettl and Emmons 2008).
3. Update the forest health plan at least every 5 years with the intention of accelerating the development of older stage forest systems where appropriate, and to maintain or restore healthy, diverse, and sustainable native forest systems today and in the future.
4. During forest harvest entries, implement best management practices that conserve and protect soil productivity, reduce soil compaction, reduce rutting that would impede water flow, maintain water quality, and minimally impact fish and wildlife habitat, and air quality.
5. Actively manage fuels and vegetation, where appropriate, to minimize risk of loss due to wildfire.
6. Act in a timely manner to restore and recover forest land burned by wildfire.
7. Monitor forest conditions to study the effectiveness of management strategies and share the knowledge gained.

8. Promote cooperative forest management strategies with adjacent landowners as needed to achieve forest health objectives.
9. Provide leadership in the management and stewardship of public forestlands in Washington.
10. Maintain and improve the contribution of the Nisqually-Mashel State Park Site forests to global carbon cycles.

Power Line Corridors

Power line corridors are very susceptible to colonization by invasive plant species due to repeated soil and vegetation disturbance that occurs from vegetation management, maintenance practices, and corridor use by visitors. Traditional power line corridor management focuses on keeping vegetation in an early-succession stage to minimize the risk of damage to the structural towers and overhead lines. As a consequence, power line corridors through forested ecosystems are thought to fragment the landscape and facilitate the intrusion of undesirable species into natural areas. However, power line corridors also have the potential to create a mixture of different succession stages, enhancing habitat availability for many species that prefer forest edges, and grassland and shrub habitat.

Stewardship Prescriptions:

1. Facilitate the removal of invasive species by coordinating with Tacoma Power and Bonneville Power Administration (BPA) on management of their easements within the park site. Report as needed to the Pierce and Thurston County noxious weed boards to ensure completion of this task by Tacoma Power and BPA within the next 5 years.
2. Coordinate vegetation management within the power line corridors with Tacoma Power and BPA to create succession variation through corridors that includes a mix of areas dominated by grasses, herbs, shrubs, and small tree species.
3. Where planned, develop clearly signed formal trails allowing only designated uses through power line corridors. This prescription is directed at eliminating informal trails and unauthorized uses, particularly ATV and other vehicle use.
4. Manage vegetation in the power line corridors to retain views of the surrounding mountain ranges.

Mashel Prairie

The Mashel Prairie represents one of the last remaining tracts of the South Puget Prairie ecosystem and is unique in that it is an emergent wetland prairie where most remaining prairie habitats are dry land systems. It is the easternmost documented occurrence of emergent wetland prairie habitat. In addition, as mentioned previously, the Mashel Prairie has high cultural significance. Therefore its preservation and restoration is one of the park's top priorities.

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The Mashel Prairie is not within the existing park site boundary and remains private property as this plan is published. As a consequence, it was not possible to evaluate the specific condition of the Mashel Prairie. However, general guidance is provided based on limited roadside observations and on the condition of similar habitats in the South Puget Sound region.

The specialized soil conditions of the Mashel Prairie are probably primarily responsible for its maintenance, although fires set by native people have contributed to its character in past centuries, and grazing has also contributed to its condition in more recent history. Construction and improvements to Mashel Prairie Road East have altered the prairie's historic hydrologic regime. Today the Mashel Prairie exhibits growing encroachment of pasture grasses and invasive species, and forest is likely regenerating in its drier areas.

Stewardship Prescriptions:

1. Once lands containing the Mashel Prairie are acquired, a thorough inventory will be conducted to identify the extent of the prairie, native, and invasive species present, the existing hydrologic regime, and wildlife use of the area. The inventory data will be used to identify areas in need of rehabilitation. Then interventions will be explored to evaluate their effectiveness in rehabilitating a wetland prairie system such as the Mashel Prairie.
2. Prairie restoration is an ongoing area of study by a number of researchers. A recommended local clearing house for current science-based information on the efficacy of interventions for rehabilitating and retaining prairie habitats is the South Puget Sound Prairie Landscape Working Group (http://www.southsoundprairies.org/.)
3. Once a baseline inventory is completed along with research on the best rehabilitation methods for the specific site conditions, a rehabilitation and stewardship plan specific to the Mashel Prairie will be developed. Interventions to rehabilitate and retain wetland prairie habitat to be considered will include hydrologic alterations, non-native invasive species removal, use of fire by controlled burns, removal of encroaching forest and shrub species, replanting of native wetland prairie species typical of those found in the area, and traditional plant harvesting.

The Mashel Prairie is of great significance in terms of its place in Native American history in the area and its preservation is of utmost concern. In addition, interpretation of the prairie and its use is a core component of the park's public educational programs.

Cultural Resources

The range of cultural resources in the park connects it to the Salish/Nisqually peoples, early European settlement, agriculture, logging, power generation, and recreational and leisure attractions. Cultural resource management issues include preservation of existing cultural landscapes, historic structures, historic sites, and prehistoric resources to ensure

their integrity for future generations. Restoration of degraded resources may be an option in some cases.

The *Cultural Resources Survey of the Proposed Nisqually-Mashel State Park, Pierce and Thurston Counties, Washington* (Emerson and Ives 2008) provides details of the history of human settlement in the park and vicinity and describes locations of important cultural features within the existing park site that will be protected.

The majority of the park site appears to have a low to medium probability to contain unrecorded cultural resources. However, riverine settings and the Mashel Prairie are considered high probability areas for cultural resources presence (Emerson and Ives 2008.).

Stewardship Prescriptions:

1. All Park developments will comply with either section 106 or Governor's Office Executive Order 05-05.
2. Before selecting a site for new park development, a site-specific archaeological survey that includes shovel testing will be completed for the area that will be disturbed.
3. In the event that cultural resources are identified during any construction activities, work will be halted in the immediate vicinity of the find and a professional archeologist will be notified to assess the resource.
4. All identified archeological findings will be reported to Washington State Parks and the Washington State Department of Archaeology and Historic Preservation.
5. A detailed cultural resources protection and preservation plan will be prepared to steward cultural resources.
6. To ensure impacts to cultural resources are avoided, results of any surveys are to be recorded with the Department of Archaeology and Historic Preservation.
7. As property is acquired with historic structures present, such as the Old Milk Barn, an Historic Structures Report will be prepared to make recommendations for rehabilitation and reuse prior to any modification of any historic structures. All rehabilitation of historic structures will adhere to the Secretary of the Interior's Standards for the Treatment of Historic Properties.
8. Those sites that are culturally significant and have been identified by the Master Plan as places to protect, educate, and provide interpretation, (such as Leschi's village, the Shaker Cemetery, and Medicine Springs), and natural resources associated with the cultural resource areas will be managed to support cultural resource interpretation and protection, unless that would result in unacceptable conflicts with protected species or areas of special natural resource concern.

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Scenic Resources

Whenever possible, screening vegetation will be retained and, where needed, will be planted to limit views of developed areas seen from park roads and trails. Overall, the intent is to minimize visitor awareness of service facilities and maximize visitor perception of the forest and river valley setting. However, occasional views of park development are needed to help orient visitors to the facilities of the park.

Stewardship Prescriptions:

1. Only native tree and shrub species appropriate to the Nisqually-Mashel State Park Site will be planted for screening.
2. In general, where public access is not desired, manage vegetation to increase density and remove openings.
3. Trees and brush will be selectively pruned or removed to retain desired views.
4. Trees may be removed and native grasses and herbaceous species planted in areas near roads, trails, and scenic and interpretive overlooks, where views are needed to help the public recognize access points to park facilities, and where views of natural park features, such as river valleys or cultural sites, need to be retained.
5. Specific areas where views will be retained include:
   - Views of Mount Rainier and other landscape features from the four camp area meadows
   - Views from trails and scenic and interpretative overlooks of the Cascades, Mount Rainier, the bluffs, and rivers below
   - Views from the Observatory
   - Views from the high canopy bridge.

Trails and Campgrounds

Stewardship of trails and campgrounds begins with good design and layout for the site conditions and expected use levels in different seasons. Good design will minimize the need for ongoing trail maintenance by using construction techniques and materials designed for long term self-sustaining use, and by using on-site materials as much as possible that can simplify needed repairs.

Trails and campgrounds will have surfaces and features that will support planned uses with minimal impact to park infrastructure and to natural systems in the area. Trails will show negligible evidence of soil loss or movement on or adjacent to the trail, and will not impede water flow. Similarly campgrounds will have little or no evidence of soil loss or movement and be surrounded by live, healthy vegetation. Trail and campground design and placement will accommodate naturally occurring plants in the area, recognizing there will be required pruning and potential removal of certain plants over time. Properly designed trails and campgrounds will not adversely affect the naturally occurring flora

and fauna and will require less maintenance and, in the case of trails, minimal rerouting over time by park staff.

There are many trails within the Nisqually-Mashel State Park Site that are leftover routes from timber extraction activities and as such were not really intended for long-term recreational use. Existing trails intended for continued use by park users will be rehabilitated where needed to remove obstructions, improve drainage, and to improve surfaces to accommodate allowed uses. Existing trails not intended for long-term use will be abandoned and the entries closed off from view with berms, rocks, or brush, and screened with vegetation.

Park staff's ability to maintain trails and campgrounds on public lands is limited. Even with good design, trails and campgrounds may become over used as evidenced by trampled and dying vegetation, soil rutting, soil loss, other signs of erosion, trail or camp site widening, and excessive wear on camp facilities. Sometimes even well-designed trails and campgrounds may need to be closed to provide recovery time for surrounding vegetation and needed maintenance.

Stewardship Prescriptions:

1. Trail designs will:
   - Allow water to readily sheet off the trail by designing with a 2 percent cross slope, avoiding erosion and rutting.
   - Align trails using the natural topography of the land.
   - Use rolling dips, not waterbars as a water drainage feature.
   - Have a trail grade that does not exceed 5 percent. Exception is existing trail that descends Mashel River Bluff.
2. Where public access is not desired, vegetation will be managed to increase density and remove openings.
3. All trails and campgrounds will be monitored on at least an annual basis to look for signs of overuse and degradation, and the conditions will be documented and kept as a monitoring record. Indications of overuse and degradation include trampled and dying vegetation, soil rutting, soil loss, other signs of erosion, trail or camp site widening, and excessive wear on camp facilities.
4. Informal trails created by users, trails with poor designs, and trails that threaten sensitive resources will generally be closed or relocated and the area rehabilitated or allowed to naturally revegetate.[1]

[1] There are numerous options for closing undesirable or overused trails; often an incremental approach is warranted. The entrance to a trail to be closed can roped off, or it may be hidden by raking organic debris such as leaves onto its tread, along with placement of rocks and dead branches. These actions also lesson soil erosion and speed natural recovery. If these actions are ineffective, large rocks can be "ice-berged" (planted deep) at the entrance to informal trails to discourage their use. Logs large enough to deter their removal by visitors can also be placed along the first 10 or more feet of a closed trail.

5. When trails show signs of overuse and degradation, steps will be taken immediately to improve the situation. If the trail can be improved sufficient to remedy the symptoms of overuse and degradation with available resources (funding and staff), the trail will be improved and its condition monitored. Improvements to consider include vegetation trimming, improving tread drainage, or graveling to create a more usable or visually obvious route. However, if improvements cannot be made within a reasonable timeframe, the trail will be closed for a period sufficient to allow for recovery and needed improvements.
6. As a general practice to prevent overuse and degradation of campgrounds, 25 percent of the park's camping areas will be closed to public use each year. In addition some camp sites may be opened to the public later in the year than others (beginning in June after the early growing season) to allow vegetation to better establish prior to use. The need for campground closures will be evaluated by park staff on an annual basis based on the monitored conditions report for each campground. Seasonal or annual closures will be used to prevent habitat loss and infrastructure degradation before costly repairs and improvements are required.
7. Campgrounds and trails will be signed as appropriate to inform users on park stewardship including the protection of campsite and trailside vegetation, proper recycling of waste, efficient water use, and protection of wildlife.

Tree Risk Management[2]

Stewardship will include implementing an active hazard tree management program, which ensures a safe recreational experience for park visitors. The Washington State Parks and Recreation Commission (WSPRC) policy on tree risk management is to plant tree species suitable for park use; prune young trees to improve structure and health; and sustain mature trees by minimizing physical and environmental impacts to them and by pruning structural defects to increase integrity and longevity, and to minimize risk[3].

It is WSPRC policy to proactively identify and mitigate high-risk trees to protect staff, visitors, and park resources in developed areas of the park system. It is a goal of WSPRC to reduce the risks trees pose to public and staff safety to a level that meets professionally recognized standards and demonstrates reasonable care.

Stewardship Prescriptions:

1. Trees in landscapes classified Recreation or Heritage, and in other select high-use areas of the park system, will be assessed on an annual basis by a professional forester, certified arborist, or agency staff trained in agency-approved tree risk rating and abatement techniques, for their risk of injury to persons or property.

[2] This section is based on DRAFT policy language slated for incorporation into the Washington State Parks and Recreation Commission policy 73-04-1 PROTECTING WASHINGTON STATE PARKS NATURAL RESOURCES.
[3] The approaches outlined in this sentence pertain, in most instances, to developed areas of the park site.

2. For trees identified as emergency trees[4], the park manager or designee trained in tree risk rating and abatement techniques as prescribed by the WSPRC Arboriculture-Forestry Manager is authorized to immediately close the target area and, where the target cannot be relocated, to cut or remove the emergency tree.
3. For non-emergency trees, the findings of these assessments will be recorded on a tree risk evaluation form and submitted to the WSPRC Arboriculture-Forestry Manager on or before year-end.
4. Trees requiring maintenance activities will be identified and prioritized by the WSPRC Arboriculture-Forestry Manager or designee, based on the annual assessments produced by the park staff, and treated to the capacity of the WSPRC Natural Resource Specialists crews and/or other existing funding sources.

Park Use Areas

The Nisqually-Mashel State Park Site has four use areas called: Central Plateau, East Mashel Plateau, South Bank of the Nisqually River, and the River and Creek Valleys.

Each park site use area is characterized by a distinct set of desired conditions, uses, and goals, requiring specific stewardship prescriptions. The conditions in each area and the prescriptions for stewardship are described in the following subsections.

Central Plateau

The Central Plateau is the primary and central park land use and development area. It is a key area for park activities and programs. The Central Plateau includes the Park Entry and Welcome Center, the Village Center, a Day Use and Group Picnic Area, Camping Areas, Maintenance and Infrastructure Facilities, the Ohop Equestrian Center, and the People's Center.

The Central Plateau exhibits various stages of forest succession and regeneration. Some areas reflect a plantation-style forest management strategy and consist of extremely dense young forest. Other areas are newly cut, characterized by only small trees and shrubs, and allow views of the surrounding landscape, including Mount Rainier. Stewardship in the Central Plateau will focus on protecting visitor's experience and accommodation, preventing degradation and overuse of park resources, and preventing the introduction and spread of invasive species.

[4] From 235-28-010 WAC: Emergency trees means any tree that has already failed (cracked, tipped, diseased, failed or standing dead) or in the judgment of a professional forester, certified arborist, or park staff member trained in tree risk rating and abatement techniques approved by the agency, and which due to its location, poses an imminent threat to a target. Imminent means likely to occur at any moment, and target means a structure, facility, or person that has the potential to be hit or impacted by a falling tree or tree part.

Stewardship Prescriptions:

1. For all areas within the Central Plateau, implement the forest management recommendations found in the Nisqually Mashel State Park Forest Health Plan for the area (Ettl and Emmons 2008).
2. Stewardship in all areas of the Central Plateau will protect the visitor's experience and accommodation, but park resources will be managed to prevent overuse.
3. The Central Plateau will experience the highest level of use of all the areas in the park and, as a result, the proliferation, spread, and translocation of invasive species will likely be a serious issue. A noxious weed survey will be completed annually to detect and map and update locations of invasive and noxious weed species. A plan for control and removal of infestations will be prepared and implemented.
4. Meadow areas such as the Great Meadow will be maintained as meadow and the forest edge thinned as needed to allow views into the surrounding forest and to Mount Rainier.
5. In areas where retaining or facilitating views is a priority, such as near the summit of the plateau, the Observatory, and the camping meadows, open-canopy forest or shrub-dominated conditions will be maintained by selective removal of vegetation.

East Mashel Plateau

The East Mashel Plateau is currently owned by the UW Center for Sustainable Forestry and is located between the east bank of the Mashel River and SR 7. The East Mashel Plateau supports three primary land use areas: a backcountry horse camp, camping areas for recreational vehicles (RVs) and tents, and a backcountry bike challenge course. These areas are accessed from an entry off SR 7 and managed through the Welcome Center and vehicle control nodes. Trails and access roadways connect eastside park users to the Mashel River bluff, bridges, and confluence areas. This area provides immediate access to the nearby UW Center for Sustainable Forestry conference facilities, forested areas, and regional trails.

Focus for park stewardship in this area will be on forest management, and on preventing degradation and overuse of the campgrounds and multi-use trail network that allows for hiking and biking.

Stewardship Prescriptions:

1. Once the East Mashel Plateau is acquired, a forest health plan will be prepared to provide guidance on sustainable forestry practices to improve forest health and biodiversity.
2. Trails and campgrounds will be monitored on at least an annual basis to look for signs of overuse and degradation and the condition documented and kept as a monitoring record. Remedial actions will implement the prescriptions provided in the Trails and Campgrounds section of this plan.

South Bank of the Nisqually River

The South Bank of the Nisqually River Area supports the Nisqually Tribe Management Area and Traditional Knowledge Camp. This area is accessed by the pedestrian trail network, including two bridges, one high bridge above the confluence of Ohop Creek and the Nisqually River, and one low bridge over the Nisqually River near the Mashel River confluence. Connections to future Thurston County regional trails and forest lands are planned.

This area is characterized by generally young forest (ranging up to 90 years) and some mature forest located on a terrace on the south side of the Nisqually River. Although the forest is generally young, the area has a number of plant associations that are rare or uncommon in Washington State (LYRA Biological 2006). Management measures will need to ensure that impacts on those areas are minimized.

Stewardship Prescriptions:

1. Upland forests located within the South Bank of the Nisqually River area that are included in the 2008 forest health plan (Ettl and Emmons 2008) will be managed consistent with its recommendations.
2. As additional areas of the South Bank of the Nisqually River are acquired, a forest health plan will be prepared to provide guidance on sustainable forestry practices to improve forest health and biodiversity for those areas.
3. Only trails will be allowed within the mature, high-quality forest in the vicinity of the Traditional Knowledge Camp.
4. Camping areas and trails will be signed to inform users that activities are to conform to Leave No Trace principles.[5]

River and Creek Valleys

The River and Creek Valleys consists of the riparian areas and steep bluffs associated with the Nisqually River, the Mashel River, and Ohop Creek. The area is dominated by sensitive or important habitat types and their buffers, as well as scenic areas that are crucial to preserving the desired visual landscape of the park. Emphasis for stewardship of the River and Creek Valleys will be fisheries protection, removal of invasive plant species, protection of existing resources, protection of the important role the areas play in providing wildlife corridors and resource linkages, and retention of the aesthetics of a natural landscape. Preserving the integrity of these areas is crucial to the park site's ability to maintain exceptional wildlife habitat, therefore public access will be controlled to prevent disturbance to fish and wildlife use of the area.

[5] Leave No Trace is a national program that promotes responsible outdoor recreation. The curriculum and wilderness skills training courses are taught through a partnership with the National Outdoor Leadership School. For more information, visit the program website at www.lnt.org or call 1-800-332-4100.

The River and Creek Valleys provide high-quality habitat for a variety of wildlife species, such as state and federally listed fish, elk, deer, bear, cougar, and a wide variety of bird species. To prevent adverse impacts on wildlife, use of these areas will be highly controlled, both in terms of access locations and timing (season). For example, access to the Mashel River near its confluence with the Nisqually River via the restored trail will be seasonally restricted to prevent impacts on steelhead trout and Chinook salmon spawning areas.

Stewardship Prescriptions:

1. The bluffs above the Nisqually and Mashel rivers, although quite scenic, pose a public safety concern due to their extremely steep slopes and high erodibility. Consequently, access to these areas will be controlled, with only three points of access via the proposed elevated "high" bridges over the Mashel River (two) and Nisqually River (one), five Mashel River overlooks and two Nisqually River overlooks. Otherwise, trail placement and design will prevent the use of the bluff areas by visitors, ensuring public safety and preservation of those unique landforms and the wildlife that use them.
2. The area includes highly valued and critical spawning habitat for Chinook salmon and steelhead trout, and is considered to be one of the most important areas for salmon recovery in the Nisqually River Watershed. Therefore any activities planned for this use area will be consistent with local planning for salmon recovery in the Nisqually and Mashel rivers and Ohop Creek.
3. Public access to river shorelines of the park site will be controlled to prevent disturbance of spawning Chinook salmon and steelhead trout during their respective spawning periods. Spawning locations and periods for these species will be obtained from the Nisqually Indian Tribe Natural Resources Department Salmon Recovery Program (web site: http://www.nisqually-nsn.gov/salmonrecovery.html.)
4. The existing Mashel River bridge is likely an obstruction to river geomorphic processes as it lies within the river's channel migration zone. The obstruction may be affecting fish habitat. When improvements are made to the Mashel River Bridge, this issue will be evaluated and steps taken to mitigate the obstruction to the extent feasible.
5. The road leading to the lower bridge contributes sediment to the river in periods of heavy rainfall. Steps will be taken to evaluate the situation, and short-term and long-term remedial plans for stopping the sediment flow will be developed and implemented.
6. Because of the critical functions of riparian and other wetlands within this water-dominated landscape, wetland preservation is required for the maintenance of a healthy ecosystem in the park. Wetlands are sensitive to trampling and other physical perturbations, and soils and plants in wetland habitats often cannot recover from

disturbance impacts. To minimize the disturbance of wetlands, park infrastructure and trails will be located outside of wetland areas.

7. When access to wetlands is considered necessary, it will be facilitated using boardwalk trails. For example, this approach may be implemented on the proposed trails paralleling the Ohop Valley on the west side of the park and in other areas where trails may encroach on wetland areas.

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8. The condition of riparian and wetland habitats and their buffers will be monitored each year to look for disturbances such as trampled vegetation and informal trails. If disturbances are observed, corrective steps will be taken to prevent further access to the area. Habitat restoration will be implemented where needed to restore ecological functions and prevent the spread of invasive species.
9. Tree fall material will remain where it falls in the River and Creek Valleys use area. Trees may be placed in the use area if and where needed to enhance fish habitat, as recommended by a qualified fisheries biologist.
10. No timber harvesting will be allowed in riparian wetlands located in the floodplain and channel migration zones of the Nisqually River, Mashel River or Ohop Creek.
11. Interpretive signage will be used when possible to inform visitors about the benefits the varied and important habitats provide in this use area and the role they play in the park's landscape.
12. Upland forests located within this area will be managed consistent with the recommendations in the Nisqually-Mashel forest health plan (Ettl and Emmons 2008).
13. In the River and Creek Valleys area, as well as other areas of the park site, invasive species pose a threat to native plant communities and may prevent habitats from achieving their full ecological potential. An invasive species management plan will be implemented as part of park operations. In this area, removal of the Scotch broom (*Cytisis scoparius*) population at the confluence of the Nisqually River and Ohop Creek and removal of purple loosestrife (*Lythrum salicaria*) and butterfly bush (*Buddleja davidii*) from the Nisqually and Mashel River floodplains will be prioritized for weed removal and plant community restoration.
14. Trails will be signed to inform users that activities are to conform to Leave No Trace principles.

Invasive Species and Pest Management

Control of invasive species and pests will be one of the most significant land management responsibilities at the Nisqually-Mashel State Park Site in order to establish and maintain high-quality habitat in the park. Natural areas are dynamic ecosystems that respond to processes of disturbance and succession, including fluctuating insect and plant

populations. In general, such processes will be allowed to occur with minimal intervention. However, strategies to suppress or remove the threat of invasive and noxious weed species or insect pests will be a part of routine maintenance.

The findings of LYRA Biological (2006), corroborated by observations of Herrera during a site visit in 2008, indicate that invasive plant species are common in the park in disturbed areas, especially in previously logged areas.

Given the extent of observed invasive species infestations, park site areas will be inventoried specifically for invasive species populations and an Integrated Pest Management (IPM) strategy (as required by the Washington State Park Sustainability Plan) will be adopted to address the most pressing weed issues (Revised Code of Washington, Section 17.15.030). IPM is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. That information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment. IPM programs work to monitor for pests and identify them accurately, so that appropriate control decisions can be made in conjunction with action thresholds.

The IPM approach embodies effective planning, monitoring, and prioritization of adaptive management techniques, with a level of effort dictated by the species present and the severity of the infestation.

Table 4 shows weed and pest action thresholds that apply to weeds or pests that may be found in the Nisqually-Mashel State Park Site. Noxious weeds are plant species that have been designated for removal or control by Pierce or Thurston counties, or Washington State because they have been identified as injurious to agricultural and/or horticultural crops, native plant communities, humans and/or livestock. Invasive plants are non-native or exotic species that are aggressive colonizers and tend to become monocultures if not managed. Exotic species are non-native species that are not expected to be aggressive colonizers but should be monitored and removed if problems arise.

Table 4. Weed and pest action thresholds.

Weed or Pest	Action Threshold
Class A noxious weeds	Will not be tolerated and will be removed when found.
Class B and C noxious weeds	Will not be tolerated and will be controlled or removed when found.
Invasive plants	These species represent a threat to biodiversity and will be controlled in conjunction with ecosystem restoration efforts in these environments.
Exotics	Exotics (non-native species) will be considered habitat and as such will be tolerated except where their presence presents a threat to a particularly valuable landscape asset such as a riparian area or floodplain, a rare plant community or a heritage tree.
Insects	Insects that pose a risk to landscape health (such as tent caterpillars), may be tolerated or controlled based on the degree of damage and level of long-term risk to ecosystem health. Insects that pose a risk to public health and safety (such as hornets) may be controlled or suppressed only in circumstances where they are located in close proximity to human activity. Mosquito management will be performed according to Pierce County's West Nile Virus Response Plan (https://wastefreegifts.org/pc/services/home/environ/water/wq/main.htm)

Annual monitoring of park use areas and areas formerly and currently infested by weeds will occur to detect any new introductions and to document the status of existing populations. The initial inventory and monitoring efforts are to be followed by development and implementation of treatment prescriptions based on the most effective eradication techniques for the particular invasive species present, the severity of the infestation, and the site conditions. Treatment methods will likely evolve over time with changes in invasive species population characteristics and weed control technologies.

Noxious weeds and invasive plant species known to be present in the Nisqually-Mashel State Park Site are listed in Table 5 along with known locations and removal priorities.

Stewardship Prescriptions:

1. Park site areas scheduled for development will be inventoried specifically for invasive species and their removal and control included in an IPM plan.
2. An invasive species monitoring program will be included in the IPM plan.
3. All park use areas will be monitored annually for the presence of invasive species. The highest priority areas for monitoring will be areas adjacent to trails, roads, and campgrounds. Other areas to be monitored include all high use areas, and known infestations.
4. Treatments to eliminate invasive species will be intensive and provide for removal of all individuals in as large an area as funding will allow.

5. Intensive, repeated treatments to smaller areas are preferred over low-level treatments across large areas to bring problem species under control.
6. Invasive species located within park site areas scheduled for development will be removed prior to site development. Measures preventing further spread will be taken, such as requiring that operators maintain clean equipment throughout the process with certain areas dedicated for removing material (i.e., areas to wash tires before entry).
7. Current recommended removal and control methods for each species will be obtained from the Pierce County Noxious Weed Program (web site: http://piercecountyweedboard.wsu.edu/) and an implementation plan prepared for each removal and control area.
8. Forest practices operations will be designed to minimize the entry and spread of invasive species. Operators will maintain clean equipment throughout the process with certain areas dedicated for removing material.
9. Forest thinning activities will proceed in concert with efforts to remove and control invasive species on these sites.

Table 5. Noxious and weed plant species known to be present on the Nisqually-Mashel State Park Site

Plant Name	Scientific Name	Washington State Class or Type	Known Locations	Removal Priority[1]
Brownray knapweed	*Centaurea jacea*	Class B	Floodplains of Nisqually and Mashel rivers	High
Bull thistle	*Circium vulgare*	Class C	Agricultural and disturbed areas	Medium
Butterfly bush	*Buddleja davidii*	Class B	Banks of Nisqually and Mashel Rivers	High
Canada thistle	*Cirsium arvense*	Class C	Very young forest plantations between Mashel Prairie Road and the Northwest park boundary (LYRA polygons 7 and 8)	Medium
Common tansy	*Tanacetum vulgare*	Class C	Agricultural and disturbed areas	Medium
Curly dock	*Rumex crispus*	Exotic	Banks of Nisqually and Mashel Rivers	Low
English ivy	*Hedera helix*	Class C	Near Nisqually River (LYRA polygon 18)	High
Evergreen blackberry	*Rubus laciniatus*	Invasive plant	River edges, power line corridors (LYRA polygons 12 and 13), northwest of Nisqually-Mashel confluence, disturbed areas and pastures (LYRA polygons 15, 17, and 46)	High
Flat pea	*Lathyrus sylvestris*	Exotic	Dominating herb layer in area near Nisqually River (LYRA Polygon 42)	Low
Hairy catsear	*Hypochaeris radicata*	Class C	Young forests, agricultural and disturbed areas	Medium
Herb Robert	*Geranium robertianum*	Class B	Widespread in understory of some mature canyon forest habitat and river benches; also along roads	Medium

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Plant Name	Scientific Name	Washington State Class or Type	Known Locations	Removal Priority[1]
Himalayan blackberry	*Rubus discolor*	Invasive plant	River edges, power line corridors (LYRA polygons 12 and 13), northwest of Nisqually-Mashel confluence, disturbed areas and pastures (LYRA polygons 15, 17, and 46)	High
Old-man-in-the-spring	*Scenecio vulgaris*	Class C	Agricultural and disturbed areas	Medium
Orchardgrass	*Dactylis glomerata*	Exotic	Banks of Nisqually and Mashel rivers	Low
Oxeye daisy	*Leucanthemum vulgare*	Class B	Young forests, agricultural and disturbed areas	Medium
Purple loosestrife	*Lythrum salicaria*	Class B	Floodplains of Nisqually and Mashel Rivers	High
Queen Anne's lace	*Daucus carota*	Class B	Young forests, agricultural and disturbed areas	Medium
Reed canarygrass	*Phalaris arundinacea*	Class C	Banks of Nisqually and Mashel Rivers and wetlands, northwest of Nisqually-Mashel confluence	High
Scotch broom	*Cytisis scoparius*	Class B	Along road corridors and very young forest plantations between Mashel Prairie Road and the Northwest park boundary (LYRA polygons 7 and 8), also found at confluence of Nisqually and Mashel Rivers.	High
St. John's wort	*Hypericum perforatum*	Class C	Upland flats between Nisqually River and Ohop Creek drainages	Medium

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[1] Removal priority is based on the Action Thresholds provided in Table 4 and the risk to the known resource(s) affected. Removal priorities will change over time as existing infestations are removed, and new species or locations identified. This table will be updated as appropriate.

10. Park staff will coordinate with the Nisqually River Cooperative Agreement to control invasive species in the Nisqually River Basin. Sean MacDougal[6] is heading up this effort and coordination has begun around the invasive knotweeds (*Polygonum* spp.) that have been found along the Nisqually River above Alder Dam.
11. If knotweeds are observed within the park site, they will be removed as part of an IPM plan at the earliest opportunity.

Adaptive Management

Stewardship will be based on the principles of adaptive management. Adaptive management occurs when management actions are quantified and the conditions are evaluated both before and after the management action is implemented; the results of the evaluation are then used to refine the next round of management actions. Adaptive management actively incorporates feedback and learning into park management in order to improve park stewardship.

Another way to view adaptive management is that it will be a process of informed trial and error, where remedial tactics are tried, the degree of success or failure recorded, and the information is used to better prescribe future remedial actions.

There are three fundamental components required for adaptive management: (1) baseline measure of condition, (2) monitoring and evaluation of the condition, and (3) selection of the next step (no action or remedial).

Information on the baseline measure of conditions found at the Nisqually-Mashel State Park Site is available from a number of studies completed for the park site Master Plan including a cultural resources survey (Emerson and Ives 2008), forest health plan (Ettl and Emmons 2008), rare plant survey (LYRA Biological 2006), and environmental constraints report (Herrera 2008). Those existing studies will be used to the extent of their coverage and augmented as needed where information is lacking.

Monitoring and evaluation of park conditions will be a fundamental task assigned to stewardship activities. The conditions of natural resources and park infrastructure will be monitored on at least an annual basis and a record kept that will allow for an assessment of whether conditions are stable, worsening, or improving.

Depending on the outcome of monitoring and evaluation, selection of the next step will be a choice to take no action, continue current actions, or to take remedial actions. In general, monitoring of resources that indicates conditions are stable or improving will warrant a response that is either to take no action or continue current actions. Monitoring indicating a degrading condition will trigger the implementation of remedial actions intended to stop degradation and improve long-term resource conditions. Some remedial actions have been anticipated and are prescribed in this plan; however, other

[6] Pierce County Noxious Weed Control Program 1420 East 112th Street Tacoma, WA 98445 (253) 798-6802

unanticipated issues will require park staff to research and evaluate remedial alternatives, select the best indicated actions, and follow up with appropriate monitoring for remedial action evaluation.

Stewardship Prescriptions:

1. Adaptive management will be used to ensure the protection of park resources, including existing high-quality habitats, wildlife use of the park, places of cultural significance, and park infrastructure.
2. A monitoring program will build on surveys of existing conditions to document a baseline from which to measure change and be augmented by other studies as needed.
3. Indicators will be selected for each resource area (habitat condition, trail condition, invasive species presence) to effectively measure changes in the resource.
4. The monitoring program will consider the costs and logistics of monitoring protocols in order to implement a program that can be repeated with a frequency that provides a sufficient gauge of resource condition.
5. Indications of degraded resources will trigger the identification of remedial actions that will be taken in response, such as decreasing visitor use to reduce impacts and rehabilitating the degraded resource.

General guidelines for monitoring ecological and cultural resources, as well as the impacts due to public access and use, are provided in the following subsections. These will provide a starting point for developing a monitoring plan and will be revised and expanded as needed to improve park monitoring.

Monitoring for Ecological Resources

High-priority ecological features in the park will be monitored to evaluate stewardship policies and resource health. The following methods are recommended and will be augmented as necessary:

- Photo-monitoring locations (permanent locations in the park from which repeated photographs of the landscape can be taken) will be established in priority areas to provide a visual record of trends and changes over time. Photo-monitoring can be used to document important views and landscape characteristics.
- Vegetation condition will be monitored in areas of concern such as areas adjacent to trails or campsites, rare plant associations, disturbed areas, areas with known noxious weed infestations, and high use areas.
- Wildlife use will be monitored to the extent necessary to ensure protection of migration corridors, and specialized breeding and feeding areas such as nesting trees or open water wetlands.
- Fish use will be monitored to the extent necessary to ensure protection of spawning times and areas.

Monitoring for Cultural Resources

High-priority cultural resources are monitored to help evaluate the effectiveness of stewardship policies. An archaeological and cultural resources inventory of the park has been conducted (Emerson and Ives 2008). It provides some baseline information about conditions against which to measure impacts on these features.

- Monitoring of cultural resources will consist of annual staff inspections which will include photo-monitoring of cultural resource areas.

Monitoring for Trails and Campgrounds

Monitoring the level of public use and the impact of public uses on the park's resources is a critical element of park stewardship. To help determine appropriate use levels, the park will monitor the condition of public use areas annually and also rely on feedback from volunteer stewards, interested citizens, and neighbors.

- Trails and campgrounds will be visited and indications of overuse and degradation documented. Indicators include trampled and dying vegetation, soil rutting, soil loss, other signs of erosion, trail or camp site widening, and excessive wear on camp facilities.
- Car counters and trail monitors will be used to track the number of people using portions of the park over time in areas where overuse is anticipated or observed. This information would be used to anticipate resource impacts in advance of problem situations.
- A permit system will be used to track or limit use levels in areas where public access is severely affecting park resources.
- Photo-monitoring will be used to assist in the evaluation of public use impacts at locations selected to be permanent photo monitoring stations.

Regulatory Context

Stewardship of the Nisqually-Mashel State Park Site will comply with all federal, state, and county regulations. Activities within the park are subject to a number of federal, state, and county regulations. Rivers, streams, and wetlands are regulated under the jurisdiction of the U.S. Army Corps of Engineers, the Washington State Department of Ecology, and Pierce and Thurston counties. The counties also prescribe the preservation of upland buffers around these features.

Activities that affect protected species and habitats within the park site will require approval from one or more of the following agencies: the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the Nisqually Indian Tribe, the Washington State Department of Fish and Wildlife, and the Washington State Department of Natural Resources. Forestry activities are regulated under the Washington Forest Practices Act as administered by the Washington State Department of Natural Resources. All land

clearing and development activities are regulated by the county permitting and planning processes.

Most of the Nisqually-Mashel State Park Site, encompassing all land north of the Nisqually River, is in Pierce County and is subject to Pierce County regulations. Park land south of the Nisqually River is in Thurston County and subject to Thurston County regulations. Both Pierce and Thurston counties regulate specific environmental features that are classified as critical areas. Critical areas in both counties include wetlands, streams, fish and wildlife habitat conservation areas, and geologic/landslide hazards, which include steep slopes and lahars. The locations and regulatory requirements related to these areas are detailed in the environmental constraints report for the Nisqually-Mashel State Park Site (Herrera 2008).

Park and Visitor Safety

An emergency fire plan will be developed in coordination with local fire districts and other knowledgeable parties. The plan will consider likely scenarios in the event of a fire, identify environmental and public safety goals, and outline protective strategies. The plan will discuss fire hazards, describe fuel sources in different parts of the park, identify access and base locations for emergency vehicles and aircraft and water sources for firefighting, and provide protocols for communication and emergency notification.

Portions of the Nisqually-Mashel State Park Site are within the potential lahar inundation zone of Mount Rainier.[7] Areas within the park that are at risk in the event of a lahar include the Nisqually River valley; the lower reaches of Ohop Creek and the Mashel River, near their confluence with the Nisqually River; and the adjacent river valleys. A plan to safely and quickly evacuate park users will be developed and implemented to reduce the risk of injury and death from a lahar. Successful evacuation will depend on early detection of an approaching lahar, a clear warning system, and public understanding of the hazard and how to respond. Efforts of public agencies are ongoing along major river valleys, including the Nisqually River valley, with headwaters on Mt. Rainier to develop and implement effective lahar warning.

Careful study of the deposits in the large valleys that drain Mount Rainier shows that, over the past 10,000 years, Mount Rainier has been the source of numerous lahars (volcanic debris flows) that buried now densely populated areas as far as 60 miles from the volcano (USGS 2000). Lahars originating on the steep flanks of Mount Rainier are expected to flow into the park's river channels and valleys. Evidence from historical deposits combined with observations of modern debris flows suggest that past lahars traveled at speeds as great as 40 to 50 miles per hour at depths of 100 feet or more in the confined parts of the valleys but slowed and thinned in the more distant, wider parts.

[7] A *lahar* is a flowing mixture of water and sediment that contains such a high concentration of rock debris that it looks and behaves like flowing wet concrete. Lahars are capable of destroying buildings, bridges, and other man-made structures by battering, dislodgement, and burial.

During the past few thousand years, lahars that spanned valley floors down into the now densely populated Puget lowland have recurred, on average, at least once every 500 to 1,000 years. There is every reason to expect that future lahars from Mount Rainier will be similar to those of past lahars in terms of their behavior and frequency (USGS 2000).

Lahars seek valley bottoms; therefore, in many cases, it's possible to escape a lahar by quickly climbing or driving upward from the valley. Pierce County has estimated the travel time for a large lahar from Mount Rainier to reach the river valleys of Nisqually-Mashel State Park Site to be approximately 1.5 hours from detection.

Park Stewardship and Climate Change

Estimates of the magnitude of climate change that has occurred in recent years and is projected for the future remain uncertain. However, there is ample scientific evidence that climate change is currently affecting and will have significant future impacts on terrestrial and aquatic ecosystems throughout the Pacific Northwest. Key climate factors that will affect stewardship of the Nisqually-Mashel State Park Site are increasing average annual temperatures, seasonal and annual changes in precipitation patterns, and increasing frequency of extreme weather events.

Stewardship planning for climate change is needed if the park is to successfully adapt to future environmental conditions. The following are general recommendations that are suggested on which to base stewardship planning in the face of climate change:

- Recognize that past ecosystem conditions in the park may no longer be a dependable guide to future conditions in the park.
- Take actions to increase the ability of the park's infrastructure and ecosystems to adapt to the effects of climate change.
- Expect the unexpected and be ready and able to adapt to changing conditions.

During the twentieth century, the Pacific Northwest experienced a climatic temperature increase of 0.8 degrees Celsius (°C). Using results from eight climate models, a further increase of 0.5 to 2.5°C (median 1.5°C) by the 2020s is projected, with another 1.5 to 3.2°C (median 2.3°C) by the 2040s. The models also project that the increase in temperature would result in an increase in precipitation, except in the summer. The foremost impact of a warming climate on the Nisqually-Mashel State Park Site will be a reduction in the regional snowpack, which currently supplies the park with water for ecosystem processes and human uses, especially during the dry summers (Mote et al. 2003).

With decreased snowpack and earlier snowmelt, the summer low flows in the park site's rivers and streams are likely to be further reduced, while winter stream flows would likely rise, altering the timing of freshwater discharges to wetlands and ultimately Puget Sound. If winter precipitation increases, as the models suggest, the risk of flooding in the park site's watersheds would be compounded (Mote et al. 2003).

Lower summer flows and warming waters may put further negative pressures on salmon and other fish that use the park site's rivers and streams in the summer.

Warmer water temperature would potentially put many species at risk. Algae and plankton, the foundation of the food web within the park's wetlands, rivers, and streams, are sensitive to temperature change. Temperature-driven shifts in plankton could ripple through the food web, changing the composition of the invertebrate, fish, and mammal communities inhabiting the park site.

The park site's ecosystems are also sensitive to temperature variations between day and night and between seasons. The frequency and severity of extreme cold conditions, which serve to control certain pests but also can damage certain plants, can also be important. Changes in all of these parameters have been observed in the Pacific Northwest (Easterling et al. 2000).

Tree mortality may already be increasing in the Nisqually-Mashel State Park Site. The rate of tree death in older coniferous forests in western Washington has doubled over the last 17 years. Continued reductions in snowpack and prolonged drought help many insects and tree diseases to flourish, which can contribute to increased tree mortality (van Mantgem et al. 2009). That trend could fundamentally restructure the forests within the Nisqually-Mashel State Park Site, leading to increased forest fragmentation and increased fire danger from fuel-loaded dead trees and overcrowded immature tree species that would colonize disturbed forests and valleys.

Based on such documented trends, climate change will affect ecosystem processes within the Nisqually-Mashel State Park Site by affecting forest development, wetland functions and values, river and stream hydrogeomorphic processes, and the composition of flora and fauna communities. Forest development will be affected by increased mortality of tree species that are more sensitive to temperature changes and drought. Freshwater wetlands will be affected principally by increased water temperatures, increased evaporation, and seasonal and annual changes in precipitation patterns. Rivers, creeks, and river valleys will be subject to increased flooding and more frequent and extreme storm events. Northerly shifts in flora and fauna communities are expected to continue, along with the associated concerns about the increased presence of non-native, invasive species.

Based on these expected future ecosystem trends due to climate change, the following guidance for park stewardship is provided:

- Monitor park site ecosystems for ongoing and long-term change.
- Site park development outside of river channel migration zones and outside of aquatic resources and their regulated buffers.
- Where park development is planned for areas that may be vulnerable to unpredicted weather events, include emergency procedures and facility life cycle planning into the planning process.

- To the extent possible, provide ample room for rivers, creeks, and wetlands to migrate.
- Prevent fragmentation of forested areas and wetland, stream, and river systems.
- Protect wildlife corridors.
- Implement the management recommendations found in the Nisqually Mashel State Park Forest Health Plan (Ettl and Emmons 2008).
- Consider the impact of proposed park activities on carbon stores to minimize the park's carbon footprint and assist in minimizing the effects of climate change.

By including climate change in park stewardship planning, Washington State Parks can build the capacity required to prepare for and cope with both expected and unexpected climate-induced impacts.

Stewardship Coordination

The Nisqually-Mashel State Park Site is a product of the collaboration of a suite of stakeholders, including interested community groups and public agencies. The engagement of these groups in park site development and operation, as exemplified by the park planning process, will be critical to the long-term success of the Nisqually-Mashel State Park.

Stakeholder Participation

Many of the stakeholders that have been involved in the formation of the Nisqually-Mashel State Park Site may play an important role in the stewardship of this area. Their contributions may result from passive participation (i.e., land contributions through donation or sales), active participation such as assisting with resource management, or both.

In order to achieve the goals and objectives for the park, Washington State Parks has proposed a long-term park boundary that includes many of the surrounding properties that are not currently owned by Washington State Parks. Therefore, coordination with some of the stakeholders will focus on approaches to land acquisition, while coordination with others will focus on ongoing collaboration and involvement.

Some of the most active stakeholder groups currently identified to play a significant role in park development is described in the following subsections. It is recommended that Washington State Parks pursue formalizing agreements with these potential partner organizations such as memoranda of understanding.

Nisqually River Council

The Nisqually River Council consists of governmental and nongovernmental stakeholders and represents a wide variety of public and private interests. The council plays a coordination role in watershed planning and is in charge of implementing the

Nisqually Watershed Stewardship Plan. Washington State Parks will coordinate closely with the council to make sure that the park site management and proposed activities align with watershed-level goals and objectives, and State Parks representatives will participate in the Nisqually River Council advisory committees.

Nisqually Indian Tribe

The Nisqually Indian Tribe has played an essential role in planning efforts for the Nisqually-Mashel State Park Site, and it will continue to play a crucial role through management and stewardship participation after the state park is established. A significant portion of the main park area (Central Plateau) will likely be owned and operated by the Tribe for the development of the People's Center. A portion of the park south of the Nisqually River will also likely be managed by the Tribe as a Traditional Knowledge Camp. The development of a strong volunteer program through the Tribe will provide critical contributions to park stewardship, such as trail maintenance, invasive species management, and cultural resource interpretation. In short, ongoing participation in and guidance from the Nisqually Indian Tribe related to park development, interpretive activities, and stewardship of cultural and natural resources are imperative to achieving the objectives for the park.

Nisqually Land Trust

The Nisqually Land Trust has been instrumental in the Nisqually-Mashel State Park Site's successful property acquisitions to date. The trust, which also owns property north and west of the park, has expressed a willingness to enter into an agreement that would allow that land to be managed as part of the park within its Long-Term Park Boundary. Additionally, the Nisqually Land Trust could potentially purchase a portion of the land between the current park site boundary and Ohop Creek.

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Manke Timber

The park site's Long-Term Park Boundary and a significant portion of its goals and objectives hinge on the acquisition of the Manke Timber property that occupies a significant portion of the park site's Central Plateau just north of the Nisqually River.

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University of Washington Center for Sustainable Forestry at Pack Forest

The UW Center for Sustainable Forestry has played an important role in the acquisitions of property and logging rights, and it has also been generous in allowing the use of its facilities for meetings and workshops during the park planning process. It has also expressed interest in partnering on forest management within the park site, and the site's long-term park boundary includes portions of the Center's forest (located on the east side of the Mashel River). There is potential for staff to live in a leased house at the UW Center for Sustainable Forestry at Pack Forest until housing is developed within the park.

Private Landowners near Mashel Prairie

Coordination with property owners residing on and near the Mashel Prairie will be required to achieve the long-term goals of restoring and showcasing the Mashel Prairie. Approaches to the prairie area may involve property donations, voluntary sales (as property becomes available), and conservation easement donations or sales. Washington State Parks may seek private landowners to become stewardship partnerships.

Town of Eatonville

The Eatonville Chamber of Commerce and the Town of Eatonville have both been very involved in park planning, including serving on the exploratory committee and helping with public meetings. They are also interested in developing a trail between Eatonville and Nisqually-Mashel State Park Site. Coordination with Eatonville would help to establish an effective volunteer stewardship program, facilitating a strong sense of community involvement at Nisqually-Mashel State Park Site.

Mount Rainier National Park

The proximity of Mount Rainier National Park to Nisqually-Mashel State Park Site provides the opportunity for an ongoing collaborative effort to showcase the Nisqually watershed. A representative from Mount Rainier National Park who is on the exploratory committee for park development has invited Washington State Parks staff to participate in a feasibility study the national park is undertaking to create a Nisqually rural transportation system. This system would provide transportation between Tacoma and the two parks, including stops at local attractions and facilities located near the Nisqually entrance to Mount Rainier National Park.

Others

Other partners and collaborators may include the Pioneer Farm and Ohop Indian Village, Pierce and Thurston county parks and recreation departments, Tacoma Power, Ohop Power, the Backcountry Horsemen of Washington, the Evergreen Mountain Bike Alliance, and local river rafting companies or other recreational businesses.

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Opportunities for Volunteer Involvement

Development of the Nisqually-Mashel State Park Site represents an opportunity to establish a volunteer coordination program that will engage the community while building awareness and stewardship of local natural and cultural resources. A volunteer coordination program will provide essential support to park staff for resource stewardship activities.

In terms of park land management, using volunteers can extend stewardship capacity while contributing significantly to the development of local community connections with the Nisqually-Mashel State Park Site. The activities in which volunteers will likely provide and receive the greatest benefit include the following:

- Invasive plant species control and monitoring assistance.

- Critical species and critical habitat monitoring assistance.
- Trail construction, maintenance, and repair.
- Park operations assistance (e.g., campground hosts).

As mentioned, the park site contains significant invasive species populations. While observations by park staff and the use of IPM techniques will identify and prioritize sites and species for treatment, it may be suitable in many cases to use volunteers for weed removal, control, and monitoring activities. For example, treatment of invasive species populations that require hand removal techniques (such as Scotch broom near the confluence of the Nisqually River and the Mashel River, or Himalayan blackberry at the site of the restoration project near the mouth of Mashel River) may most effectively be accomplished by volunteers. Although a formal inventory and monitoring program following IPM principles will be adopted for the park site, it may also be beneficial to establish a Weed Watchers program. In such a program, volunteers can be trained to identify the park site's most problematic weeds. Participants can informally or formally monitor the status of existing weed populations and help to identify new infestations, providing assistance to park staff tasked with managing invasive species over such a large area.

A similar approach may be applied for monitoring critical species and critical habitat. Volunteers may be trained to identify critical wildlife species, and their assistance can be used during monitoring efforts. It may be beneficial to tie into the UW's NatureMapping Program, which conducted a focused, "bioblitz" effort at Ohop Creek in 2008.[8] That program has developed effective protocols for training volunteers in data collection and data reporting (http://depts.washington.edu/natmap/). Although not a replacement for formal monitoring efforts, volunteers can notify park staff of important events discoveries, such as migratory wildlife passing through the park site or the locations of newly established nesting sites.

During trail establishment and maintenance within the park site, volunteers can assist in construction (e.g., performing light vegetation clearing or assisting in rolling dip construction), placement of interpretive signs, and provision of guidance to visitors during trail closures.

Volunteers can also assist with many elements of park operations. For example, volunteers may be selected to serve as "campground hosts," whereby they receive free camping for a given period of time in exchange for overseeing campground activities (e.g., reserving campsites, selling firewood, addressing camper concerns, and assisting with fireside programs). They may also staff information kiosks or fill certain roles at the Welcome Center. Volunteers may also serve as mobile information and safety units,

[8] A bioblitz is a 24-hour inventory of all living organisms in a given area. A full bioblitz must take place over a 24-hour period because different organisms are likely to be found at different times of day.

hiking throughout the park equipped with radios, first aid supplies, and maps and providing assistance to visitors in need.

II. F. DESIGN GUIDELINES

Introduction

Purpose and Use

These design guidelines provide direction over a period of many years, and to multiple and changing participants, including park staff, design consultants and potential partners. Participants will use these design guidelines to meet the spirit and intent of the master plan by establishing standards for quality, aesthetic, environmental accessibility and safety. Future in depth design processes associated with the first major capital project in each development zone will establish specific material, product and color choices for design elements.

Principles

For all park design elements the following design guideline principles apply:

- Maintain consistent character and quality throughout each building development zone – resulting in exceptional character, quality and identity for all park elements
- Apply design guidelines coordinated with park development partners
- Apply Low Impact Development (LID) strategies for site, infrastructure and building facilities
- Apply green environmental and energy technologies and strategies (Such as those found in Leadership in Environmental and Energy Design (LEED) from the US Green Building Council or the *Sustainable Sites Initiative* (ASLA, et al).

Character and Qualities

The accompanying images are visual examples from related park, recreational and interpretive facilities that are provided for reference to guide future designers regarding standards for quality and aesthetic of the built environment. The five topics represented by the figures are:

- Figure F-1 People's Center Facilities
- Figure F-2 People's Center Facilities
- Figure F-3 Village Center and Ohop Equestrian Center Facilities
- Figure F-4 Picnic and Camping Facilities
- Figure F-5 Interpretive Facilities and Trails
- Figure F-6 Site Restoration Activities

Building Development Zones

Four building development zones are identified in the master plan, each with a related, but distinctive design character (see *Figure B-7: Conceptual Organization, page II.B.9*):

Village:
Using contemporary response to sustainable building practices, the village is laid out on an axis corresponding to the view of Mount Rainier. (See *Figure 3- Village and Ohop Equestrian Center*)

The People's Center and Tribal Management Area:
The cultural and aesthetic values of the indigenous people belonging to the Southern Lushootseed Association of the Southern Coast Salish (primarily the Nisqually Tribe) will guide the design of the People's Center and Tribal Management Area facilities. This will require close coordination with the Tribe or designated representatives. At this time little is determined regarding the scope, functions and character of many of the Native American elements beyond interpretation and incorporation of traditional forms and materials of the Salish people. Designs may include understanding and response to cardinal directions, circular and/or organic forms; use of native plant materials, local stone, and cedar logs and planks. Visual design examples from other northwest tribal projects are provided for reference (See *Figures F-1 through F-2 Character & Qualities*). People's Center facilities will include:

- Interpretive Center
- Observatory
- Chief Leschi's Village
- Shaker Church Reconstruction
- Medicine Springs
- Mashel Prairie

Ohop Equestrian Center:
The Ohop Equestrian Center builds on the reuse of the existing Milk Barn. This is the only significant structure of outstanding scenic and historical significance on the state park site. Reuse of this structure should enhance and preserve the exterior. Modification of the interior space and layout is allowed to meet the program needs of potential operating concessionaire (See *Figure F-3*).

East Mashel Plateau:
A contemporary response to sustainable building practices, similar to buildings in the Village, will guide development. However, there is no mountain vista in this zone. For the East Mashel Plateau development area the most significant aesthetic context is the experimental tree planting rows, mosaic of various plant test plots and pattern of roads within the UW Center of Sustainable Forestry at Pack Forest.

Park Design Guidelines Organization
Design guidelines presented here are organized into four sections:

1. *Low Impact Development and Architectural Guidelines (LIDAG) for the Nisqually Watershed, 2006,* developed by the Nisqually River Council

2. State Park guidelines applicable to the NMSP Site Master Plan
3. General and specific site design guidelines
4. General and specific building design guidelines

1. *Low Impact Development and Architectural Guidelines (LIDAG) for the Nisqually Watershed*

The Nisqually River Council's 2006 guidelines were reviewed for applicability to the Nisqually-Mashel State Park Site master plan areas and elements. The following site and building design guidelines based on this document apply.

Site Design Guidelines

Pre-design Site Analysis

- Understand and record natural and cultural resource patterns before proceeding with development plans

Site Planning & Design

- Respond to what was learned from the pre-design site analysis
- Cluster buildings and other development to reduce development footprint
- Retain existing natural features and systems, including: existing native vegetation, soils and drainage courses – protect these resources during construction periods
- Locate intensive use facilities away from site hazard or environmentally critical areas
- Reduce impervious surfaces by reducing building footprints, road widths and lengths

Storm Water Management Design

- Use alternative green technologies where appropriate, including pervious pavement and rainwater harvesting
- Integrate storm water management
- Minimize and manage storm water at the source or location of development

Construction Activities

- Establish erosion and sediment control from the beginning through completion of facility construction
- Limit removal or compacting of site soils
- Limit the amount of area devoted to construction staging and material storage
- Rehabilitate all disturbed natural systems
- Use on-site materials, where appropriate
- Manage site soils to preserve existing soil structure and apply Low Impact Development principles for soil protection and enhancement
- Provide for reforestation of cleared areas


Character & Qualities:
People's Center Facilites
Cultural Heritage Center
Jilkaat Kwaan Cultural Heritage Center and Bald Eagle Observatory
Chilkat Indian Village
Jilkaat Kwaan Cultural Heritage Center and Bald Eagle Observatory, Klukwan, AK
Canoe Island Ecological Preserve & Learning Center, Canoe Island, WA
Beaver Lake Park, Issaquah, WA
Interpretive Exhibit
Jilkaat Kwaan Cultural Heritage Center and Bald Eagle Observatory, Klukwan, AK
Story Circle
Observatory
Cape Fox Native Corporation, Ketchikan, AK
Traveler's Rest State Park, Lolo, MT

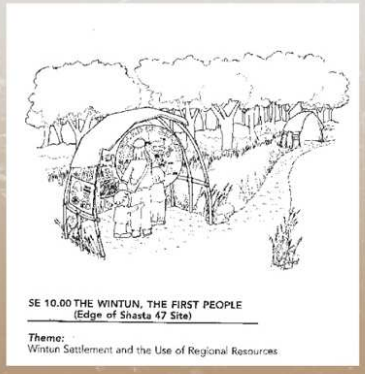
Figure F-1

Character & Qualities:
People's Center Facilities

Art & Sculpture

Beaver Lake Park, Issaquah, WA

Traditional Knowledge Camp



Turtle Bay Exploration Park, Redding, CA

Jilkaat Kwaan Cultural Heritage Center
and Bald Eagle Observatory, Klukwan, AK

Cultural Interpretive Walks

Figure F-2


Character & Qualities:
OHOP Equestrian Center and Village Center
photo: Flickr User Mathew Piatt
photo: Flickr User Pdxdj
Agricultural-Equestrian
Milk Barn, Nisqually-Mashell State Park Site
Pack Forest, Eatonville, WA
Interpretive Center
Pearl Harbor Memorial Museum and Visitor Center, Oahu, HI
Washington Park Arboretum, Seattle, WA
Village Center
Issaquah Fish Hatchery, Issaquah, WA
Hydro Plants, OR & WA

Figure F-3

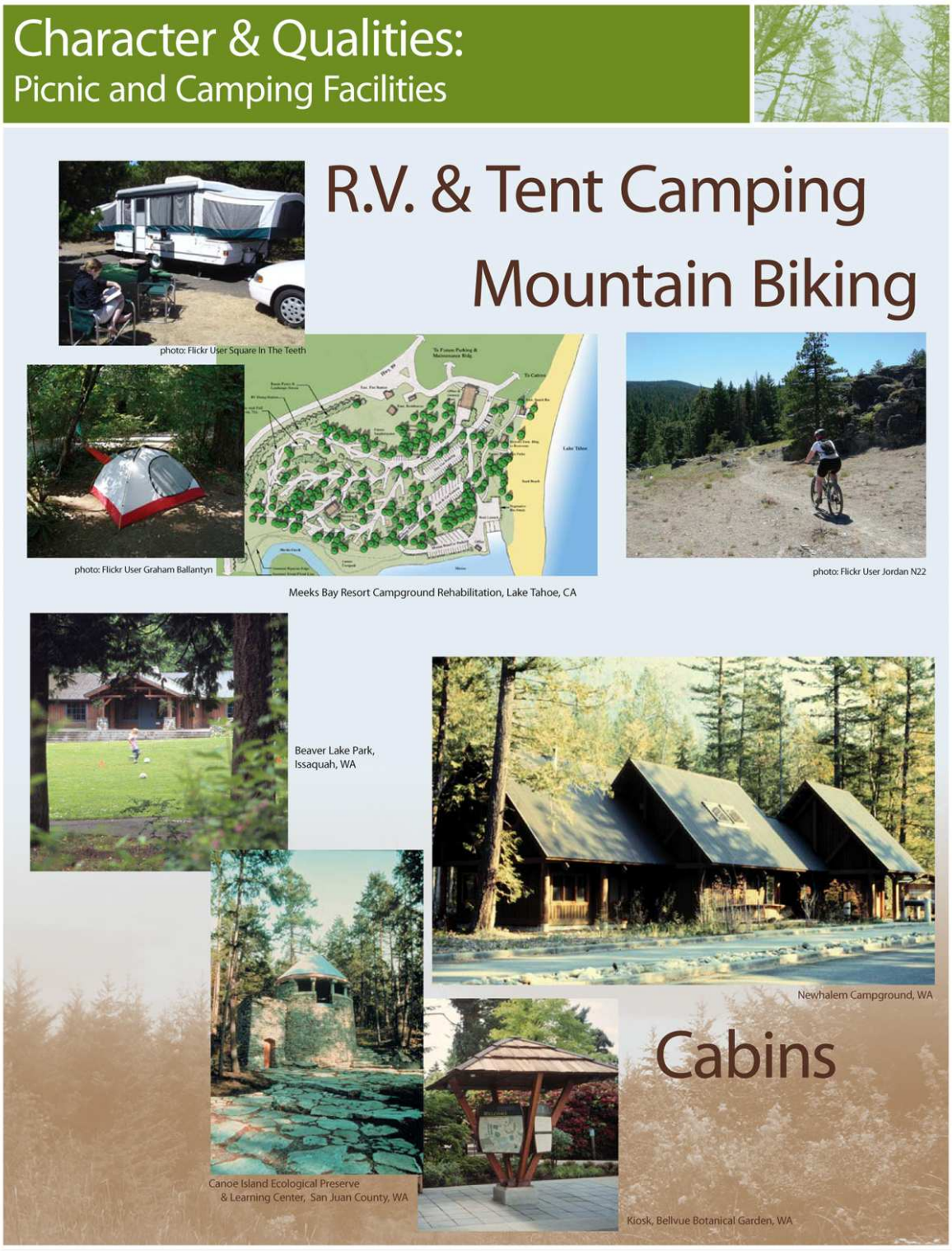

Character & Qualities:
Picnic and Camping Facilities
R.V. & Tent Camping
Mountain Biking
photo: Flickr User Square In The Teeth
photo: Flickr User Graham Ballantyn
Meeks Bay Resort Campground Rehabilitation, Lake Tahoe, CA
photo: Flickr User Jordan N22
Beaver Lake Park,
Issaquah, WA
Newhalem Campground, WA
Cabins
Canoe Island Ecological Preserve
& Learning Center, San Juan County, WA
Kiosk, Bellvue Botanical Garden, WA

Figure F-4

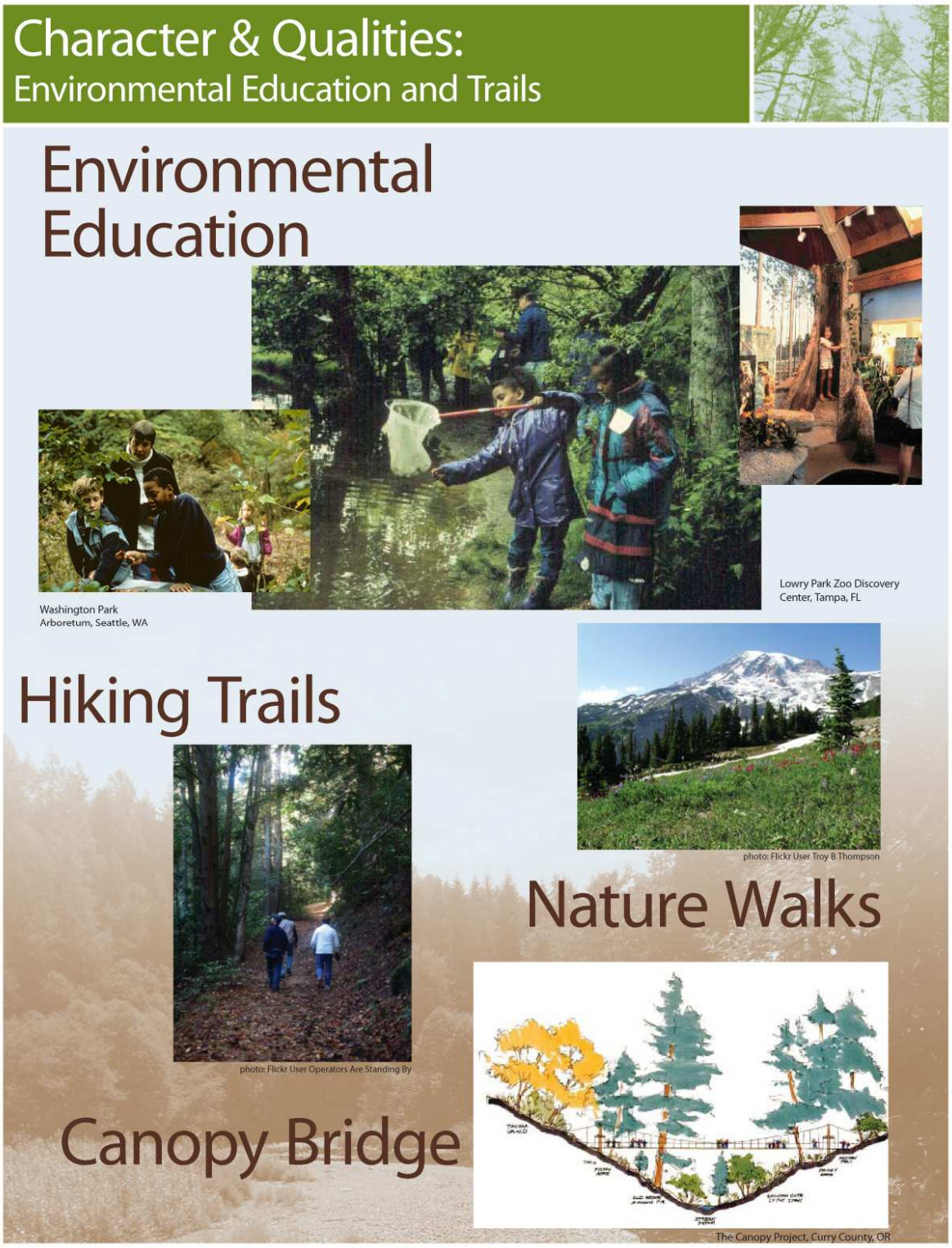

Character & Qualities:
Environmental Education and Trails
Environmental Education
Washington Park Arboretum, Seattle, WA
Lowry Park Zoo Discovery Center, Tampa, FL
Hiking Trails
photo: Flickr User Troy B Thompson
photo: Flickr User Operators Are Standing By
Nature Walks
Canopy Bridge
The Canopy Project, Curry County, OR

Figure F-5

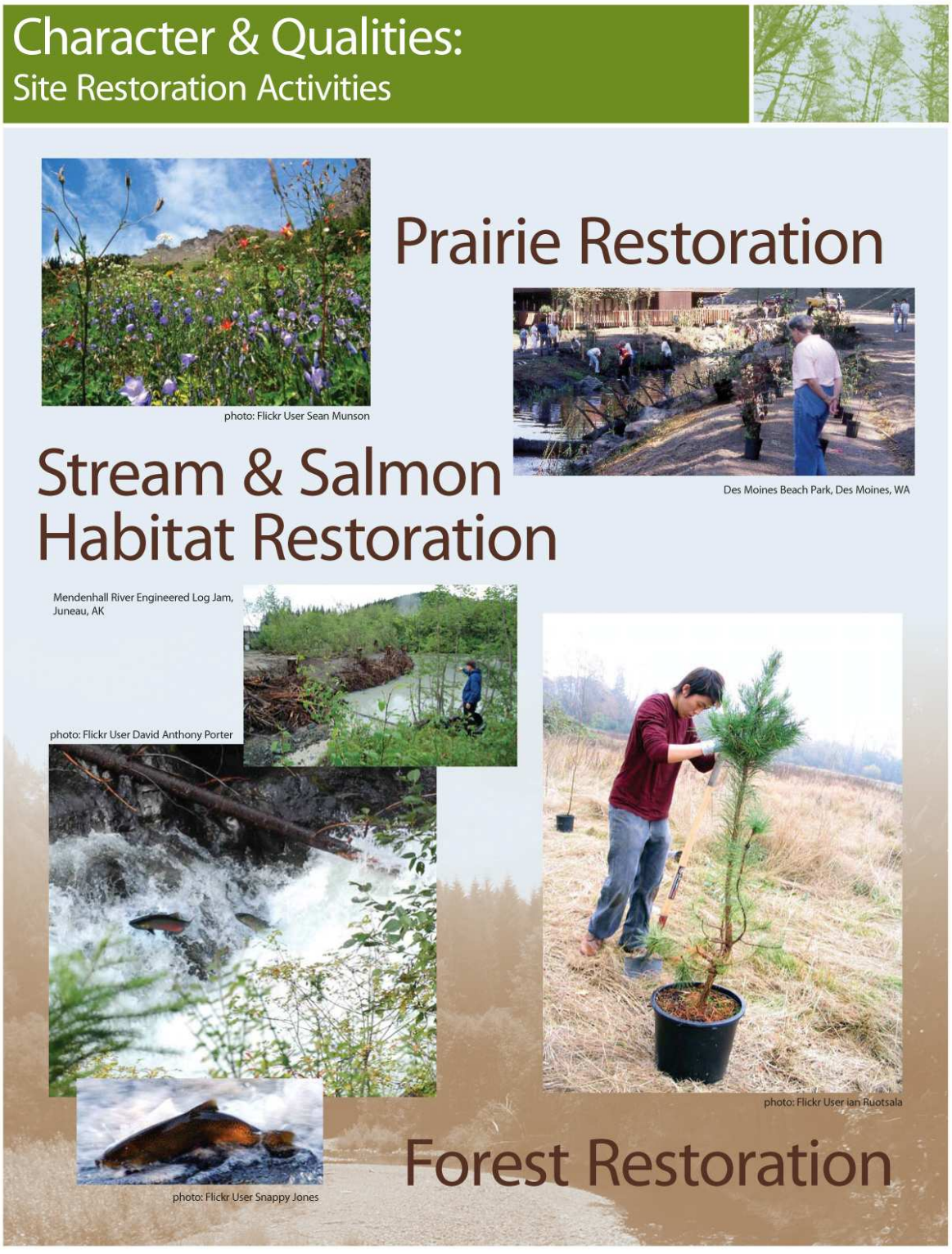

Character & Qualities:
Site Restoration Activities
Prairie Restoration
photo: Flickr User Sean Munson
Des Moines Beach Park, Des Moines, WA
Stream & Salmon Habitat Restoration
Mendenhall River Engineered Log Jam, Juneau, AK
photo: Flickr User David Anthony Porter
photo: Flickr User Ian Ruotsala
photo: Flickr User Snappy Jones
Forest Restoration

Figure F-6

Building Design Guidelines

- Use green and water retention roofing systems (where appropriate), including: vegetated roofs, water collection cisterns, dry wells, splash blocks and rain gardens
- Apply Low Impact Foundation Technologies (LIFT)
- Apply sustainable building technologies, including:
  - Efficient building framing systems
  - Recycled building materials
  - Sustainable building products
  - Low flow fixtures

2. State Parks Guidelines

The Washington State Parks and Recreation Commission has developed a sign manual, paint and roofing policies, and a draft policy on exterior building standards. These guidelines were reviewed and where applicable are referenced or incorporated into this document. In addition, the de-facto standards for State Park campsites are also referenced.

Campsite Design Guidelines

The most current campsite design guidelines shall be used as starting points for campsite layout and design, including standards for:

- Overall privacy
- View
- Accessibility
- Density options
- Single back-in
- Single pull-through
- Cascading pull through
- Accessible campsites

In so much as these standards are based on density standards of 3 -5 sites per acre, it will be necessary to modify these standards where site conditions and park camp standards for enterprise recreation RV camping may call for higher densities (10-15 sites per acre).

Sign Manual, 1979

This extensive document provides guidance to the State Park's sign and marking system. Although Nisqually-Mashel State Park Site will require a unique response for signs and markers, the initial design projects should review the manual to determine appropriate

elements to incorporate within this new park. The unique aspects of the park to be reflected in signage come from several park objectives

- Celebration of Centennial Park designation
- Incorporation of Native American – Salish/Lushootseed language
- Coordination with Interpretive Plan for the park
- Reflective of unique site qualities and resources

3. Site Design Guidelines

General Site Design Guidelines

Service Access

- Provide service access, when required, at:
  - Locations where the access can be integrated with other paving areas or
  - The perimeter backside of the buildings - screen access from public view using earthworks and planting as primary screening measures

Storm Water Management

- Design grading and drainage plan to direct water flow into on-site storm water and infiltration systems
- Design, construct and manage water quality and storm water facilities as functioning components of the sites' natural environment and landscape systems, features, forms and patterns

Site Utilities (Water, Gas, Power, Waste and Communications):

- Locate where screening is easily accomplished with retained or enhanced forest vegetation
- Locate underground where possible – especially distribution lines and pipes
- Locate lines within roadway and trail corridors or co-join with other utilities

Grading

- Protect and enhance site landforms through responsive site grading and low impact land shaping practices
- Balance on-site or limit off-site export of soil and excavated subsurface materials
- Limit import of site construction materials and soils

Site Walls

- The first choice for retaining walls is stacked/dry laid local stone systems
- When used, develop wall systems with a consistent character and quality throughout the park
- Incorporate large anchor, marker or accent stones into all wall segments

- Construct seat and/or retaining walls that require reinforcement with stone veneer finishes or cast-in-place stone embedment's
- Design top of seat walls to be level for sitting or display

Barrier or Marker Stones

- Place large stones for barriers or markers so that at least one third of the stone is below grade – whether in a berm or level area
- Design the top surface of stone barriers in camping areas level for use as seating, equipment placement or other camp use

Paving

- Disconnect or break-up continuous or contiguous impervious surfaces – establish breaks and planting strips in paved parking areas, roads, driveways and pedestrian/plaza areas
- Provide shade cover over paved and other heat sink surfaces

Materials

- Use a broad palette of locally found materials, with emphasis on wood and stone
- Base color selection on the palette of the natural world of the site and Nisqually River basin – seasons, earth and plants
- Salvage and reuse on-site natural resources, where appropriate
- Where practicable, use river cobble or other local stone veneer/embedment for site walls

Interpretive and Wayfinding Signs

- Design park facilities so that wayfinding is apparent without the need for signs, and where possible, integrate interpretation into the facility design, rather than relying solely on signage.
- Where good facility design is inadequate for proper communication, develop a hierarchy of wayfinding and interpretive signs reflecting the cultural, conservation and renewal interpretive themes and character. Sign types will include:
    - Primary and secondary feature identification signs
      This sign is intended to identify large Park areas that have multiple features or facilities within and those which have smaller single or stand alone Park features or facilities
    - Primary and secondary building identification signs
      Where a building's use is not otherwise apparent, this sign is mounted on several surfaces and is used to identify public features as part of a building, such as park welcome centers, restrooms or offices.
    - Vehicular and pedestrian directional signs
      Where necessary, these signs serve to both direct vehicles and pedestrians to, in and around the Park and as well as reinforce ownership and

operations. Pedestrian signs are used to guide trail circulation as well as between features and facilities within a given Park area

- Regulatory signs
  These signs are a collector of multi-purpose regulatory messages. One regulatory sign shall be posted at the entry to each of the major Park areas, including: Welcome Center, Village Center, Day Use, Camping, People's Center, Ohop Equestrian Center and East Mashel Plateau areas
- Informational signs
  This sign is used to highlight features within the park, such as a unique view, landform, or cultural landmark. It are also used to hold a temporary message
- Trail markers
  This wayfinding element is intended to provide both orientation and interest. The markers are scaled and located to match the type of trail and its use, such as: pedestrian, multiple use, equestrian or back country bicycle
- Kiosk
  This is a multiple purpose "collector" of messages and orientation displays Kiosks are roofed to protect messages and provide a "place" for the user. The Kiosk allows for temporary messages including maps and displays – these elements are shielded to further protect and maintain the integrity of the message and material

- Incorporate Lushootseed language in signs, particular as they relate to place names and destinations within park

Irrigation

- Limit the need for long-term irrigation system by designing park areas with drought tolerant native plant species and planting techniques – thus limiting the need for long-term water demand
- Apply irrigation strategies such as: drip systems, temporary systems for establishment, permanent irrigation only for lawn areas at Village Center or use of recycled, grey water systems or cisterns that aid in plant establishment and health, while reducing water demand and usage once plants are established

Planting

- Remove invasive plant species and apply *Stewardship Planning and Forest Health* management guidelines for all forest, wetland, prairie and other critical habitat within the park
- Use native plant materials (Reference *Environmental Constraints Report - Appendix A: Vascular Plants in Nisqually-Mashel State Park Site*)
  - Upland Forest

- Lowland/Floodplain Forest
- Wetland
- Meadow

Exterior Lighting

- Select energy-efficient lamps and ballasts
- Install efficient, low glare luminaires to minimize light pollution to the night sky
- Use controls to turn lights off when not needed

Specific Site Design Guidelines – (Character, Materials, Dimensions)

Vehicle Circulation

- *Existing Mashel Prairie Road*:
  Use and maintain much of the existing road alignment and paving, as shown in the master plan's circulation layout design
- *Park Roadways* :
  22 foot wide asphaltic concrete paving with 6 foot wide shoulders
  (This roadway/lane width guideline meets current Pierce County standards. Future park roadway design shall examine possible reductions in lane and shoulder widths while providing for emergency vehicle access and maintaining safe circulation facilities)
- *Existing River Access and Maintenance Roads*:
  12 to 16 foot wide – unpaved
- *Camping Area Roads:*
  10 to 12 foot wide pervious or asphaltic concrete paving
- *Main parking areas:*
  Asphaltic concrete paving, with consideration of pervious paving if soil testing and analysis confirms required permeability
- *Secondary or overflow parking areas:*
  Pervious native grass surfaces
  Compacted crushed surfacing as secondary option

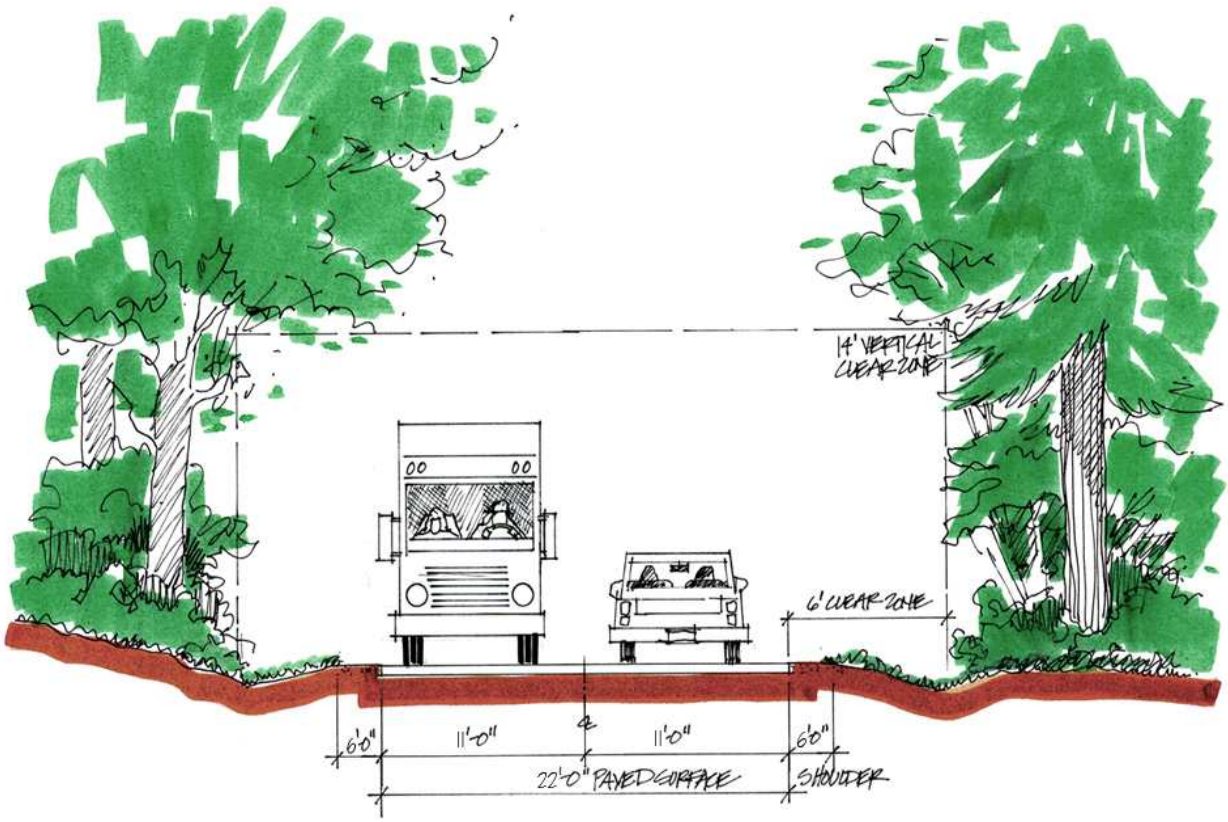


Figure F-7: Park Roadway

Pedestrian, Bicycle and Equestrian Trails

- *Primary Multi-Use Trails*
  - 10 foot wide asphaltic concrete paving with 2 foot wide shoulders
  - 5 foot side-of-trail clearance to obstructions
  - 2 foot side of trail horizontal obstruction/shy zone
  - 12 foot vertical clearance to overhead obstructions
  - ADA Compliance:
    - Strive to provide universal accessibility
    - Visibility and warning at intersections
    - Trail profile grades less than 5%
    - Trail cross grades less than 2%

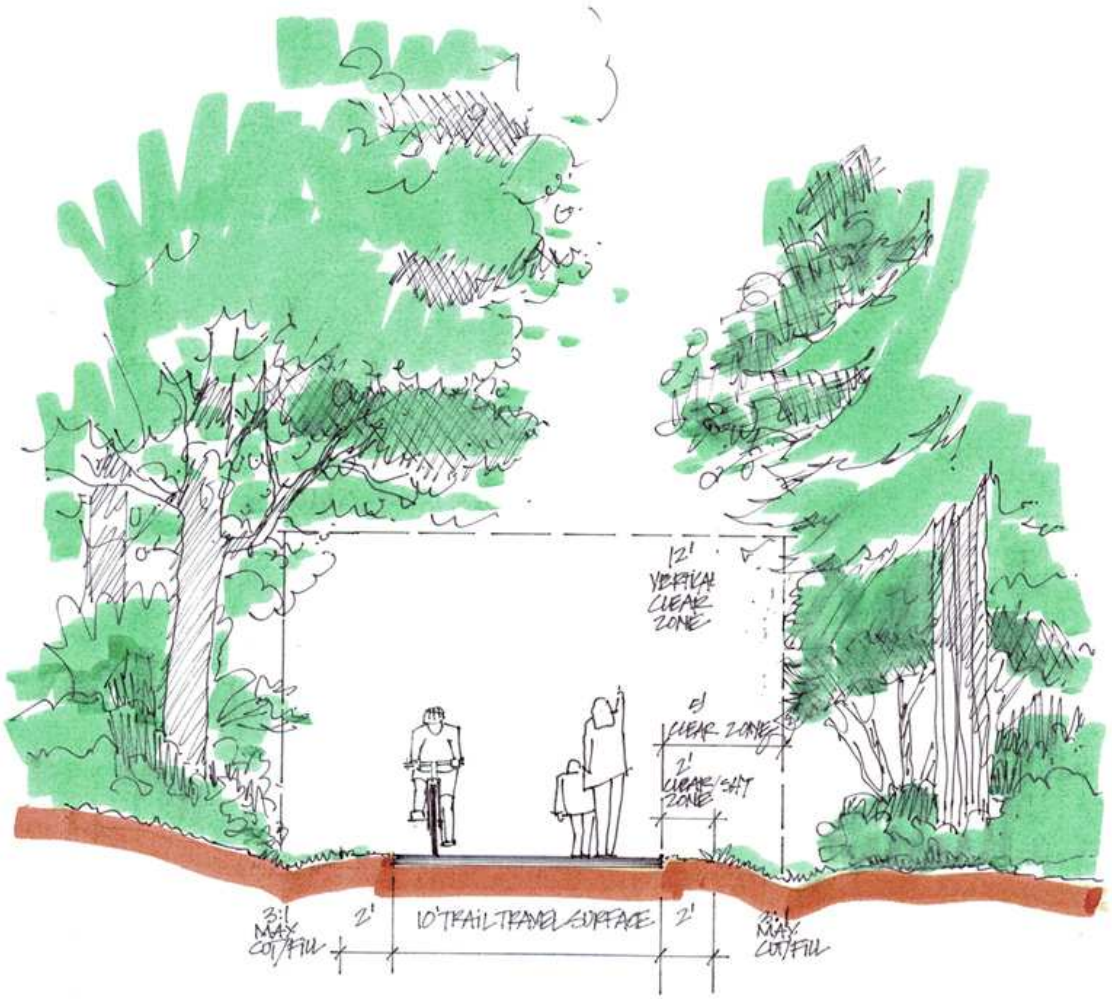


Figure F-8: Multi-Use Pedestrian/Bike Trail

- *Secondary Multi-Use Trails*
  - 8 to 10 foot paved or unpaved
  - 5 foot side-of-trail clearance to obstructions
  - 2 foot side of trail horizontal obstruction/shy zone
  - 12 foot vertical clearance to overhead obstructions
  - ADA Accessibility:
    - Strive to provide universal accessibility
    - Visibility and warning at intersections
    - Trail profile grades less than 5%
    - Trail cross grades less than 2%

- *Tertiary Multi-Use Trails*
  - 6 to 8 foot wide accessible surfacing
  - 5 foot side-of-trail clearance to obstructions
  - 10 foot vertical clearance to overhead obstructions
  - ADA Accessibility:
    - Strive to provide universal accessibility
    - Visibility and warning at intersections
    - Trail profile grades less than 5%
    - Trail cross grades less than 2%

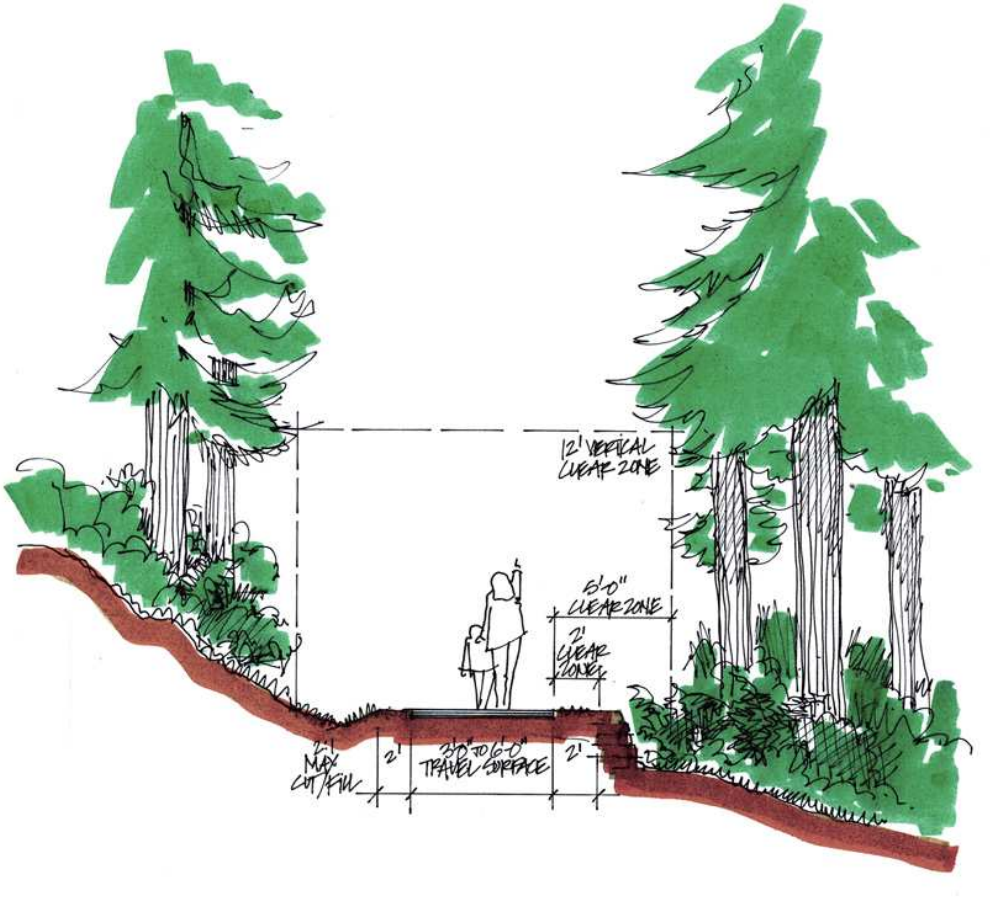


Figure F-9: Pedestrian Trail

- *Pedestrian Trails (Unpaved)*
  - 3 to 6 foot unpaved trails with erosion control surfacing
  - 5 foot side-of-trail clearance to obstructions
  - 10 foot vertical clearance to overhead obstructions

- *Challenge Course Bike Trails*
  - 2 to 5 foot unpaved trails with erosion control surfacing
  - 5 foot side-of-trail clearance to obstructions
  - 12 foot vertical clearance to overhead obstructions

- *Equestrian Trails*
  - 3 to 6 foot unpaved trail
  - 5 foot side-of-trail clearance to obstructions
  - 14 foot vertical clearance to overhead obstructions
  - Visibility and warning at intersections

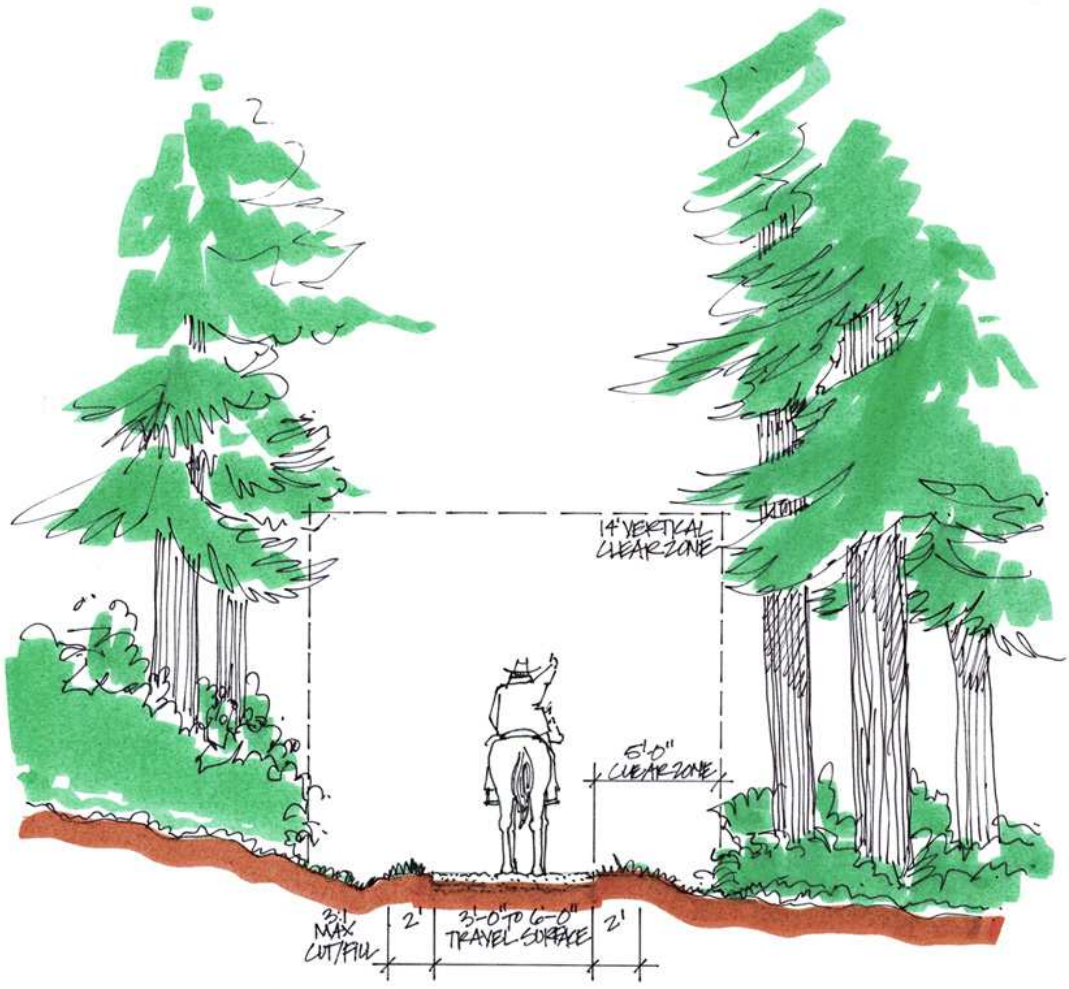


Figure F-10: Equestrian Trail

Mashel and Nisqually River Valley Overlooks:

- Access overlooks via spur trails approximately 100 – 200 foot long and separated from adjacent loop trail
- Protect both visitor and bluff edge habitat with railings at overlook approach
- Interpret natural and cultural history of river valleys

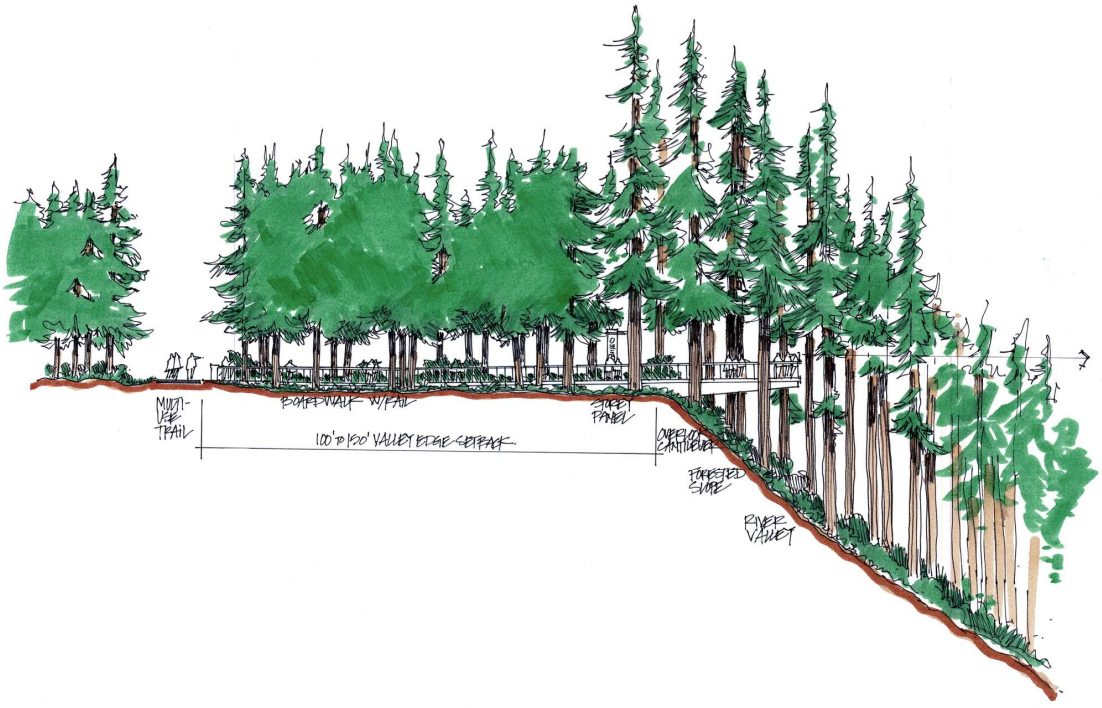


Figure F-11: Overlook Section & Illustration

High Bridges
(Park Bridges Linking Plateaus, Edge to Edge, over the Mashel and Nisqually Rivers)
The high bridges serve pedestrians and walked-bike users. No equestrian or vehicles are permitted. All high bridges shall be 6 feet wide. The lengths of the three high bridges are:

- South Mashel River High Bridge – Central Plateau to East Mashel Plateau
  - 1,300 foot length
- North Mashel River High Bridge – Central Plateau to East Mashel Plateau
  - 1,500 foot length
- Nisqually River High Bridge at Ohop Creek Confluence
  - 1,100 foot length

For each of the bridges, specific guidelines apply:

- Utilize a cable-stay design, without in-valley supports
- Include interpretive displays, seating and rest facilities at bridge approaches and landings
- Incorporate Native American and Nisqually-Mashel State Park Site symbols in bridge railings and towers

Figure F12: High Bridge with Interpretive Panels

Low Bridges
(Bridges over Mashel and Nisqually Rivers and Ohop Creek at the riverbank/floodplain level)
The lengths of five low bridges are:

- Mashel River Bridge at washed out section of Old Logging Road (300 feet length x 10 feet width)
- Nisqually River Low Bridge at Mashel River / Nisqually River Confluence (200 feet length x 10 feet width)
- South Ohop Creek Bridge (100 feet length x 10 feet width)
- North Ohop Creek Bridge (60 feet length x 10 feet width)
- Existing Mashel River Bridge

For each of the bridges, specific guidelines apply:

- Avoid impact on creek or river valley environments and natural hydraulic patterns
- Maintain a low profile design
- Span as much distance between supports as possible
- Locate bridge deck above 100-year flood levels
- Incorporate open character railings to maintain views through

Road Trail Crossings
Ohop Creek Valley and SR 7 Crossing (Under-crossing – Pedestrian/Bike)
This under-crossing uses an existing highway bridge. Incorporate the following standards:

- Provide positive drainage
- Create 14 foot minimum vertical clearance
- Maintain 12 foot width

Eatonville Highway West and SR 7 Crossing (At Grade - Pedestrian/Bike)
This at-grade crossing will requires comprehensive engineering. The highway intersection is complex, with a "Y" approach and turn lanes and a location along a broad curve of SR 7.

UW Pack Forest and SR 7 Crossing (Under-crossing – Pedestrian/Bike/Equestrian)
This under-crossing is located just to the east of the intersection of UW Center for Sustainable Forestry's Pack Forest Conference Center entry drive and SR 7. Here the highway rises in elevation allowing for a more open under-crossing approach. Guidelines are:

- Provide positive drainage
- Provide 14 foot minimum vertical clearance
- Maintain 12 foot minimum width
- Meet geometric standards for safety, warning and orientation at under-crossing approaches
- Maintain maximum 2% slope within the under-crossing and maximum 5% at the approaches
- Provide compacted crushed surfacing

Camping Areas

- Vehicle camp pads sizes:
  - RV – back-in or pull through (allowing for RV vehicle and 1 additional non-RV vehicle), 10 foot width
  - Vehicle back-in (2 vehicles), 8 foot width
  - Equestrian vehicle (Vehicle w/Trailer and one additional vehicle), pull through and back-in, 10 foot width
- Camp site amenities:
  - Picnic table
  - Two tent areas (vehicle/tent areas)
  - One tent area (RV and Cabin areas)
  - Rock or log barriers (parking pads and exposed camp area roadway sections)
  - Retained and enhanced forest vegetation screening
- Camp utility services:
  - Full hookup services (Power, water, WIFI, waste)
  - Basic services (water and power)
  - No services

4. Building Design Guidelines

General Building Design Guidelines

Sustainable Design

- Design all new buildings to a minimum LEED silver level

Energy Efficiency:

- Apply energy conservation technologies and design principles to reduce heating and cooling need
  - Relax design criteria to allow wider temperature ranges
  - Reduce solar loads by shading windows

  - Introduce occupancy sensors that turn off equipment when people are not present
- Produce electricity on-site from renewable sources
  - Use daylight instead of light fixtures during the day
  - Reclaim heat from ventilation air streams
  - Extract heat from the ground through geothermal exchange, where practicable
- Design buildings and functions with appropriate adjacencies to minimize vehicular travel on site
- Use passive approaches to heating, cooling, ventilation and lighting including:
  - Good solar orientation
  - Seasonal shading and overhangs
  - Natural ventilation (orientation to breezes)
  - Narrow building sections
  - Operable envelope openings, cross ventilation, stack effect
  - Daylight (orientation, reflection & diffusion of direct sun, high daylight openings, narrow building sections)
  - Passive cooling (shading, thermal mass, night flush, etc.)
- Design efficient building envelopes with minimal infiltration and appropriate thermal mass and insulation
- Install efficient electric lighting
- Design efficient heating and air conditioning systems in spaces that need them
- Reduce plug loads by specifying efficient *Energy Star* computers, equipment & appliances

Water Efficiency:

- Reduce consumption using efficient water fixtures
- Capture and use rainwater runoff from roofs on-site to eliminate use of potable water for irrigation purposes

Solid Waste:

- Apply and enforce pack-it-in / pack-it-out policies
- Provide program, locations, wayfinding, screening and receptacles for recycling and composting
- Initiate a zero waste-stream to landfills at phase 1 implementation

Materials

- Contemporary materials such as concrete, metal structural members, and energy efficient glass shall also be considered – allowing for consistency with other park materials and within each development zone
- Base color selection on the palette of the natural world of the site and Nisqually River basin – seasons, earth and plants

II. G. CAPITAL DEVELOPMENT PLAN

Introduction

The Nisqually-Mashel State Park Site Master Plan describes park facilities, elements and programs envisioned for all park areas within the 3,434 acre Long-Term Park Boundary. It may take 50 years or longer to fully develop all areas and elements of the park. During this time period, many of the park planning and development factors that provide the basis for planning today may change. In addition, such influences as future funding, operational experience and recreational demand may also shift priorities and development emphasis. With this in mind, a phased park implementation approach shapes and organizes the park's development in the near-term – a **twenty year, four phase implementation plan**.

Initial park development is structured by Phases 1 thru 4 with the goal to:

- Implement land acquisition and infrastructure development in support park development
- Establish significant components of the master plan that create the unique identity of the park revolving around its purpose of reconciliation and renewal, including the People's Center and Village
- Integrate the business plan with park implementation to provide revenue-generating facilities and programs as early as possible

In order to accomplish these goals several key steps are required, including:

1. Partner agreements
2. Key property acquisition and land use agreements
3. Property and resident "in-holder" access and protection
4. Nisqually River access and use
5. Key infrastructure planning, permitting and development
6. Forest Health/Stewardship Plan implementation
7. Phasing schedule and funding strategy

1. Partner Agreements

Continue working to completion, within the next 5 years, key partnership agreements that provide a basis for continued park development. Key partners are:

- Native American Nations – Nisqually and Other Southern Salish Tribes
- UW Center for Sustainable Forestry at Pack Forest
- Nisqually Land Trust
- National Park Service
- Tacoma Power
- Other State Agencies
- Volunteers

- Potential private camping operator to construct and operate as an RV facility within the park (Refer to "Chapter H. Business Plan Enterprise Recreation").

2. Key Property Acquisition and Use Agreements

There are several key acquisition and use/access easements or agreements required for park master plan implementation. Addressing these acquisitions and agreements early is necessary to further Phase 1 implementation. Key land/properties are:

- Manke Timber Company's central plateau properties are needed for Phases 1 - 4 development
- UW Center for Sustainable Forestry Eastern Mashel Plateau property is needed to construct the high bridge, provide access to the Mashel and Nisqually confluence and construct trail link from bridge to the Pack Forest Conference Center in Phases 1 thru 3
- Tacoma Power and BPA easements through the Central Plateau is crossed and used during construction and operation of park facilities in Phases 1 thru 4
- Weyerhaeuser Company parcel along SR 7 is the preferred access point for the new park entrance and entry roadway
- Pierce County's Mashel Prairie Road is central, in use and location, to the park development in Phases 1 thru 4

3. In-holder Property/Resident Access and Protection

Currently, there are several privately held and owner occupied properties within the Nisqually-Mashel State Park Site Long-Term Park Boundary. These in-holding properties currently have access via Pierce County's Mashel Prairie Road. As park development and operations progress, property owners and residents will require continued, unimpeded, access and a degree of protection from park users. Future park planning and implementation should incorporate outreach and notification efforts regarding the specific nature and timing of access and protection.

4. Nisqually River Access and Use

Further discussion with park planning and development partners and stakeholders is needed to address:

- Development and use of new and existing Mashel River bridges in relation to river habitat and fish resource protection and management
- Designation of specific areas for visitor use
- The kind and nature of float trip/rafting (put-in and take-out points, numbers and duration of trips and management and monitoring)
- The kind and nature of river access for education and stewardship programs

5. Key Infrastructure Planning, Permitting and Development

A few key utility and access infrastructure facilities are required in conjunction with park development, these are:

- Ohop Mutual Light Company's power sub-station

- Domestic water well(s) location, design, permitting and operation
- Waste treatment system planning: type(s), short and long term alternatives, locations, design, permitting and operation of in-holder access as well as short and long term park development and use
- WSDOT SR 7 improvements in relation to highway approaches and the park's entries

6. Forest Health – Activate Stewardship Plan

Forest health management is a current need, which through early action can help steward the park habitat and further park development. Key forest health/stewardship actions are:

- Provide for invasive plant management and control in all park implementation projects
- Clear forest areas to provide for park master plan viewsheds, stormwater drainage elements, and to create prairie and meadows

7. Phasing Schedule and Funding Strategy

As the master plan encompasses a park area of 3,434 acres, improvements planned on 500 acres and capital investment covering 50 or more years, a phased approach shapes and organizes the park's development. Phases 1 thru 4 will encompass:

- A 20 year development period
- A Washington State Parks and Recreation Commission budget of $40 to $50 million (in current year, 2008 dollars) and the potential for Nisqually Tribe and other partner contributions totaling $30 to $35 million
- Specific objectives, including the development of destination and revenue State Park facilities

The following Figures (*G1-G-4 Phasing Plans*) and charts summarize the first 4 phases of park development; describe anticipated capital costs and partner contributions, revenue generation opportunities and the implementation partnerships.

The order and dimension of long term improvements envisioned in the plan beyond 20 years are not fully known. They may include new facilities or attractions needed to complete the Central Plateau facilities and development of improvements at the East Mashel Plateau area.

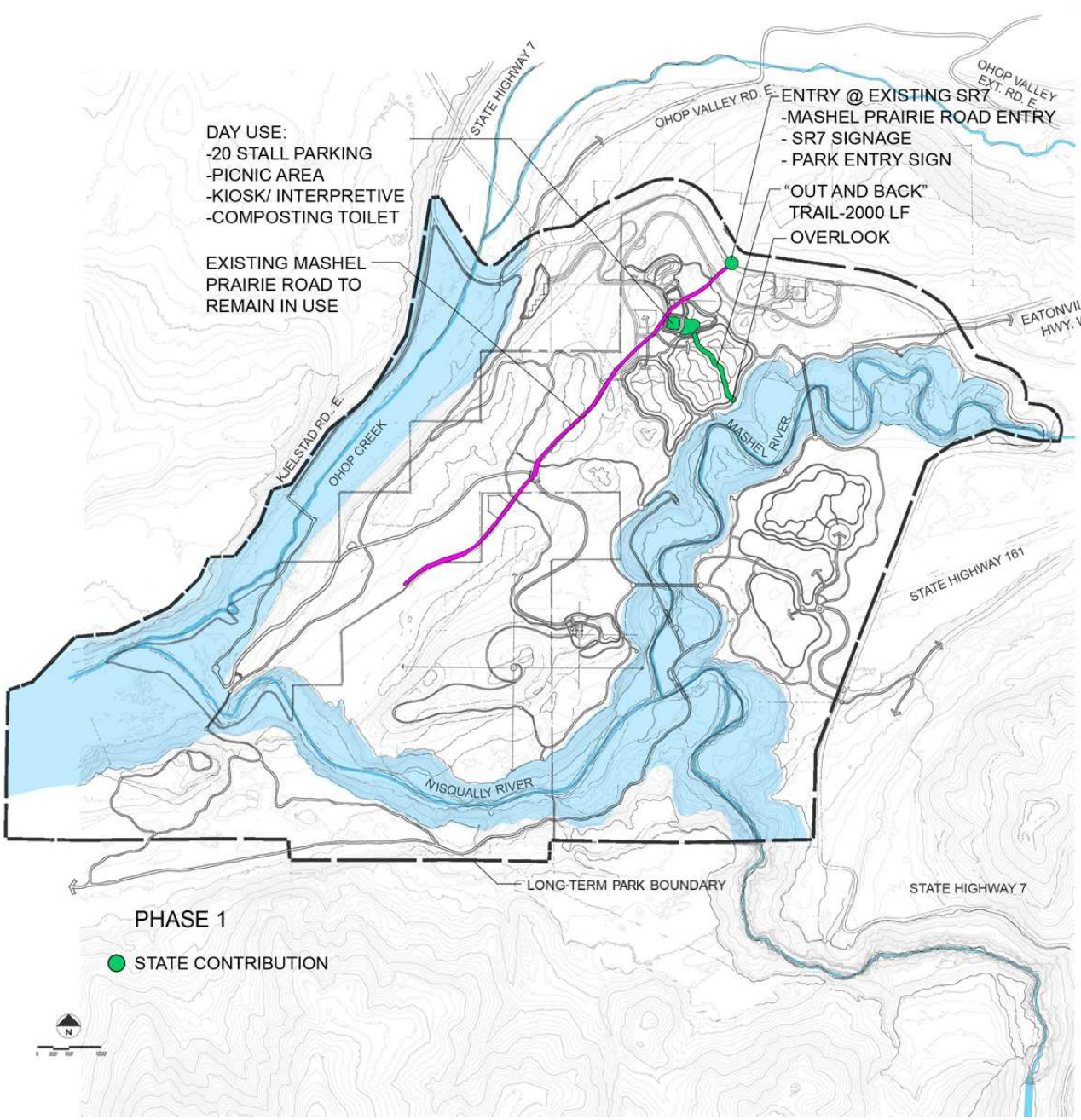


Figure G-1: Phasing Plan - Phase 1

Chart 1 – Phase 1
Nisqually – Mashel State Park Site Master Plan
Phase 1 Budget, Revenue Generation Elements and Partners

Phase 1	Budget Amount - $ 2008 $ Estimate of Probable Cost	Revenue Generation Opportunities	Implementation Partners
Phase 1 **2011 -2013** Project Phase 1 Budget 1. SR 7 Signage 2. Park entry @ existing County Road 3. Park entry sign 4. Existing Mashel Prairie Road used as access 5. Day Use Area @ planned Village location: • 20 stall parking • Day use picnic • Kiosk • Composting Toilet 6. "One-way" trail to Mashel River Valley edge – 1,500 LF 7. Overlook 8. Interpretive 9. Forest Health/Invasive Removal ***Total Construction Only Cost*** 25% - Design/Estimating Contingency 30% - Technical Analysis, A/E Design & Environmental Permitting 8.2% - Taxes **Total**	$ 1.5 million, 2008 $ $ 4,000 $ 5,000 $ 413,750 $ 232,500 $ 175,000 $ 50,000 $ 50,000 ***$ 930,250*** $ 232,000 $ 280,000 $ 80,000 **$1,522,250** - 2008 $	None	Volunteers: ▪ Forest/vegetation management ▪ Trail clearing Donor(s): ▪ Trail elements ▪ Kiosk ▪ Overlook Pack Forest: ▪ Residence ▪ Maintenance Storage

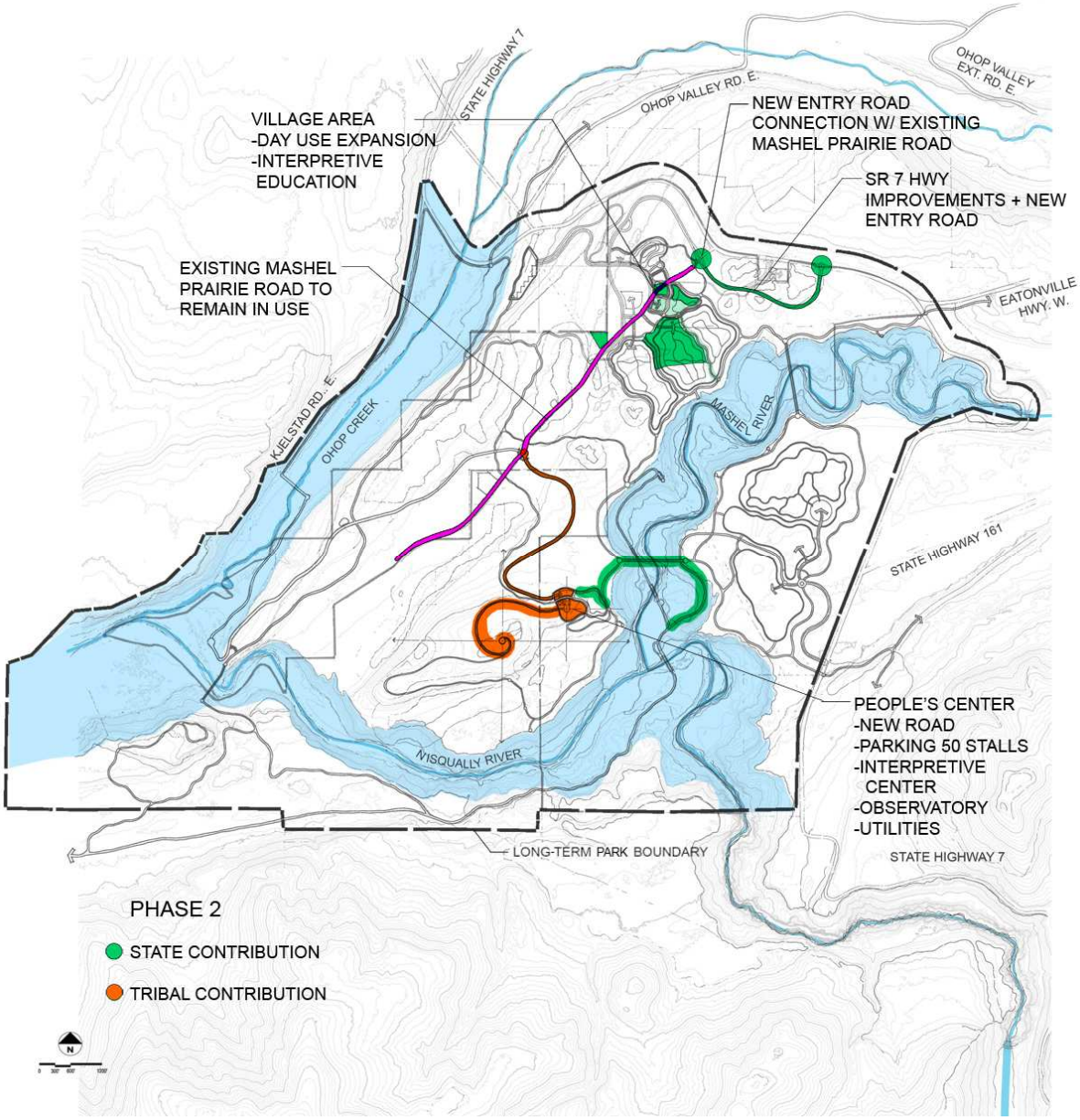


Figure G-2: Phasing Plan – Phase 2

Chart 2 – Phase 2
Nisqually – Mashel State Park Master Plan
Phase 2 Budget, Revenue Generation Elements and Partners

Phase 2	Budget Amount - $ 2008 $ Estimate of Probable Cost	Revenue Generation Opportunities	Partners and Funding
Phase 2. **2014 – 2018** **Project Phase 2 Budget - Parks**	$ 6.2 million, 2008 $	No Bridge aids in destination attraction	Center for Sustainable Forestry: ▪ Residence ▪ Maintenance Storage
1. SR-7 highway improvements @ new entry point	$ 181,000		
2. Park entry	$ 72,500		Volunteers: ▪ Forest/vegetation management ▪ Trail clearing
3. Park roadway to Mashel Prairie Road contact point near "Village"	$1,440,000		
4. Mashel River – High Bridge, 1,300 LF	$1,990,950		
5. Forest Health/Invasive Removal	$ 100,000		Donor(s): ▪ Trail elements ▪ Kiosk
Total Construction Only Cost	***$3,784,450***		
25% - Design/Estimating Contingency	***$ 921,113***		State: ▪ Infrastructure ▪ Acquisitions ▪ ½ Bridge
30% - Technical Analysis, A/E Design & Environmental Permitting	***$1,105,335***		
8.2% - Taxes	***$ 311,600***		
Total	**$6,199,998** – 2008 $		
Project Phase 2 Budget – Partners	$ 25.0 million, 2013 $ 21.0 million, 2008	Yes People's Center Bridge aids in destination attraction	Tribal/Partners: ▪ People's facilities ▪ Acquisition Partnering ▪ ½ Bridge
Peoples Facilities:			
6. Road to People's Center w/ control point @ County Road junction	$ 1,920,000		
7. Parking (50 stalls)	$ 690,000		
8. Trail Extension: • From People's Center to Bridge • Trail improvements from Bridge to Nisqually Mashel confluence	$ 383,000		
9. People's Center/Interpretive (10,000 SF) + Grounds	$6,308,750		
10. Mashel River – High Bridge, 1,300 LF	$1,990,950		
11. Utilities:	$1,343,750		
Total Construction Only Cost	***$12,636,450***		
25% - Design/Estimating Contingency	***$ 3,159,113***		
30% - Technical Analysis, A/E Design & Environmental Permitting	***$ 3,790,935***		
8.2% - Taxes	***$ 1,040,000***		
Total	**$20,626,498** – 2008 $		

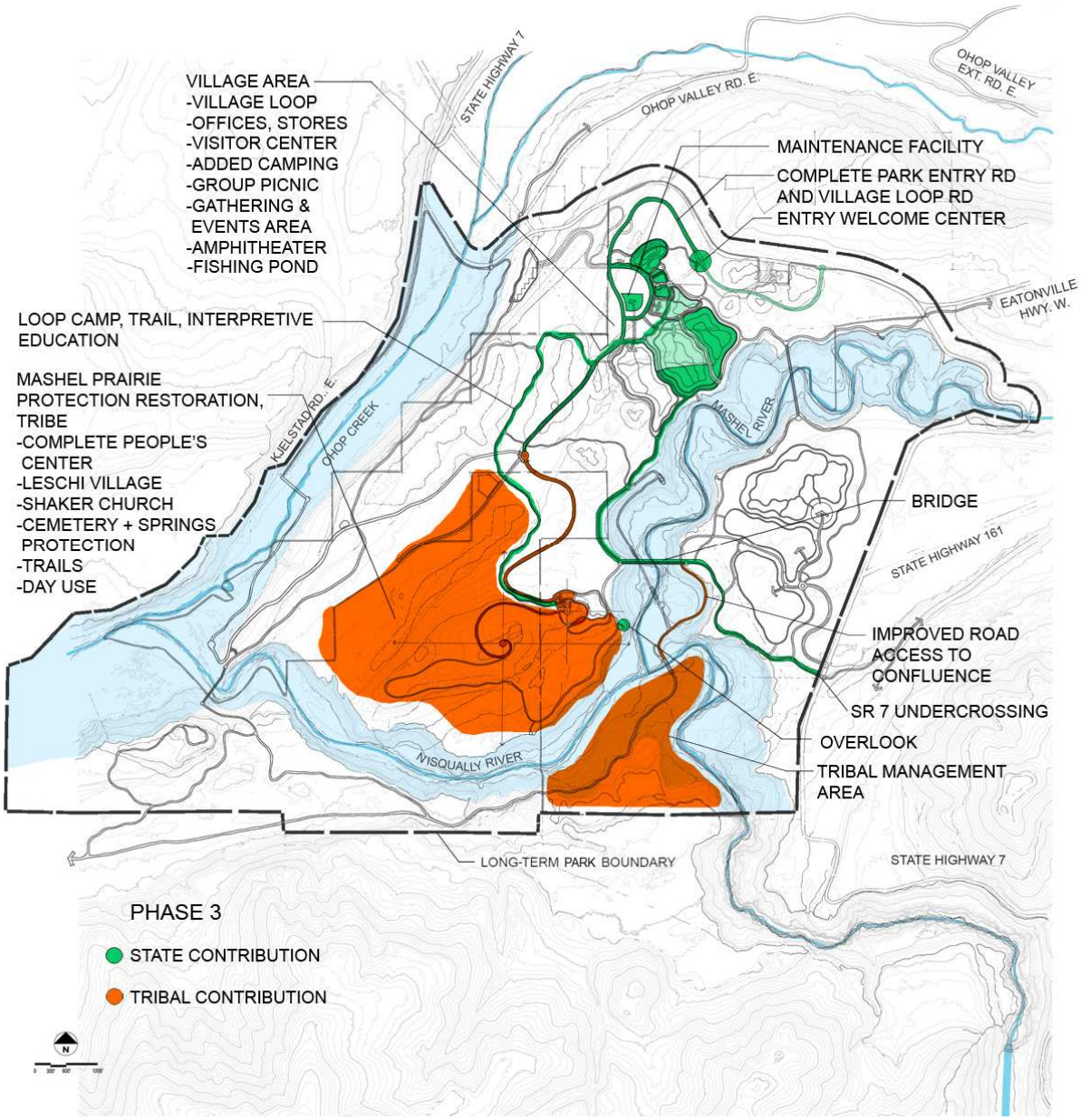


Figure G-3: Phasing Plan – Phase 3

Chart 3 – Phase 3

Nisqually – Mashel State Park Master Plan
Phase 3 Stage, Budgets, Revenue Generation Elements and Partners

Phase 3	Budget Amount - $ 2008 $ Estimate of Probable Cost	Revenue Generation Opportunities	Partners and Funding
Phase 3. **2019 – 2023** **Park Phase 3 Budget – Parks** 1. Complete Park Main Road System. 2. Entry & Welcome Center 3. Village Loop Road 4. Village Center -Offices, Store, Events, Amphitheater, Pond 5. Camping – 50 Sites 7. Trail extensions: • Loop Trail, Central Plateau • Bridge End to Pack Forest 8. SR 7 Undercrossing 9. Overlook (1) 10. Complete/Extend Utilities: • Well, power and waste 11. Orientation and Safety Signage 12. Maintenance 13. Forest Health/Invasive Removal ***Total Construction Only Cost*** ***25% - Design/Estimating Contingency*** 30% - Technical Analysis, A/E Design & Environmental Permitting 8.2% - Taxes ***Total***	20.0 to 25.0 million, 2008 $ $1,512,500 $ 668,000 $1,481,250 $2,306,000 $3,147,750 $2,585,750 $ 300,000 $ 175,000 $ 451,250 $ 150,000 $2,282,750 $ 100,000 ***$15,160,250*** ***$ 3,790,063*** ***$ 4,548,075*** ***$ 1,243,600*** ***$24,741,988***	Yes: ▪ Camping ▪ Added Day Use & Picnicking ▪ Park Events ▪ Village Store	Pack Forest: ▪ Visitor tours Volunteers: ▪ Forest/vegetation management ▪ Trail clearing Donor(s): ▪ Trail elements ▪ Interpretive Elements ▪ Overlook (s)
Park Phase 3 Budget - Tribe Peoples Facilities: 14. Complete People's Center: Tribal Activity/Programs Building Equipment/Storage Facility Day Use 15. Leschi Village 16. Shaker Church 17. Cemetery and Springs 18. Observatory and Trails 19. Mashel Prairie Restoration/Protection 20. Interpretive/Education - Site and Trail ***Total Construction Only Cost*** ***25% - Design/Estimating Contingency*** 30% - Technical Analysis, A/E Design & Environmental Permitting 8.2% - Taxes ***Total***	8.0 to 10.0 million, 2008 $ $ 2,085,500 $ 2,200,000 $ 120,000 $ 50,000 $ 1,014,500 $ 140,000 $ 200,000 ***$ 5,810,000*** ***$ 1,452,500*** ***$ 1,743,000*** ***$ 475,600*** ***$ 9,481,100***	Yes: ▪ People's Center ▪ Observatory ▪ Leschi Village ▪ Bridge ▪ Visitor tours	Tribal/Partners: ▪ People's facilities ▪ Acquisition partnering

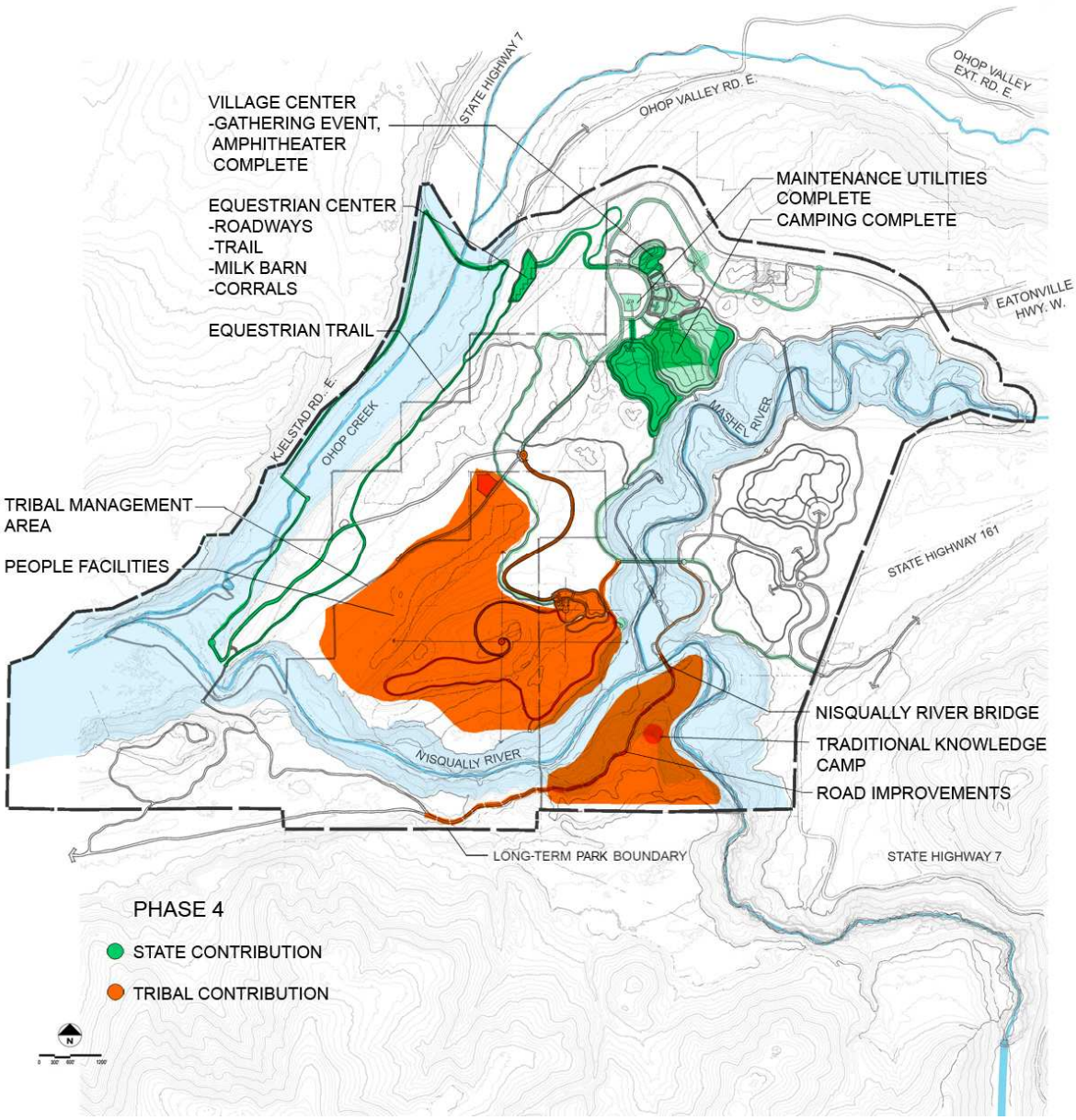


Figure G-4: Phasing Plan – Phase 4

Chart 4 – Phase 4
Nisqually – Mashel State Park Master Plan
Phase 4 + Budget, Revenue Generation Elements and Partners

Phase 4	Budget Amount - $ 2008 $ Estimate of Probable Cost	Revenue Generation Opportunities	Partners and Funding
Phase 4 **2024 – 2028** **Park Phase 4 Budget – Parks** 1. Camping – 100 Sites 2. Equestrian/Activity Center 3. Equestrian trails 4. Ohop Valley Bridges 5. Utilities • Water, power, waste 6. Forest Health/Invasive Removal	$ 18.0 to 20.0 million , 2008 $	Yes: ▪ Added Camping ▪ Village store ▪ Equestrian/ Activity Center ▪ Bridge	Pack Forest: ▪ Residence ▪ Maintenance Storage Volunteers: ▪ Forest/vegetation management ▪ Trail clearing Donor(s): ▪ Trail elements ▪ Interpretive Elements ▪ Overlook (s)
Park Phase 4 Budget – Tribal/Partners People's Facilities: 7. Nisqually River Bridge 8.Traditional Knowledge Camp 9. Forest Health/Invasive Removal	$ 4.0 to 6.0 million, 2008 $	Yes: ▪ People's Center ▪ Observatory ▪ Leschi's Village ▪ Bridge ▪ Visitor Tours	Tribal/Partners: ▪ People's facilities ▪ Acquisition partnering

II. H. BUSINESS PLAN

Introduction

The Business Development Plan for Nisqually-Mashel State Park Site is predicated on formation of a strategic alliance between the State of Washington and the Nisqually Tribe and associated or confederated tribes of the Pacific Northwest. This alliance or partnership between the Washington State Parks and Recreation Commission and the Native American peoples is foundational in establishing and maintaining the identity and purpose of the park. Native American partnerships, as well as partnerships or development and operating agreements with other private entities is key to enhancing market penetration and user demand, facilitating development and administering year-round operations that promote and sustain recreational and cultural values and, economic performance. A financial and operational partnership with the Nisqually Tribe is being actively explored by both parties as of the date of publication of this master plan, but the details of that partnership will not be worked out before the master plan is finalized.

The Business Plan addresses Traditional and Enterprise Recreation assets. Thus, a mix of recreation opportunities is created whereby Native American and other qualified service providers may enter into lease/development or concession agreements with Washington State Parks and Recreation Commission. These service providers will engage in enterprise activities such as RV Camping and other activities as identified in the Recreation Activities Menu and facilities development concepts articulated in the Master Plan.

As previously stated, the economic performance objective at build-out of the Nisqually-Mashel State Park Site is to generate sufficient operating revenues, through enterprise activities and user fees that will offset up to 50% of annual operating expense. Thus alliances are the principal vehicle that facilitates the development process, implements the planned 20-year phased capital improvement program, establishes a progressive operational capacity and creates revenue centers. A principal instrument that forms the primary Native American alliance may well be a Development & Operating Agreement. This agreement must contain articles establishing the basis of implementing capital investments with multiple phases implemented over a 20-year time frame. The following outlines key elements of such an agreement.

Development & Operating Agreement Outline:

- Subject of Agreement, Term and Definitions
- Project Development, Phasing and Elements
- Project Funding
- Project Design and Construction
- Assurances
- Operations Following Construction
- General Provisions

Business Development Strategy

The recreation market and user demand research for Nisqually-Mashel State Park Site revealed a potential for up to 484,920 annual visitors after build-out of all facilities. Peak use occurs during the month of August and is projected at 115,896 visitors. A daily visitation at peak use is projected to be up to 4,000 persons.

A Recreation Activities Menu indicates the following opportunities for visitors:

- Special Events
- Seasonal Celebrations
- RV Camping
- Tent Camping
- Cabins/Yurts
- Merchandising
- Equestrian Activities
- Cultural Attractions
- Interpretative Exhibits
- Education Programs
- Hiking
- Fishing Pond
- Passive Recreation

A coordinated State and Tribe marketing plan will be organized to advertise the Nisqually-Mashel State Park Site, its facilities, services, resources and recreation opportunities. The electronic multi-media and print Market Plan will be geographically targeted to local, state, other USA, national and international populations segmented by age group, lifestyle, user interests and socio-economic profile. Marketing activity is to be correlated with seasonal influences, levels of development, and operational and service capacity.

Development Phases and Cost Projections

To facilitate recreation activities, the park's initial development program is organized into four (4) phases, covering a twenty (20)-year period. The following table lists development phases with the attending time frame and budget projections for the State and the Tribe. The cost projections include construction, design, architectural and engineering services, contingencies and other soft costs.

Phase	Years	Parks	Tribal/Partners
Phase 1	**2011-2013**	**$ 1,099,812**	**$ -0-**
Phase 2	**2014-2018**	**$ 5,788,398**	**$ 13,798,100**
Phase 3	**2019-2023**	**$ 22,878,388**	**$ 9,005,500**
Phase 4	**2024-2028**	**$ 20,233,402**	**$ 12,196,400**
Totals:		**$ 50,000,000**	**$ 35,000,000**

Note: Detail budget information may be found in the Capital Development Plan section.

Park Plan Development Plan Description

The 20+ year phased development program projects Washington State Parks and Recreation Commission capitalization at $50 million and Nisqually Tribal and Partner capitalization at $35 million (2008 dollar values). There are three (3) specific objectives:

1. **Strategic Alliance:** The initial capital investment objectives will be facilitated through agreements between the State of Washington, the Nisqually Tribe and Native American Nation(s), and other private entities which invest in development and operations within the next 5 to 10 years. Actionable items for the Nisqually-Mashel State Park Site development program will focus on establishing:

- **Identity:** Creation of "The Peoples Park" – in concept, spirit and identity as centerpiece of building an activated destination and enterprise/attraction park within the nation, state and region.

- **Integration:** The Park Master Development Plan integrated with Business and Investment Plan – creating traditional and enterprise recreation, new revenue centers and progressive operational cash flow through attractions, events, facilities and programs.

- **Implementation:** Sequentially and strategically identify State, Native American and private development responsibilities. Implement capital improvements, land acquisition and infrastructure development in support of the business development plan. Establish operations, service opportunities and economic performance objectives.

Consideration may be given to soliciting lease/development and operations proposals from Recreation Vehicle and Camping corporations to facilitate early development and operations of camping activity. If a privately operated camping facility is considered, allowances for RV space densities and amenities will need to be made in accordance with private business and investment models. The overall space allocated to RV Campground development and ancillary facilities would need to be considered.

Economic Performance Objectives

National, state and local economic conditions, the cost of governmental services and fund allocation priorities have generated a paradigm shift in the institutional structure of public recreation and its capacity to deliver leisure services.

The current and long term budget affects the ability of Washington State Parks and Recreation Commission to function as a major leisure services provider, and may continue to generate operating fund reductions and minimal investment capital. Yet the need for and importance of quality recreation for the citizens have not diminished nor has demand for recreation experiences by visitor populations coming to the Pacific Northwest.

It is therefore essential that economic objectives be supported by developing quality facilities and providing recreation services, events and programs that create new revenue centers. Such centers are to be designed to generate operating revenues that reduce dependency on tax-based funding and establish an economic balance of revenues earned plus services rendered within the institutional structure of the Nisqually-Mashel State Park Site. This action is predicated on adopting Enterprise Recreation as a major component of the facilities development plan while preserving traditional recreation and resource stewardship responsibilities.

Investment objectives are to be formulated on the basis of a business model that seeks to achieve a 50% offset of the total operating cost of the Nisqually-Mashel State Park Site. Private partnerships that establish enterprise recreation development are to be balanced in terms of scope and service capacity, with traditional recreation, preservation, conservation or non-revenue generating projects. Priority is to be given to revenue producing investments and development objectives until a balance of enterprise and traditional recreational assets within the Park are achieved.

Additional steps include defining investment and development priorities, funding methods, partnerships and the organizational structure required to facilitate, produce and administer enterprise recreation activities. As a menu for recreation development opportunities and investments is formulated over the 20-year phased development program, it will become necessary to test feasibility through additional market research, project scoping, economic performance analysis and formation of operating agreements.

Revenue generating capital projects identified within the 2009-2028 Phase 1-4 Master Development Program are listed as follows.

- **Phase 1** No revenue generating projects
- **Phase 2** Bridge and Peoples Center
- **Phase 3** Camping, Events Center, Picnicking, Village Store, Leschi's Village, Peoples Center Observatory, Tour facilities
- **Phase 4** Added Camping, Equestrian Center

Note: See detail description of capital projects in Land Use Plan, Transportation Plan and Capital Development Plan Sections of the Master Plan.

Operations

The Nisqually-Mashel State Park Site is to be operated jointly by the State of Washington and the Nisqually Tribe and/or its approved designees or partners, and participation by other private service providers. Primary stewardship and law enforcement responsibilities will belong to the State of Washington. Additional administrative and maintenance functions are to be divided equitably between the Washington State Parks and its partners or lease/concession service providers.

ENTERPRISE RECREATION

Several factors are considered in organizing an enterprise recreation activities menu. These include market and business development options, area recreation services, site size and natural resource features, recreation opportunities, environmental constraints, operational requirements, revenue values and public benefit. Enterprise activities at the Nisqually-Mashel State Park Site are scheduled for development in Phases 3 and 4 which are programmed to occur between 2019 and 2028. Development activities are market driven and are expected to be implemented and operated by the Nisqually Tribe, associated or confederated Native Americans, other private entities and the Washington State Parks and Recreation Commission.

1. **Recreation Vehicle Camping**:

   Phase 3, 2019-2023: A 50-space full service recreation vehicle camping facility.

The averaged RV occupancy is separated into three operating periods during a twelve month time frame indicated as follows.

- 3 months @ 100% occupancy = 4,500 site nights
- 6 months @ 55% occupancy = 4,950 site nights
- 3 months @ 25% occupancy = 1,125 site nights

Projected annual use of the 50-space RV campground generates 10,575 site nights. If an annual occupancy rate of about 58% is achieved the total site nights rented to RV users is projected to be about 10,575. The suggested site night rental rate charged by the state is $28 thus the projected RV camping annual revenue is **$296,100**.

NOTE: The rental rates and revenue amounts indicated are for 2008 dollar values and will modify for the development and operating Phase indicated.

Phase 4, 2024 -2028: Additional 60 individual RV spaces, five (5) group RV camp sites with 15 spaces each, generating 75 RV spaces. There are 135 individual and group RV spaces.

The averaged RV occupancy is separated into three operating periods during a twelve month time frame indicated as follows.

- 3 months @ 100% occupancy = 12,150 site nights
- 6 months @ 55% occupancy = 13,365 site nights
- 3 months @ 25% occupancy = 3,038 site nights

Projected annual use of the 135 individual and group RV spaces generates 28,553 site nights. If an annual occupancy rate of about 58% is achieved, the total site nights rented to RV users is projected to be approximately 28,553. The suggested site night rental rate charged by the state is $28, thus, the projected RV camping annual revenue is **$799,484**.

NOTE: The rental rates and revenue amounts indicated are for 2008 dollar values and will modify for the development and operating Phase indicated.

Another option for developing and managing an RV campground would be for a private camping operator to construct and operate the facility within the park. In order to make the operation financially feasible for a private enterprise, the campground density would need to increase significantly from current State Park standard designs. State park campgrounds are generally 3-4 campsites per acre,

while a private enterprise would require the facility to be developed at 15 campsites per acre. Under this option, the total number of campsites in the park would not necessarily increase, and the location of the RV camping facility would stay consistent with the Land Use Plan. State Parks could benefit from having a private enterprise construct and operate the RV campground in a number of ways. Benefits could include:

1. The total cost of park development borne by the state would be reduced;
2. The campground could potentially be developed much sooner than it could if its development were reliant on public funding;
3. Having camping in the park earlier would benefit the other park developments, including the People's Center;
4. Because the private enterprise would be operating the RV campground, fewer operations staff persons would be necessary; and
5. If the same number of campsites were developed in a smaller footprint in the park, more of the park would be reserved for open space and wildlife habitat, and a shorter road system would result in less stormwater and its associated impacts.

If the Parks and Recreation Commission would like to consider having the park's RV campground constructed and operated by a private enterprise, then an additional economic analysis of that enterprise should be completed. Additionally, the park's Design Guidelines would need to be adjusted to account for the higher density in the campground.

2. Village Store & Merchandising:

Phase 3, 2019-2023: A Village Store that provides a retail outlet for Native American crafted products, convenience items, food, beverages, apparel and other merchandise. Patronage for the Village Store is attracted from day-use visitors, Village Center visitors, campers, tours, river floats and persons attending events. Total annual visitors to the Nisqually-Mashel State Park Site after complete development and stabilization is projected to range from 404,100 to 484,920.

Peak use months are July and August. Descending use time frames are moderate which includes May, June, September and October, and minimal which is January, February, March, April, November and December.

Projected patronage for the Village Store is separated by peak use and off-season visitation for three segments of the operating year. Estimated patronage is a

percentage of the peak, moderate and minimal visitor projections applying the low end of the range. Patronage projections are indicated as follows.

▪ Peak	181,035	@ 12%	=	21,724
▪ Moderate	175,380	@ 7%	=	12,277
▪ Minimal	47,685	@ 5%	=	2,384
Total Annual Patronage:				**36,385**

Phase 4, 2024-2028: An expanded Village Store that provides broader selection of retail commodities; of Native American crafted products, convenience items, food, beverages, apparel and other merchandise. Patronage for the Village Store is attracted from day use visitors, campers, tours, river floats and persons attending events. Total annual visitors to the Nisqually-Mashel State Park Site after complete development and stabilization is projected to range from 404,100 to 484,920. The lower range is applied.

Peak use months are July and August. Descending use time frames are moderate which includes May, June, September and October, and minimal which is January, February, March, April, November and December.

Projected patronage for the Village Store is separated by peak use and off-season visitation for three segments of the operating year. Estimated patronage is a percentage of the peak, moderate and minimal visitor projections applying the low end of the visitor range. Patronage projections are indicated as follows.

▪ Peak	181,035	@ 15%	=	27,155
▪ Moderate	175,380	@ 9%	=	15,842
▪ Minimal	47,685	@ 7 %	=	3,338
Total Annual Patronage:				**46,335**

Economic performance for merchandising is measured in terms of per-capita expenditures. Stores that offer a diverse product line including apparel and specialty items along with food, beverages and convenience items, tend to realize higher per-capita expenditures. The following are expenditure rates applied to the patronage projections indicating a range of gross revenue generated by the Village Store.

Phase 3, 2019-2023: Village Store Revenue Projections

▪	21,724	@	$10-$18	=	$	217,240	- $	391,032
▪	12,277	@	$18-$15	=	$	98,216	- $	184,155
▪	2,384	@	$6-$12	=	$	14,304	- $	28,608
	Total Annual Patronage:				**$**	**329,760**	**- $**	**603,795**

Phase 4, 2024-2028: Village Store Revenue Projections

▪	27,155	@	$10-$18	=	$	271,550	- $	488,790
▪	15,842	@	$18-$15	=	$	126,736	- $	237,630
▪	3,338	@	$6-$12	=	$	20,028	- $	40,056
	Total Annual Patronage:				**$**	**418,314**	**- $**	**766,476**

NOTE: Revenue amounts indicated are ranges and approximations which are influenced by facility size location, product quality and diversity, display, pricing, advertizing and customer relations. The projections shown are not to be used for capital or operations financing purposes.

3. Events & Amphitheater:

An events and performance facility designed for cultural events, educational activities and seasonal celebrations, festivals and special occasions. The Events & Amphitheater facility is designed to accommodate up to 1,000 persons at peak use. Production of events will depend on the capacity of the Nisqually Tribe, State Parks and event organizers, their marketing resources and the character and quality of event being promoted.

The number of events held or produced at the site will vary from year to year. As the Nisqually-Mashel State Park Site becomes known throughout the market area as an events facility, the type, size, character and quality of events will evolve. As the events production calendar fills and the attraction value develops on the basis of character and patron enjoyment, the economic value of certain events will increase. Most if not all events will not have a gate, ticketing or entry basis of revenue and will rely on food, beverage, merchandising sales and other revenue sources.

A hypothetical menu of the type and number of events that may be facilitated in **Phase 3, 2019-2023**, is suggested in the following list in descending order of possible attendance at each event, number of events and total event attendance.

EVENT TYPE	AVG. EVENT ATTENDANCE	NUMBER of EVENTS	TOTAL ATTENDANCE
• Fourth of July Celebration	1,000	1	1,000
• Native American Pageants	800	6	4,800
• Summer Music Festival	500	12	6,000
• Story Telling Festival	250	15	3,750
• Environmental Learning Symposiums	100	10	1,000
• Plays, Skits and Demonstrations	75	22	1,650
TOTALS:		**66**	**18,200**

A hypothetical menu of the type and number of events that may be facilitated in **Phase 4, 2024-2028**, is suggested in the following list in descending order of possible attendance at each event, number of events and total event attendance.

EVENT TYPE	AVG. EVENT ATTENDANCE	No. of EVENTS	TOTAL ATTENDANCE
• Fourth of July Celebration	1,000	1	1,000
• Native American Pageants	800	8	6,400
• Summer Music Festival	500	16	8,000
• Storytelling Festival	250	20	5,000
• Environmental Learning Symposiums	100	15	1,500
• Plays, Skits and Demonstrations	75	26	1,950
TOTALS:		**86**	**23,850**

Revenue generated from event activities are estimated on a per-capita value basis. There are no ticketed events that generate revenue through a gate fee or parking fee. All revenue that is a result of events is generated by the sale of food, beverages, merchandise and novelties by vendors and concessionaires. Some events will not warrant vendor or concession participation. The following indicates a projection of events revenue on the basis of estimated per-capita expenditure values.

Phase 3, 2019-2023

EVENT TYPE	TOTAL ATTENDANCE	PER-CAPITA VALUE	TOTAL REVENUE
• Fourth of July Celebration	1,000	$ 8.80	$ 8,800
• Native American Pageants	4,800	$ 4.30	$ 20,640
• Summer Music Festival	6,000	$ 9.30	$ 55,800
• Story Telling Festival	3,750	$ 1.80	$ 6,750

• Environmental Learning Symposiums	1,000	$ 1.10	$ 1,100
• Plays, Skits and Demonstrations	1,650	$ 1.60	$ 2,640
TOTALS:	**18,200**		**$ 95,730**

Phase 4, 2024-2028

EVENT TYPE	TOTAL ATTENDANCE	PER-CAPITA VALUE	TOTAL REVENUE
• Fourth of July Celebration	1,000	$ 9.40	$ 9,400
• Native American Pageants	6,400	$ 5.60	$ 35,840
• Summer Music Festival	8,000	$ 9.90	$ 79,200
• Story Telling Festival	5,000	$ 2.40	$ 12,000
• Environmental Learning Symposiums	1,500	$ 1.70	$ 2,550
• Plays, Skits and Demonstrations	1,950	$ 2.20	$ 4,290
TOTALS:	**23,850**		**$ 143,280**

4. Equestrian Center - Recreational Riding:

Recreational riding on designated trails in a mountain environment is a popular pursuit of equine enthusiasts and the general public. An Equestrian Center that functions as a boarding and staging facility for recreational and trail riding is included in the Master Plan.

The train of rental horses boarded at the facility along with stall space for horse owner/rider needs as they traverse Cascade Mountain trails serve as the principle resource for creating revenue. Horse rentals, stall rentals and fees for services, incidental product sales and facility use become the basis for revenue activity.

The net market participation in all equine activity is projected to be from 159,996 to 232,790. (See Equine Market & Use Assessment in Appendix) Of this range of participation, it is projected that about 46% or between about 74,000 and 107,000 would have an interest in recreational and trail riding. Of this range of users, it is projected that 8.5% or between 6,290 and 9,095 rental riders annually would seek a recreation riding experience at the Nisqually-Mashel State Park Site. Approximately 70% of the recreation riders renting horses would occur during a four month period from June through September. There is no confirmed data indicating the numbers of horse owners and horses that may use the barns, stalls and bunkhouse facilities for trans-trail riding activity and overnight stays at Nisqually-Mashel State Park Site. It may be

assumed however that horse owners will place some use demand on the facilities as they traverse the Cascades on horseback.

The following is a projection of revenue generated from the equestrian activity as presently envisioned in the Master Plan

Equestrian Center
Annual Revenue Projections
Phase 4, 2024-2028

USE CATEGORY	PARTICIPATION	PER-CAPITA VALUE	REVENUE
Recreation Riding/Rentals	9,095	25.50	$ 231,923
Stall Rental	1,300	10.50	$ 13,650
Bunkhouse Rental	1,850	18.00	$ 33,300
Misc. Revenue	10,945	3.80	$ 41,591
Total:			**$ 320,464**

5. Park Entry Fees:

The State of Washington has adopted statutes that prohibit collection of park entry fees. However, in order to view the effect park entry fees may have on operating revenue, they are herein identified for awareness only.

Park entry fees are received at entry points during normal operating hours. The level(s) of entry fee revenue is corollary with projected visitor volumes through a 12-month operating period, party size and the fee amount charged. Entry Fees are applied on a per-capita basis to visitors 16 years of age or older. The estimated number of visitors 15 years and younger is 18% of the total visitor projection for any given month. To remain conservative in projecting entry fee revenue the low annual visitor estimate of 404,100 at build out and stabilization is applied. It is anticipated that the number of visitors will grow over time. As a general frame of reference, it is projected that by 2018, 30% or 121,230 visitors will use the park. By 2028, the conclusion of all development phases, the park will attract the projected 404,100 annual visitors.

The following is an estimate of park entry fee revenue by operating month and visitor projections. The projections are designated for 2018 and assumed build out of the Nisqually-Mashel State Park Site by 2028 and stabilized operations. Peak season applies a $7 fee and off season a $5 fee.

Entry Fees Projection
By 2018
(2008 Dollar Values)

MONTH	FEE	VISITORS	REVENUE
Jan	$5.00	1,491	$ 7,455
Feb	$5.00	1,292	$ 6,460
Mar	$5.00	1,491	$ 7,455
Apr	$5.00	2,088	$ 10,440
May	$5.00	5,169	$ 25,845
Jun	$7.00	10,836	$ 75,852
Jul	$7.00	20,777	$ 145,439
Aug	$7.00	23,758	$ 166,306
Sep	$7.00	16,502	$ 115,514
Oct	$5.00	10,637	$ 53,185
Nov	$5.00	3,778	$ 18,890
Dec	$5.00	1,591	$ 7,955
TOTALS:		**99,410**	**$ 640,796**

Entry Fees Projection
By 2028
(2008 Dollar Values)

MONTH	FEE	VISITORS	REVENUE
Jan	$5.00	4,971	$ 24,855
Feb	$5.00	4,307	$ 21,535
Mar	$5.00	4,971	$ 24,855
Apr	$5.00	6,959	$ 34,795
May	$5.00	17,231	$ 86,155
Jun	$7.00	36,119	$ 252,833
Jul	$7.00	69,255	$ 484,785
Aug	$7.00	79,194	$ 554,358
Sep	$7.00	55,006	$ 385,042
Oct	$5.00	35,456	$ 177,280
Nov	$5.00	12,592	$ 62,960
Dec	$5.00	5,302	$ 26,510
TOTALS:		**331,363**	**$ 2,135,963**

NOTE: Currently, Washington State Parks and Recreation Commission is prohibited by statute from charging park entry fees. If entry fees are to be charged for the Nisqually-Mashel State Park Site, there may be a need for legislative action allowing such to occur.

OTHER PROSPECTIVE REVENUE SOURCES:

Nisqually Tribe: The Master Plan identifies certain projects and activities that are to be undertaken by the Nisqually Tribe. These projects and activities may have some revenue potential or stimulate on site expenditures at other areas within the park. However, there is no substantive basis for determining revenue for the facilities and activity listed. The projects and activities are listed as follows.

1. **People's Center:**
The People's Center is a development node that becomes the focal destination point for the park. It provides an arrival point deep within the park, a welcome courtyard, an interpretive center, story telling and demonstrations, and serves as a portal to trails, overlooks, the Observatory, Leschi's Village, Mashel River High Bridge and the confluence of the Nisqually-Mashel Rivers.

   There are a number of possible revenue centers that may be created at the People's Center, which may include food and beverages, however there is not sufficient data or information regarding operations of the facilities to make a projection.

2. **Observatory:**
The Observatory is a key feature of People's Center that provides a highpoint of experience through 360-degree views and, on a clear day, a view to Puget Sound. Interpretive materials and panels will enhance visitor knowledge of the terrain and historical sites within the park. A telescope may be made available to heighten visitor understanding and experiences.

   There are no revenue centers designed into the Observatory however, similar to the High Bridge, the Observatory serves as an iconic feature that will likely stimulate economic activity through increased visitor interest and participation in the Nisqually-Mashel State Park Site.

3. **Leschi's Village:**
Leschi's Village is conceived as a recreation and living history site of the Nisqually Chief Leschi's ancient tribal village. At this time little is determined as to the scope, functions and character of Leschi's Village. It may be presumed that the village will be a sacred place and provide opportunity for visitors to see the style and character of pre-Columbian and post-Columbian Native American villages and the lifestyle they represent. Due to lack of information regarding development, scheduling, operational and management of the Leschi's Village, revenue generation estimates have not prepared for this feature of the park. However, Leschi's Village will serve as an attractor to the Park and stimulates revenue generation in terms of fees and sales in other areas of the park such as entry points, the Village Store, Camping and other revenue centers.

4. **High Bridge:**
The High Bridge is an added value attraction to the Nisqually-Mashel State Park that has no direct revenue generating capacity. This lack of capacity is due to its remote location, difficulty and cost of collecting fees and monitoring its use. Again, like Leschi's Village, the High Bridge serves as an attractor to the Park and stimulates revenue generation in terms of fees and sales in other areas of the park such as entry points, the Village Store, Camping and other revenue centers.

The High Bridge may achieve an "iconic" value and aid in developing unique qualities which drive visitor numbers and per-capita expenditures. The High Bridge also will influence length of stay and appreciation for the "experience vs. dollar value" park visitors' sense as a result of choosing to come to the Nisqually-Mashel State Park Site, as part of their individual or group recreation activity.

5. **Tours:**
Tours of the Native American sites and natural resource features of the Nisqually-Mashel State Park Site will be organized by the Nisqually Tribe and other public and private entities to promote environmental and cultural education of the resource, archeological sites and historic locations within the park. The size, number and frequency of tours can not be determined. There is no data base that would confirm a revenue value generated from tours.

FEES AND PERMITS

Washington State Parks and Recreation Commission has published Fees and Regulations that the Commission has developed for a number of revenue sources segregated by function, pricing and user characteristics. The following lists the fee and permit types that may apply to certain enterprise and traditional recreation activities. There is no basis of current data sufficient to distinguish ratios of participation, levels of use and per-capita values for a particular activity. Thus it may be assumed that additional operating revenue may be generated but no amounts are suggested.

1. Natural Investment Permit:

Permits required at state parks system-wide for watercraft launching and trailer dumping (included with campsite/overnight fee).

- Daily Permit: $ 7.00
- Annual Permit: $ 70.00

2. Regular Camping and Boating Fees:

Camping and boating fees vary throughout the state and are set in different fee schedules depending on the type of camping and boating activity.

- Standard Campsite: $17 - $23
- Utility Campsite: $23 - $32*
- Primitive Campsite: $12 - $14
- Extra Vehicle: $10
- Reservations: $6.50 - $10.50

* *Recommended fee for full service camping is $28.*

3. Group Day Use:

Activities that involve varied sized groups that use the site for recreation activities including events, picnics, educational programs and various other activities.

- Group Day Use Fee $50 - $500

4. Winter Sports Fees:

For motorized and non-motorized winter sports including sledding, cross country skiing, snowmobile and other winter sports activities.

- One Day Permit: $10
- Seasonal Permit: $30
- Special Groomed Trail Permit: $30

REVENUE PERFORMANCE SUMMARY

The following summarizes revenue projections for those functions and activities for which sufficient data and information became available or was discovered through research.

Primary revenue sources, identified in the Master Plan include camping, merchandising, events, equine activities and park entry fees. Additional revenue may be generated through concession agreements, permits, fees, and as a result of miscellaneous product sales and services. There are several other potential revenue sources that may mature as the Nisqually-Mashel State Park Site develops its full operational and service capacity. However, at this juncture, insufficient data and functional definitions have been established to allow user and revenue projections to be made.

The following summarizes revenue projections for Phase 3, 2019-2023 and Phase 4, 2024-2028 of the development program and implementation schedule. It should be noted that the phases cover a twenty plus (20+) year period. Revenue amounts and related use projections are based on 2008 dollar values and fees that are currently established by Washington State Parks and Recreation Commission or as stated for a particular function.

PHASE 3, 2019-2023

FUNCTION	REVENUE PROJECTION
RV Camping	$ 296,100
Village Store & Merchandising	$ 329,760
Events & Amphitheater	$ 95,730
Park Entry Fees	$ 640,796
Total	**$ 1,362,386**

PHASE 4, 2024-2028

FUNCTION	REVENUE PROJECTION
RV Camping*	$ 1,095,584
Village Store & Merchandising	$ 418,314
Events & Amphitheater	$ 143,280
Equestrian	$ 320,464
Park Entry Fees	$ 2,135,963
Total	**$ 4,113,605**

* *Combines revenue projections for Phase 3 and Phase 4.*

OPERATING EXPENSE & ECONOMIC PERFORMANCE

ORERATING EXPENSE PROJECTIONS:

Operations and maintenance requirements of Nisqually-Mashel State Park Site will grow as the development program is implemented and visitors to the park increase in numbers over the next 20 years. State Park's projects, that at a time when the park is fully developed, stabilized and operating at peak capacity, there will be a need for up to fifty (50) Washington State Parks or Nisqually Tribal employees functioning in various capacities on the site.

Personnel requirements will include administrative and clerical staff, park rangers, skilled and non-skilled maintenance workers, park attendants and janitorial services personnel, specialists and equipment operators. The dynamics of the park in terms of facilities, natural resources, user demands and visitor concentrations, will require hiring seasonal and part time staff to augment full-time personnel. The following suggests an approximation of fulltime and seasonal staffing demands for all employment classifications as the four phases are implemented.

Full-time and Seasonal Staffing
Phase 1 to Phase 4

	FULL-TIME	PART-TIME	SEASONAL PEAK
Phase 1, 2011-2013	5	6	11
Phase 2, 2014-2018	9	8	17
Phase 3, 2019-2023	15	13	28
Phase 4, 2024-2028	22	28	50

The park will need to acquire and maintain an inventory of vehicles, equipment, tools, materials and supplies of a sufficient magnitude to sustain operations, facilitate preventative maintenance and repairs, as well as engage in minor capital improvements within the park.

Applying a standard public agency Parks and Recreation operating budget format, the following are expenditure projections for staffing, operations and maintenance expenses as they may occur over development Phases 1 through 4 which is a 20+ year time frame. The projections are probabilities, averages and approximations and are not to be considered exact amounts for budgeting or financing purposes.

PHASE 1 2011-2013
Projected Annual O&M Expense

FUNCTION		AMOUNT
Salaries, Wages & Benefits	$	314,160
Marketing & Advertising		8,500
Utilities/ Communication		19,760
Supplies & Materials		12,900
Cost of Sales (Food, Beverage & Products)		24,600
Maintenance Services		10,800
Equipment & Tools		26,800
Repairs & Replacement		6,400
Products & Programs Items		2,900
Other/ Miscellaneous		5,800
Projected Total	**$**	**432,620**

PHASE 2 2014-2018
Projected Annual O&M Expense

FUNCTION		AMOUNT
Salaries, Wages & Benefits	$	527,072
Marketing & Advertising		11,500
Utilities/ Communication		23,510
Supplies & Materials		15,900
Cost of Sales (Food, Beverage & Products)		37,700
Maintenance Services		18,600
Equipment & Tools		28,500
Repairs & Replacement		11,400
Products & Programs Items		4,900
Other/ Miscellaneous		7,800
Projected Total	**$**	**686,882**

PHASE 3 2019-2023
Projected Annual O&M Expense

FUNCTION	AMOUNT
Salaries, Wages & Benefits	$ 873,880
Marketing & Advertising	28,650
Utilities/ Communication	111,060
Supplies & Materials	88,900
Cost of Sales (Food, Beverage & Products)	434,930
Maintenance Services	116,530
Equipment & Tools	163,480
Repairs & Replacement	82,600
Products & Programs Items	21,400
Other/ Miscellaneous	13,900
Projected Total	**$ 1,935,330**

PHASE 4 2024-2028
Projected Annual O&M Expense

FUNCTION	AMOUNT
Salaries, Wages & Benefits	$ 1,404,246
Marketing & Advertising	38,500
Utilities/ Communication	282,110
Supplies & Materials	162,380
Cost of Sales (Food, Beverage & Products)	651,560
Maintenance Services	188.500
Equipment & Tools	287,300
Repairs & Replacement	112,600
Products & Programs Items	39,680
Other/ Miscellaneous	23,800
Projected Total	**$ 3,190,676**

NISQUALLY-MASHEL STATE PARK
ECONOMIC PERFORMANCE SUMMARY
Phases 1 to 4
(2009 - 2028)

BUDGET CATEGORY	PHASE 1	PHASE 2	PHASE 3	PHASE 4
Operating Expenses:	**$ 432,620**	**$ 686,882**	**$ 1,935,330**	**$ 3,190,330**
Operating Revenues:	**$ -0-**	**$ -0-**	**$ 1,362,386**	**$ 4,113,605**
Fund Balance	**<$ 432,620>**	**<$ 686,882>**	**<$ 572,944>**	**$ 923,275**
<Deficiency>/ Positive	**<100%>**	**<100%>**	**<29.7%>**	**22.4%**

NOTE: Phase 3 indicates that revenue offsets expenses by about 70%. Phase 4 indicates a possible positive cash flow. However the amount shown does not consider net revenue returns after taxes and concession agreements, administrative overhead and other incidental expenses which will reduce fund balance returns.

BASIS OF OPERATING EXPENSE PROJECTIONS:

The following are brief explanations of the basis for expense projections by item.

- **Salaries, Wages & Benefits:** A $36,800 average annual salary or wage of full time employees for all classifications plus 26% benefits. A $24,500 average wage for seasonal employees of all classifications plus 12% benefits.
- **Marketing & Advertising:** Comparative values for marketing and advertizing cost of enterprise venues and state and national park budget allocations, FY 2007-2008.
- **Utilities/ Communication:** Water consumption and service rates at $8.40 per 1000 gal. and HCF (748 gal.) at $3.04 depending on RV or other domestic user points. Electricity for RV at $6.25 per site night and domestic rates for other points of use. Other utilities at standard demand and service rates.
- **Supplies & Materials:** Comparative values for budget allocations for state and national parks with high levels of user demand and enterprise attractions.

- **Cost of Sales:** Wholesale and retail cost ratios of 12% to 15% retained earnings before taxes, fees and licenses. Cost comparison with national parks concession agreements and vender sales.

- **Maintenance Services:** Comparative values, budgets and allocations on an area and per-capita basis, and consideration of complexity of the site, distribution of planned development nodes and environmental conditions.

- **Equipment & Tools:** Comparative values and acquisition cost to establish an equipment inventory. Consideration of site requirements, facilities distribution and environmental conditions.

- **Repairs & Replacement:** Comparative demands for parks and enterprise facilities.

- **Products & Programs Items:** Projection of probable cost.

- **Other/ Miscellaneous:** Projection of probable cost and park budget allocations, contingencies and unknown expenses.

NOTE: *The revenue and expense projections provided in this assessment are not to be considered for financing or budgeting purposes. The assessment is predicated on concepts and several hypothetical principles. The projections are interdependent on final scope and character of the development program, organizational structure, administrative capacities of the state and key participants, and agreements established between Washington State Parks and Recreation Commission and its public and private partners, concessionaires and service providers. The projections are also influenced by economic conditions, social attitudes and interests in recreation and leisure activities and market acceptance of the experience that the Nisqually-Mashel State Park Site Master Plan intends to provide.*

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